

UNITED STATES
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, 2021

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)

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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

Common shares, nominal value €1.04 per share

Trading Symbol(s)

STM

Name of each exchange on which registered

New York Stock Exchange

Securities registered or to be registered pursuant to Section 12(g) of the Act.

None

(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act.

None

(Title of Class)

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.

906,518,057 common shares outstanding as at December 31, 2021

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

Note - Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

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 (§ 232.405 of this chapter) 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 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.

[Table of Contents](#)

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

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

(APPLICABLE ONLY TO ISSUERS INVOLVED IN BANKRUPTCY PROCEEDINGS DURING THE PAST FIVE YEARS)

Indicate by check mark whether the registrant has filed all documents and reports required to be filed by Sections 12, 13 or 15(d) of the Securities Exchange Act of 1934 subsequent to the distribution of securities under a plan confirmed by a court. Yes No

TABLE OF CONTENTS

	Page
PART I	4
Item 1. Identity of Directors, Senior Management and Advisers	4
Item 2. Offer Statistics and Expected Timetable	4
Item 3. Key Information	4
Item 4. Information on the Company	20
Item 5. Operating and Financial Review and Prospects	34
Item 6. Directors, Senior Management and Employees	65
Item 7. Major Shareholders and Related Party Transactions	98
Item 8. Financial Information	99
Item 9. Listing	100
Item 10. Additional Information	100
Item 11. Quantitative and Qualitative Disclosures About Market Risk	114
Item 12. Description of Securities Other than Equity Securities	116
PART II	118
Item 13. Defaults, Dividend Arrearages and Delinquencies	118
Item 14. Material Modifications to the Rights of Security Holders and Use of Proceeds	118
Item 15. Controls and Procedures	118
Item 16.	
Item 16A. Audit Committee Financial Expert	120
Item 16B. Code of Ethics	120
Item 16C. Principal Accountant Fees and Services	121
Item 16D. Exemptions from the Listing Standards for Audit Committees	122
Item 16E. Purchases of Equity Securities by the Issuer and Affiliated Purchasers	122
Item 16F. Change in Registrant's Certifying Accountant	122
Item 16G. Corporate Governance	122
PART III	125
Item 17. Financial Statements	125
Item 18. Financial Statements	125
Item 19. Exhibits	125

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 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 (such as inflation and fluctuations in supply chains), which may impact end-market demand for our products;
- customer demand that differs from projections;
- the ability to design, manufacture and sell innovative products in a rapidly changing technological environment;
- changes in economic, social, public health, labor, political, or infrastructure conditions in the locations where we, our customers, or our suppliers operate, including as a result of 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;
- legal, political and economic uncertainty surrounding Brexit may be a continued source of instability in international markets and currency exchange rate volatility and may adversely affect business activity, political stability and economic conditions, and while we do not have material operations in the U.K. and have not experienced any material impact from Brexit on our underlying business to date, we cannot predict its future implications;

- financial difficulties with any of our major distributors or significant curtailment of purchases by key customers;
- the loading, product mix, and manufacturing performance of our production facilities and/or our required volume to fulfill capacity reserved with suppliers or third party manufacturing providers;
- availability and costs of equipment, raw materials, utilities, third-party manufacturing services and technology, or other supplies required by our operations (including increasing costs resulting from inflation);
- the functionalities and performance of our IT systems, which are subject to cybersecurity threats and which support our critical operational activities including manufacturing, finance and sales, and any breaches of our IT systems or those of our customers or suppliers;
- theft, loss, or misuse of personal data about our employees, customers, or other third parties, and breaches of global and local privacy legislation, including the EU’s General Data Protection Regulation (“GDPR”);
- the impact of intellectual property (“IP”) claims by our competitors or other third parties, and our ability to obtain required licenses on reasonable terms and conditions;
- changes in our overall tax position as a result of changes in tax rules, new or revised legislation, the outcome of tax audits or changes in international tax treaties which may impact our results of operations as well as our ability to accurately estimate tax credits, benefits, deductions and provisions and to realize deferred tax assets;
- variations in the foreign exchange markets and, more particularly, the U.S. dollar exchange rate as compared to the Euro and the other major currencies we use for our operations;
- the outcome of ongoing litigation as well as the impact of any new litigation to which we may become a defendant;
- product liability or warranty claims, claims based on epidemic or delivery failure, or other claims relating to our products, or recalls by our customers for products containing our parts;
- natural events such as severe weather, earthquakes, tsunamis, volcano eruptions or other acts of nature, the effects of climate change, health risks and epidemics such as the COVID-19 pandemic in locations where we, our customers or our suppliers operate;
- the duration and the severity of the global outbreak of COVID-19 may continue to negatively impact the global economy in a significant manner for an extended period of time, and also could materially adversely affect our business and operating results;
- 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 other 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, 2021. 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, 2021, 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,				
	2021	2020	2019	2018	2017
	(In millions except per share and ratio data)				
Consolidated Statements of Income Data:					
Net sales	\$ 12,729	\$ 10,181	\$ 9,529	\$ 9,612	\$ 8,308
Other revenues	32	38	27	52	39
Net revenues	12,761	10,219	9,556	9,664	8,347
Cost of sales(1)	(7,435)	(6,430)	(5,860)	(5,803)	(5,075)
Gross profit(1)	5,326	3,789	3,696	3,861	3,272
Operating expenses:					
Selling, general and administrative(1)	(1,323)	(1,109)	(1,093)	(1,095)	(981)
Research and development(1)	(1,723)	(1,548)	(1,498)	(1,398)	(1,296)
Other income and expenses, net	141	202	103	53	55
Impairment, restructuring charges and other related closure costs	(2)	(11)	(5)	(21)	(45)
Operating income (1)	2,419	1,323	1,203	1,400	1,005
Interest income (expense), net	(29)	(20)	1	(7)	(22)
Other components of pension benefit costs(1)	(10)	(12)	(16)	(11)	(12)
Income (loss) on equity-method investments	—	2	1	8	(2)
Loss on financial instruments, net	(43)	(26)	—	(1)	(16)
Income before income taxes and noncontrolling interest	2,337	1,267	1,189	1,389	953
Income tax expense	(331)	(159)	(156)	(96)	(143)
Net income	2,006	1,108	1,033	1,293	810
Net income attributable to noncontrolling interest	(6)	(2)	(1)	(6)	(8)
Net income attributable to parent company	2,000	1,106	1,032	1,287	802
Earnings per share (basic) attributable to parent company stockholders	2.21	1.24	1.15	1.43	0.91
Earnings per share (diluted) attributable to parent company stockholders	2.16	1.20	1.14	1.41	0.89
Number of shares used in calculating earnings per share (basic)	904.3	894.6	894.3	899.4	884.7
Number of shares used in calculating earnings per share (diluted)	924.8	919.7	903.6	911.0	906.1
Consolidated Balance Sheets Data (end of period):					
Cash and cash equivalents	3,225	3,006	2,597	2,266	1,759
Restricted cash	—	—	10	—	—
Short-term deposits	291	581	4	—	—
Marketable securities	—	133	133	330	431
Total assets	15,540	14,454	11,868	10,867	9,681
Net assets	9,273	8,506	7,111	6,424	5,467
Short-term debt	143	795	173	146	118
Long-term debt	2,396	1,826	1,899	1,764	1,583
Total parent company stockholders' equity	9,209	8,448	7,043	6,359	5,404
Common stock and Additional Paid-in Capital	3,690	4,219	4,149	4,000	3,875
Other Data:					
Dividend per share	0.240	0.168	0.240	0.240	0.240
Capital expenditures, net of proceeds from sales	(1,828)	(1,279)	(1,174)	(1,262)	(1,298)
Net cash from operating activities	3,060	2,093	1,869	1,845	1,677
Depreciation and amortization	1,045	923	854	791	650
Debt-to-equity ratio(2)	0.28	0.31	0.29	0.30	0.31

(1) The comparative amounts as at December 31, 2017 were restated to reflect the new guidance adopted on January 1, 2018 on the presentation of net periodic benefit cost in the consolidated statements of income.

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

RISK FACTORS

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 as well as climate change

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, as well as the threat thereof, could negatively impact economic conditions, which could have negative repercussions for our business. In particular, trade protection and national security policies of the U.S. and Chinese governments, including tariffs, trade restrictions, export restrictions and the placing of companies on restricted entity lists, have and may continue to limit or prevent us from transacting business with certain of our Chinese customers or suppliers; limit, prevent or discourage certain of our Chinese customers or suppliers from transacting business with us; or make it more expensive to do so. If disputes were to arise under any of our agreements with other parties conducting business in China, the resolution of such dispute may be subject to the exercise of discretion by the Chinese government, or agencies of the Chinese government, which may have a material adverse effect on our business. In addition, we could face increased competition as a result of China's programs to promote a domestic semiconductor industry and supply chains (including the *Made in China 2025* campaign).

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, currency exchange rate volatility, 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, or the effects of climate change;
- epidemics and pandemics such as disease outbreaks or more recently COVID-19 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. The COVID-19 pandemic has caused a significant contraction in the global economy, and there is considerable uncertainty as to its severity and duration. See Item 3. “Key Information — Risk Factors — 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 as well as climate change.”

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.

The duration and the severity of the global outbreak of COVID-19 has impacted and may continue to impact the global economy and also could adversely affect our business, financial condition and results of operations.

The COVID-19 pandemic has resulted in authorities imposing, and businesses and individuals implementing, numerous measures to try to contain the virus, including travel bans and restrictions, shelter-in-place and stay-at-home orders, quarantines and social distancing guidelines. While to date we have not seen a significant impact on our manufacturing facilities or our supply chain – the ability of our suppliers to deliver on their commitments to us, our ability to ship our products to our customers and general consumer demand for our products may be negatively impacted by the pandemic and/or government responses thereto.

Many of our products and services are considered to be essential under national and local guidelines. As such, we have generally continued to operate in each of the jurisdictions where we are present. However, certain of our facilities have not been able to operate at optimal capacity and any future restrictive measures may have negative impact on our operations, supply chain and transportation networks. In addition, our customers and suppliers have experienced, and may in the future experience, disruptions in their operations and supply chains, which can result in delayed, reduced, or cancelled orders, or collection risks, and which may adversely affect our results of operations.

The COVID-19 pandemic has adversely affected and may continue to adversely affect the economies and financial markets of many countries, and may result in a further prolonged period of regional, national, and global economic slowdown. In response to the COVID-19 pandemic, governments across the world have and are expected to spend significant amounts to fund disease control measures, support healthcare infrastructure, support businesses and revive their economies. Governments could look to re-direct resources and implement austerity measures in the future to balance public finances, which could result in reduced economic activity. Any further economic downturn could reduce overall demand for our products, accelerate the erosion of selling prices, lead to reduced revenues and higher inventory levels, any of which could result in a significant deterioration of our results of operations.

The COVID-19 pandemic has caused us to modify our business practices, including with respect to work-from home policies, employee travel, the cancellation of physical participation in meetings, events, and conferences, and social distancing measures. Although these changes have not led to a significant impact on our business or results of operations, we could be negatively affected in the future if government policies further restrict the ability of our employees to perform their functions or if our employees contract or are exposed to COVID-19. In addition, work-from-home and other measures introduce additional operational risks, including cybersecurity risks. There is no certainty that such measures will be sufficient to mitigate the risks posed by the virus, and illness and workforce disruptions could lead to unavailability of key personnel and harm our ability to perform critical functions.

The pandemic has led to increased disruption and volatility in capital markets and credit markets. Unanticipated consequences of the pandemic and resulting economic uncertainty could adversely affect our liquidity and capital resources in the future.

The degree to which COVID-19 impacts our results will depend on future developments, which are highly uncertain and cannot be predicted, including, but not limited to, the duration and severity of the pandemic, the actions taken to contain the virus or treat its impact, other actions taken by governments, businesses, and individuals in response to the virus and resulting economic disruption, and how quickly and to what extent normal economic and operating conditions can resume. We are unable to predict the extent of the impact of the pandemic on our customers, suppliers, vendors, and other partners, and their financial conditions, but a material effect on these parties could also materially adversely affect us.

Given the continued and substantial economic uncertainty and volatility created by the pandemic, it is difficult to predict the nature and extent of impacts on demand for our products. For example, the increased demand for certain of our products that benefited as a result of work- and learn-from-home dynamics may not continue as the pandemic progresses or subsides. Similarly, even as the pandemic progresses or subsides, products for which sales have declined or where costs have increased could continue to experience lower sales or higher costs.

The impact of COVID-19 can also exacerbate other risks discussed herein, which could in turn have a material adverse effect on us. Developments related to COVID-19 have been unpredictable, and additional impacts and risks may arise that we are not aware of or able to respond to appropriately.

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

As a result of the cyclical 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, or if demand is impacted by factors outside of our or our customers' control, such as the COVID-19 pandemic, 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".

The global supply of semiconductor industry fabrication capacity is currently not sufficient to meet the demand for semiconductor products. Any shortage of our capacity and the capacity of our sub-contractors may lead to us being unable to service some of our customers, which may result in adverse effects on our customer relationships and in liability claims. Further, as a result of this supply imbalance, the industry in general has experienced a high level of profitability and gross margins, which may not be sustainable over the long-term.

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 event that our facilities become inadequate in terms of capacity, flexibility and location. 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. For instance, we may be unable to successfully maintain and operate large infrastructure projects. Such increased capital expenditures associated with large infrastructure projects and strategic initiatives might not achieve profitability or we may be unable to utilize infrastructure projects to full capacity. There can also 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 reinforce our existing business. Failure to invest appropriately and in a timely manner or to successfully integrate any recent or future business acquisitions may prevent us from achieving the anticipated benefits and 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 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. For instance, the COVID-19 outbreak could cause disruptions from the temporary closure of

suppliers' facilities or delays and reduced export or shipment of various materials. 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.

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, 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. As a result, we may not meet our financial targets, which could in turn have an impact on our reputation or brand. 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".

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. Our external silicon foundries or back-end subcontractors are currently unable to satisfy our demand as a result of an increase in demand across our industry and disruptions due to the COVID-19 pandemic, and we expect such limitation in capacity to continue through 2022. This limitation on our ability to satisfy our demand may extend beyond 2022 and our external silicon foundries and back-end subcontractors may experience further inability to satisfy our demand as a result of competing orders, disruptions due to the COVID-19 pandemic or otherwise or may experience manufacturing difficulties, delays or reduced yields. Any limitation on the ability of our external silicon foundries and back-end subcontractors to satisfy our demand may cause our results of operations and ability to satisfy the demand of our customers to 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 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. The industry has experienced a rise in premiums and deductibles with regards to insurance policies. These may continue to increase and insurance coverage may also correspondingly decrease. If litigation occurs and 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.

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. In addition, the occurrence of epidemic or pandemic outbreaks such as COVID-19 could affect our customers. While the geographic spread of COVID-19 cannot be predicted and its future developments are uncertain, if its severity increases, the adverse public health impact on our customers could negatively affect our results.

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 related to digitalization, are in the process of being implemented. Any failure by us to manage our data governance processes could undermine our initiatives related to digitalization and 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, information and cloud-based initiatives, are subject to attempted security breaches and other cybersecurity threats, which, if successful, could adversely impact our business.

We have, from time to time, detected and 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, including to transition to cloud-based 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, including cloud-based 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.

As a result of the social distancing measures and regulations enforced by governments in connection with the COVID-19 pandemic, and the resulting work-from-home policies that we have undertaken, there has been additional reliance placed on our IT systems and resources. The resulting reliance on these resources, and the added need to communicate by electronic means, could increase our risk of cybersecurity incidents.

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 and business continuity plan to make enhancements and periodically implement new or upgraded systems, as for instance the transition and migration of our data systems to cloud-based platforms and critical system migration. 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 and could impact our operations and financial position. 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 IT services or 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”) 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 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 may increase 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.

Further, privacy-related legislation is rapidly evolving which 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. In 2021 our largest customer, Apple, accounted for 20.5% of our revenues. While we do not believe to be dependent on any one customer or group of customers, the loss of key customers or important sockets at key customers could have an adverse effect on our results of operations.

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.

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.

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 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.

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 27 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.

In 2019, the Organization for Economic Cooperation and Development (OECD) launched an initiative to, amongst others, minimize profit shifting by working towards a global tax framework that ensures that corporate income taxes are paid where consumption takes place, introduces a new tax dispute resolution process (Pillar I) and also introduces a global standard on minimum taxation (Pillar II). The tax impact of the respective proposals is currently being evaluated and such proposals 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 and the timeframe required to foster and realize synergies thereof, joint venture agreements and the purchase of technologies and licenses from third parties, as well as to impairment of tangible assets due to changes in the business environment. 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, tangible assets and other intangibles registered in our Consolidated Balance Sheets. See "Item 5. Operating and Financial Review and Prospects—Critical Accounting Policies Using Significant Estimates — Impairment of goodwill", "— Intangible assets subject to amortization" and "Item 4. Information on the Company — Property, Plants and Equipment"

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 obtained public funding and expect to obtain public funding in the future, 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.

A change in the landscape in public funding may also affect our business. For example, there are currently proposals within Europe to enact a European Chips Act, which may provide public funding towards manufacturing activities of semiconductors. It is yet to be seen whether this would impact the amount of public funding currently available to us for our R&D investments and ventures, but any reduction in said funding could result in a material adverse effect on our results of operations. Further, this may result in new or existing competitors benefitting from such funding and could also have an impact on the competitive landscape in our industry.

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.

Climate change and related sustainability regulations and initiatives, including our commitment to be carbon neutral by 2027, could place additional burden on us and our operations.

As climate change issues become more pronounced, we may correspondingly face increased regulation and also expectations from our stakeholders to take actions beyond existing regulatory requirements to minimize our impact on the environment and mitigate climate change related effects. The semiconductor manufacturing process has historically contributed to direct greenhouse gas emissions by utilizing perfluorocarbons, which may lead to new or increased regulation of such compounds. In order to address such regulation, we may be required to adapt our production processes or purchase additional equipment or carbon offsets, leading to increased costs. On December 9, 2020, we announced our goal to become carbon neutral by 2027 in our ambition to address climate change and to responsibly mitigate the impact of our activities on the environment. As of the end of 2021, we are on track against our trajectory towards carbon neutrality which includes two specific targets: compliance with the 1.5°C scenario defined at the Paris COP21 by 2025, implying a 50% reduction of direct and indirect GHG emissions compared to 2018, and the sourcing of 100% renewable energy by 2027.

To meet these additional requirements, we will need to continue to deploy additional equipment, introduce process changes, utilize alternative suppliers and materials, and take other similar actions, some or all of which may require us to incur additional costs which could result in a material adverse effect on our results of operations and our financial position. In addition, if we fail to meet these expectations, or foster additional sustainability initiatives, we may experience reputational risk which could impact our ability to attract and retain customers, employees, and investors.

Further, our sites, as well as those of our partners along the supply chain, may be exposed to changing and/or increasing physical risks resulting from climate change that are either chronic (induced by longer-term shifts in climate patterns, such as sea level rise, or changing temperature, wind or precipitation patterns) or acute (event-drive such as cyclones, hurricanes or heat waves). In the context of the transition to a lower-carbon economy, we will likely be exposed to further policy, legal, technology, and market transition risks. We have already seen further policy developments in this area in the form of Regulation (EU) 2020/852 of the European

Parliament and of the council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment and amending Regulation (EU) 2019/2088 (the “**EU Taxonomy Regulation**”), which entered into force on July 12, 2020. As a result of the EU Taxonomy Regulation, we must disclose information on how and to what extent our activities are associated with economic activities that qualify as environmentally sustainable. See “Item 4. Information on the Company – Environmental Matters”. If our disclosure metrics relating to climate change are lower than those of our peers in the industry, this may lead to reputational risk which may lead to onward financial repercussions such as a decrease in share price or difficulty in raising capital.

Loss of key employees and the inability to continuously recruit and retain qualified 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, as well our ability to ensure the smooth succession and continuity of business with newly hired and promoted personnel. For instance, in highly specialized areas, it may become more difficult to retain employees. As a result of the COVID-19 pandemic, work-from-home arrangements and a limitation on social and professional interaction has expanded the competition in employee recruitment and retention.

Our employee hiring and retention also depend on our ability to build and maintain a diverse and inclusive workplace culture and be viewed as an employer of choice. We intend to continue to devote significant resources to recruit, train and retain qualified employees, however, we may not be able to attract, obtain 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 at December 31, 2021, 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 (“AGM”), 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 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 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 used in a wide variety of applications for the four end-markets we address: automotive, industrial, personal electronics and communications equipment, computers and peripherals. For the automotive and industrial markets we address a wide customer base, particularly in industrial, with a broad and deep

product portfolio. In personal electronics and communications equipment, computers and peripherals we have a selective approach both in terms of the customers we serve, as well as in the technologies and products we offer, while leveraging our broad portfolio to address high-volume applications,

Our diverse product portfolio includes discrete and general purpose components, application-specific integrated circuits (“ASICs”), full-custom devices and semi-custom devices and application-specific standard products (“ASSPs”) for analog, digital and mixed-signal applications. It 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”), vertically integrated power (“VIPower”), and intelligent integrated gallium-nitride (STI²GaN) technologies for smart power applications, Power MOSFET, 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 optical sensing technologies for our optical sensing solutions. For our 2021 Results of Operations, see “Item 5. Operating and Financial Review and Prospects — Results of Operations — Segment Information”.

Strategy

At ST, we are 48,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An independent device manufacturer, we work with more than 200,000 customers and thousands of partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. We develop industry-leading technologies that allow us to provide products and solutions that meet and exceed the needs and expectations of our customers now and into the future.

Our strategy focuses on long-term value creation for the Company and its affiliated enterprises and takes into account the short-, medium- and longer-term evolution of the markets we serve and the environment and opportunities we see. It stems from key long-term enablers: Smart Mobility, where we provide innovative solutions to help our customers make driving safer, greener and more connected for everyone; Power & Energy: our technology and solutions enable customers to increase energy efficiency everywhere and support the use of renewable energy sources; Internet of Things (“IoT”) & 5G supporting the proliferation of smart, connected IoT devices with products, solutions and ecosystems to make development fast and easy for our customers.

We are focused on application areas which are expected to experience solid growth rates driven by broad, long-term trends in electronic systems. These trends require enablers such as autonomous systems, robotics, securely connected machines and personal devices, digitalization and electrification of automobiles and infrastructure, advanced communications equipment and networks and more power efficient systems. These enablers drive in turn the demand for the electronic components we develop and manufacture.

Product Information

Semiconductors are electronic components that serve as the building blocks inside 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.

We have a portfolio of power products and 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, including both general purpose and application specific, 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 & microprocessors, ASICs and optical sensing solutions. Our full set of microcontrollers & microprocessors includes one of the industry’s broadest ranges of general-purpose devices serving all market segments, microprocessors addressing the industrial market, secure microcontrollers for mobile devices, wearables,

banking, identification, industrial, automotive and IoT markets and a series of embedded processing solutions for our strategic end-markets (automotive, industrial, personal electronics and communications equipment, computers and peripherals).

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 drivers, including SiC and GaN 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 integrated circuits (“ICs”), and discrete and power transistor products.
- *Analog, MEMS and Sensors Group (AMS)*, comprised of analog, smart power, low power RF, MEMS sensors and actuators, and optical sensing solutions.
- *Microcontrollers and Digital ICs Group (MDG)*, comprised of microcontrollers (general purpose and secure), memories (RF and EEPROM), and RF communications.

Net revenues of “Others” include revenues from sales assembly services and other revenues. Operating income (loss) of Others includes items such as unused capacity charges, including reduced manufacturing activity due to COVID-19, impairment, restructuring charges and other related closure costs, management reorganization costs, phase out and start-up costs of certain manufacturing facilities, 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 operating earnings of other products.

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 the automotive industry worldwide. We combine an unparalleled platform of advanced technologies with an unwavering 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, Telematics & 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 CO₂ 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. The first automotive microcontrollers to feature multiple Arm® Cortex®-R52 cores with on-chip non-volatile memory for safe, real-time performance, our Stellar microcontrollers provide advanced connectivity and security features to support the transition to service-oriented automotive system architectures.

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.

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 telematics 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, QZSS and NavIC, 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 our strategic end markets (automotive, industrial, personal electronics and communications equipment, computers and peripherals).

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 silicon MOSFETs ranging from 12 to 1700 V, SiC MOSFETs from 650 to 2200 V featuring the industry's highest temperature rating of 200 °C, IGBTs with breakdown voltages ranging from 300 to 1700 V and a wide range of power bipolar transistors. Following our acquisition of a majority stake in GaN innovator Exagan in 2020, we have accelerated our offer to include a full range of GaN-based power device solutions for all markets. 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, industrial, personal electronics and communications equipment, computers and peripherals.

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, personal electronics and power conversion. These product families include: *Industrial ASICs and ASSPs*, covering motion control, power and energy management and automation; *General Purpose Analog Products*, which includes high end analog front-end products as well as RF ICs; and *Custom Analog ICs*, mainly power management ICs (“PMIC”) for data storage, servers and portable power management devices. In 2021, we further deployed wireless charging solutions and enlarged our offering to cover low to high power products and across personal electronics applications from smartphones to wearables. We also expanded our presence in the automotive and industrial markets with our Galvanic Isolated Gate Drivers (also known as STGAP Family).

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.

In 2021, we introduced further devices in our MasterGaN® family, integrating a silicon driver and GaN power transistors in a single package. 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). 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.

Optical Sensing Solutions

We also have a broad portfolio of optical sensing 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. Our optical sensing 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)

Microcontrollers, Memories & Secure MCUs

Our general purpose microcontroller (MCU) product portfolio largely contains families of products based on 32-bit ARM®-based Cortex®-M0, -M0+, -M3, -M4 and -M7 cores. In 2020, we introduced our STM32L5 series for the Mass Market. STM32L5 is based on the Cortex®-M33 with the ARM® TrustZone® enabling a more secure IoT, and obtained PSA-level-2 (Platform Security Architecture) security certification. For each product family, a broad selection of features is available with respect to MCU performance, ultra-low-power, memory size, peripherals, and packaging. Numerous dedicated families include features such as our TouchGFX advanced 3D graphics, dedicated peripherals for industrial motor controls, security features, and low-power wireless connectivity. Our microprocessors (MPU) product line targeting the industrial market is based on 32-bit ARM®-based Cortex®-A7 Core, complemented by an integrated Cortex®-M4 and a dedicated Linux distribution. In 2021, we introduced our STM32U5 series for secure & Ultra-Low-Power applications for the Mass Market. STM32U5 is based on the Cortex®-M33 with the ARM® TrustZone® enabling a more secure IoT. STM32U5 is the first STM32 MCU to receive PSA-level-3 (Platform Security Architecture) and SESIP (Security Evaluation Standard for IOT Platform) level-3 security certification, taking IOT cyber-protection to the next level.

In 2020, we acquired three companies to expand our position in the Wireless IoT space, namely (i) Riot Micro for their Cellular IoT product; (ii) BeSpoon for their industrial UWB product; and (iii) SOMOS Semiconductor for their Cellular IoT RF Front-End-Modules.

In 2021, we continued to strengthen our STM32 Wireless MCU portfolio, with the first STM32 Wireless module supporting all-in-one 2.4GHz (STM32WB based) supporting BLE 5.2 ready, Zigbee 3.0 and OpenThread; a new STM32WL line supporting LoRaWAN, Sigfox, MioTy, WMBUS and ZetA protocol; a new STM32WB 2.4GHz MCU supporting Audio full-duplex over Bluetooth LE. Finally ST joined the CSA alliance (Zigbee) as board member and ST joined the MATTERS (Connected Home over IP) initiative.

In 2021, we acquired Edge-AI Software specialist, Cartesiam. With this acquisition, we are reinforcing our AI-at-the-edge MCU strategy and strengthening our technology portfolio to address the full spectrum of embedded machine-learning needs. This acquisition will provide all STM32 users and customers with additional flexibility to integrate machine-learning into their solution.

The STM32 family based on the ARM® Cortex®-M and -A processors are designed to offer significant degrees of freedom to microcontroller and microprocessors users. The 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.

We offer an unparalleled range of STM32 devices, accompanied by a vast choice of tools and software including support for Industrial Safety Standard IEC 61508 SIL2/3, Human Machine Interface (“HMI”). We have extended HMI to Alexa voice-command with an Amazon-qualified reference design. Our dedicated Cube-AI toolbox for Artificial Intelligence includes Machine learning and Neural Networks. This comprehensive portfolio makes our STM32 an ideal choice for enabling ever smarter objects for an increasingly broad range of applications.

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 mobile communications, banking, digital identity, IoT security, pay-TV and transport fields. We are the leading supplier for the new Embedded SIM market and we are scaling-up in secure mobile transactions using 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 ST proprietary advanced embedded non-volatile memory technologies such as 40 nm embedded Flash and 80 nm embedded EEPROM technologies.

Our wide range of small density serial non-volatile memories has among the highest industry performance. The serial EEPROM family ranges from 1 Kbit to 4 Mbits and offers the most common serial interfaces to facilitate adoption: I²C, SPI and Microwire. Our wide range of products are also automotive compliant. Very small packages options are available for applications where space is critical, such as in camera modules for consumer and mobile devices.

We offer RF memory and transceiver products that are key for logistic and retail applications and are based on the largest industry standard for short range High-Frequency RFID ISO 14443 and 15693. The products are compatible with all NFC technology standards, as defined by the NFC Forum, where ST plays a key role, including the latest NFC type 5. We offer one of the most comprehensive portfolios, which includes NFC/RFID readers, Dynamic NFC/RFID tags, also known as Dual Interface NFC/RFID tags, and Standalone NFC/RFID tags. We also offer RFID Readers operating in the UHF bands for longer range logistics operation.

RF Communications

We offer RF, digital and mixed-signal ASICs, which are based on our proprietary FD-SOI, RF-SOI, and SiGe technologies, as well as foundry-based FinFET technologies, for 4G-5G and Satellite wireless communications RF Front-End Modules, and wired communications infrastructure and Satellite terminals.

We also use our proprietary FD-SOI, RF-SOI, and SiGe technologies to provide RF and mmWave components, based on our know-how in analog and digital beamforming design techniques, to address Massive MIMO Antenna Architectures.

Our unique combination of differentiated Silicon technologies and design expertise is particularly pertinent to address the markets for satellite constellations and user terminals, 5G infrastructure RF Front-End, and transceivers for very-short-range ultra-low-power 60GHz multi-Gigabit/second links.

Alliances with Customers and Industry Partnerships

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

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 which we sell to over 200,000 customers. We emphasize a broad and balanced product portfolio, in the applications and regional markets we serve. Our major customers include Apple, Bosch, Continental, Delta Electronics, HP, Huawei, Intel-Mobileye, Samsung, Seagate and Tesla. In addition, our broad portfolio of dedicated Automotive ICs; Discrete & Power Transistors; Analog, Industrial & Power Conversion ICs; GP, Connected MCU, MPU, Secure MCU & EEPROMs; MEMS & Optical Sensing solutions; and ASICs based on ST proprietary technologies helps foster closer, strategic relationships with customers. This broad product breadth provides opportunities to enable application solutions and to supply such customers' requirements for all their product and technology needs. We also sell our products through distributors and retailers.

Sales, Marketing and Distribution

Our sales and marketing is organized by a combination of regional and key account coverage with the primary objective of accelerating sales growth and gaining market share. Emphasis is placed on strengthening the development of our global and major local accounts; boosting demand creation through an enhanced focus on geographical and key account coverage with strong technical and application expertise, supported in the mass market by our distribution channel and local initiatives; and establishing regional sales and marketing teams that

are fully aligned with our strategic end-markets: automotive, industrial, personal electronics and communications equipment, computers and peripherals.

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

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. Our distributors have a dual role, in that they assist in fulfilling the demand of our customers by servicing their orders, while also supporting the creation of product demand and business development. Most of our sales to distributors are made under specific agreements allowing for price protection and stock rotation for 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.

At the request of certain 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. We also sell products to original design manufacturers (“ODM”). ODMs manufacture products for our customers much like EMS companies do, but they also design applications for our customers, and in doing so themselves select the products and suppliers that they wish to purchase from. 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 because 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: about 17.5% of our employees work in R&D on product design/development and technology and, in 2021, we spent approximately 13.5% of our net revenues on R&D.

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. Our innovations in semiconductor technology as well as in hardware and software contribute to the creation of successful products that generate value for us and our customers. Our complete design platforms, including a large selection of IP and silicon-proven models and design rules, enable the fast development of products designed to meet customer expectations in terms of reliability, quality, competitiveness in price and time-to-market. Through our R&D efforts, we contribute to making our customers’ products more efficient, more appealing, more reliable and safer.

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

We have advanced R&D and innovation 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”.

The total amount of our R&D expenses in the past three fiscal years was \$1,723 million, \$1,548 million and \$1,498 million in 2021, 2020 and 2019, 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 14 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⁾	Smart Power and analog ICs and application-specific products, MEMS	Fab 1: 200 mm, BCD, research and development and manufacturing on MEMS Fab 2: 200 mm, research and development and manufacturing on Advanced BCD
Ang Mo Kio, Singapore	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, CMOS logic, Microfluidics, MEMS, Bi-CMOS Fab 2: 200 mm, BCD, Advanced BCD, VIPpower™ and Power MOS; EEPROM, embedded non-volatile memories
Catania, Italy	Power transistors, Smart Power and analog ICs and application-specific products, MEMS	Fab 1: 150 mm, research and development and manufacturing of SiC power devices and RF GaN Fab 2: 200 mm, advanced BCD, research and development and manufacturing on Power MOS, VIPpower™
Crolles, France ⁽²⁾	Application-specific products and leading edge logic products; non-volatile memories and microcontrollers; image sensors	Fab 1: 200 mm, research and development and manufacturing on CMOS and Bi-CMOS, Analog/RF and Optical Sensing Fab 2: 300 mm, research and development and manufacturing on advanced CMOS Bulk, Bi-CMOS and FD-SOI, Optical Sensing, Analog/RF, embedded non-volatile memories
Norrköping, Sweden	SiC wafer R&D and industrialization	SiC 6” & 8” wafer, N+ doped and Semi Insulated
Rousset, France	Standard and secure microcontrollers, application-specific products	Fab: 200 mm, manufacturing on CMOS, embedded non-volatile memories, EEPROM and Analog/RF
Tours, France	Protection thyristors, diodes and ASDTM power transistors, IPADTM	Fab 1: 150 mm Triacs, Power Schottky diodes and Fab 2: 200 mm research and development and manufacturing on IPD, rectifiers; research and development and manufacturing on Power GaN

Location	Products	Technologies
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
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, France	Application specific products	Various technologies
Shenzhen, China ⁽³⁾	Non-volatile memories, optical packages, discrete, application-specific and standard products	SOIC, Power, Power Automotive, Power Modules, Optical Sensors
Toa Payoh, Singapore	Packaging research and development, EWS	

- (1) Our new 300 mm fab to support next generation mixed signal, analog and power technologies is under construction. The building and clean room have been completed in 2021. First set of equipment are being installed in first half of 2022.
(2) Our 300 mm fab has expanded clean room and facilities in 2021 to support production ramp up on our main runner technologies.
(3) Jointly owned with SHIC, a subsidiary of Shenzhen Electronics Group.

At December 31, 2021, our front-end facilities had a total maximum capacity of approximately 135,000 200mm 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 to long-term leases.

We have historically subcontracted a portion of total manufacturing volumes to external suppliers. In 2021, we subcontracted approximately 24% of the value of our total silicon production to external foundries. Our plan is to continue sourcing silicon from external foundries to give us flexibility in supporting our growth.

At December 31, 2021, we had approximately \$2,406 million in outstanding commitments for purchases of equipment and other assets for delivery in 2022. In 2021, our capital spending, net of proceeds, was \$1,828 million compared to \$1,279 million in 2020. In the 2019-2021 period the ratio of capital investment spending to net revenues was about 13.2%. 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 18,500 patents and pending patent applications, corresponding to approximately 9,400 patent families (each patent family containing all patents originating from the same invention), including 543 original new patent applications filed in 2021.

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 27 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.

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 2021 with a backlog higher than we had entering 2020. For 2022, we entered the year with a backlog higher than what we had entering 2021.

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 or suppliers. 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.

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 of ownership as at December 31, 2021:

Legal Seat	Name	Percentage of 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 (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
Egypt, Cairo	STMicroelectronics Egypt SSC	100
Finland, Nummela	STMicroelectronics Finland OY	100
France, Crolles	STMicroelectronics (Crolles 2) SAS	100
France, Grenoble	STMicroelectronics (Alps) SAS	100
France, Grenoble	Exagan SAS	80
France, Grenoble	STMicroelectronics (Grenoble 2) SAS	100
France, Le Mans	STMicroelectronics (Grand Ouest) SAS	100
France, Montrouge	STMicroelectronics S.A.	100
France, Le Bourget-du-Lac	BeSpoon SAS	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, Kowloon	STMicroelectronics Ltd	100
India, New Delhi	ST-Ericsson India Pvt Ltd	100
India, Noida	STMicroelectronics Pvt Ltd	100
Israel, Netanya	STMicroelectronics Limited	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
Sweden, Norrköping	STMicroelectronics Silicon Carbide A.B.	100
Switzerland, Geneva	STMicroelectronics S.A.	100
Taiwan, Taipei City	Exagan Taiwan Ltd.	80
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, Coppel	STMicroelectronics Software Inc.	100
United States, Coppel	STMicroelectronics Inc.	100
United States, Coppel	STMicroelectronics (North America) Holding, Inc.	100

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 is generally available 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 last 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 four general categories: funding for Research and Development (R&D), Innovation activities (RDI), funding for First Industrial Deployment activities (FID), 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 in which we are involved include: (i) Important Project of Common European Interest (IPCEI) which combines Research, Development and Innovation activities (RDI) as well as First Industrial Deployment activities (FID); (ii) Key Digital Technologies Initiative (KDT, formerly Electronic Components and Systems for European Leadership (ECSEL), which combines all electronics related R&D activities and is operated by joint undertakings formed by the European Union, certain member states and industry; (iii) EU R&D projects within Horizon 2020 (the European Union's research and innovation framework); 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 December 2018, the European Commission announced the approval of the IPCEI, a Pan-European project initiated to foster research and innovation in microelectronics to be funded by Germany, France, Italy and the U.K.

In our role as beneficiary of the IPCEI on Microelectronics, we have been allocated an overall funding budget of approximately €340 million for the period 2016-2022 in France (locally referenced as Nano2022 which is subject to the conclusion of agreements every year with the public authorities and linked to technical objective and associated achievements, and about €720 million for the period 2018-2024 in Italy. The IPCEI

program is highly strengthening our leadership in key technologies. It contributes to anticipate, accelerate, and secure ST's technological developments.

In December 2021, ST submitted a new IPCEI program, titled IPCEI on Microelectronics and Communication Technologies (IPCEI – ME/CT). This new pan-European project was initiated to foster research and innovation and kick-start the first industrialization of microelectronics. This new IPCEI will involve ST in France (from 2022 to 2026), Italy (from 2023 to 2027) and Malta (from 2021 to 2025), as well as about 100 other companies across 15 European countries. In 2021 we also recognized €87.5 million of grants related to our participation in IPCEI in Italy and €62.4 million related to our participation in IPCEI in the national and Horizon 2020 program in France.

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 9001 on a Company-wide basis. We implement the highest standards across our manufacturing activities and supply chain. All of our manufacturing sites are ISO 14064 certified and the majority of our sites are also ISO 14001 certified and EMAS validated. Furthermore, all of our front-end manufacturing sites and four out of six back-end manufacturing sites are ISO 50001 certified.

We believe that in 2021 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 2021, there were no material environmental claims made against us.

On December 9, 2020, we announced our goal to become carbon neutral by 2027. Our comprehensive roadmap to carbon neutrality includes two specific targets: compliance with the 1.5°C scenario defined at the Paris COP21 by 2025, which implies a 50% reduction of direct and indirect emissions compared to 2018, and the sourcing of 100% renewable energy by 2027.

On July 12, 2020, the EU Taxonomy Regulation entered into force. The EU Taxonomy Regulation provides the basis for the EU taxonomy: a classification system, on the basis of which a list of environmentally sustainable economic activities has been drawn up. The EU Taxonomy Regulation defines overarching conditions that an economic activity must meet to be considered environmentally sustainable, and focuses on six environmental objectives. On January 1, 2022 the delegated acts on the technical screening criteria for two environmental objectives, being Climate Change Mitigation and Adaption to Climate Change, entered into force, in which technical screening criteria have been laid down which specify environmental performance requirements for the economic activities to be classified as environmentally sustainable. As we are subject to an obligation to publish non-financial information pursuant to Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings, amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC (the Non-Financial Reporting Directive), the EU Taxonomy Regulation is applicable to us, and subsequently, we must disclose information on how and to what extent our activities are associated with economic activities that qualify as environmentally sustainable. This information will be disclosed in our Dutch Annual Report.

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 allowances and returns;
- 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 and liabilities assumed on business acquisitions, and measurement of any contingent consideration on business acquisitions;
- annual and trigger-based impairment review of goodwill and intangible assets, as well as the assessment of events, which could trigger impairment testing on long-lived assets;
- assessment of our long-lived assets economic useful lives;
- assumptions used in measuring expected credit losses and impairment charges on financial assets;
- 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 settled, hybrid instrument and measurement at fair value of the liability component based on the income approach; and
- determination of the amount of tax 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. The COVID-19 pandemic did not result in significant impacts on these estimates. 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. 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. We recognize revenue from products sold to a customer, including distributors, when we satisfy a performance obligation by transferring control over a product to the customer. In certain circumstances, we 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 we expect 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. Certain of our customers require us to hold inventory as consignment in their hubs and only purchase inventory when they require it. Revenue for sales of such inventory is recognized when, at the customer's option, the products are withdrawn from the consignment and we satisfy a performance obligation by transferring control over a product to the customer.

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 changes in market prices. We accrue a provision for price protection based on a rolling historical price trend computed monthly 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 to accommodate a significant change in the selling price. The short outstanding inventory time, 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.

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 historical and current conditions to form a reasonable estimate of future returns.

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. 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.

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.

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 is reported on the line "Other revenues" of the consolidated statements of income. Other revenues also include patent royalty income, sale of scrap materials and manufacturing by-products.

Trade accounts receivable. We use a lifetime expected credit losses allowance for all trade receivables. The allowance includes reasonable assumptions about future credit trends. The historical loss rates are adjusted to reflect current and forward-looking information on macroeconomic factors affecting the ability of our customers to settle the receivables. Adjustments to the expected credit losses allowance are reported in the line "Selling, general and administrative" in the consolidated statements of income.

Business combinations and goodwill. The acquisition method of accounting applied to business combinations requires extensive use of estimates and judgments to allocate the purchase price to the fair value of acquired assets less assumed liabilities, including any contingent consideration, net of related deferred tax impacts. 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. As at December 31, 2021, the value of goodwill in our Consolidated balance sheet amounted to \$313 million.

Impairment of goodwill. Goodwill recognized in business combinations is not amortized but is tested for impairment annually, or more frequently if a triggering event indicating a possible impairment exists. Goodwill subject to potential impairment is tested at the reporting unit level. This impairment test determines whether the fair value of each reporting unit under which goodwill is allocated is lower than the total carrying amount of relevant net assets allocated to such reporting unit, including its allocated goodwill. A goodwill impairment charge, if any, is recorded for the amount by which a reporting unit's carrying value exceeds its fair value. 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. Our evaluations are based on financial plans updated with the latest available projections of the semiconductor market, our sales expectations and our costs evolution, 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 as of the end of the fourth quarter of 2021 and as of the end of the third quarter of 2020 and 2019 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 initially recorded at fair value, comprised mainly of technologies and licenses, and capitalized computer software. Intangible assets with finite useful lives are reflected net of any impairment losses and are amortized over their estimated useful lives. Amortization begins when the intangible asset is available for its intended use. Amortization reflects the pattern in which the asset's economic benefits are consumed, which usually consists in applying the straight-line method to allocate the cost of the intangible assets over the 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. 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.

In 2021, 2020 and 2019, respectively, we recorded \$1 million, \$4 million and \$4 million impairment charge on acquired licenses and 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 losses. 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.

As at December 31, 2021, the value of intangible assets subject to amortization in our Consolidated balance sheet amounted to \$438 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. The largest component of our long-lived assets is our manufacturing equipment primarily in our front-end activities. On this equipment, the useful life is estimated 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 property, plant and equipment when it is ready for its intended use.

We evaluate each period whether there is reason to suspect that tangible assets or groups of assets held for use 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 we operate, 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, we initially assess whether the carrying value of the tangible assets or group of assets exceeds the undiscounted cash flows associated with these 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. In 2021 and 2020, no impairment charge was recorded on property, plant and equipment. In 2019, we impaired \$3 million of long-lived assets.

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.

As at December 31, 2021, we did not hold any significant assets held for sale.

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, write-offs of finished products, which have the characteristics of slow-moving, old production dates and technical obsolescence. We evaluate inventory to identify obsolete or slow-selling items, as well as inventory that is not of saleable quality and we record a specific reserve if we

estimate the inventory will eventually become obsolete. 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.

Share-based compensation. Our share-based service awards are granted to senior executives and selected employees. 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. 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 2021, 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 our financial results compared to industry performance, 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 2021, 2020 and 2019, we recorded a total charge of approximately \$221 million, \$155 million and \$145 million relating to our outstanding stock award plans, respectively.

Financial assets. The financial assets held at reporting date are primarily receivables and equity securities. Receivables are measured at amortized cost less any currently expected credit loss allowance. Investments in equity securities that have readily determinable fair values and for which we do not have the ability to exercise significant influence are classified as financial assets measured at fair value through earnings. For investments in equity securities without readily determinable fair values and for which we do not have the ability to exercise significant influence, we have elected to apply the cost-method as a measurement alternative. We determine the classification of our financial assets at initial recognition.

The fair values of publicly traded 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 at December 31, 2021, we did not hold any material equity securities reported under the equity method.

Income taxes. We make estimates and judgments in determining income tax for the period, comprising current and deferred income tax. We 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, at each reporting date, we assess all material uncertain tax positions in all jurisdictions to determine the amount of income tax benefits that we do not expect to reasonably sustain. As at December 31, 2021, we had uncertain tax positions estimated at \$118 million.

We also assess the likelihood of realization of our deferred tax assets. Their ultimate realization is dependent upon, among other things, our ability to generate future taxable profit available, or tax credits before their expiration, or our ability to implement prudent and feasible tax planning, 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 at December 31, 2021, we had net deferred tax assets of \$588 million.

We could be required to record further valuation allowances thereby reducing the amount of total deferred tax assets, resulting in an increase in 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. As at December 31, 2021, our pension and post-employment benefit obligations net of plan assets amounted to \$438 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 at December 31, 2021, 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 27 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 at December 31, 2021, 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 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 27 to our Consolidated Financial Statements.

Fiscal Year 2021

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 2021, the first quarter ended on April 3, the second quarter ended on July 3, the third quarter ended on October 2 and the fourth quarter ended on December 31. In 2022, the first quarter will end on April 2, the second quarter will end on July 2, the third quarter will end on October 1 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 2020, 2021 and 2022.

	Q1	Q2	Q3	Q4
	Days			
2020	88	91	91	96
2021	93	91	91	90
2022	92	91	91	91

2021 Business Overview

Our results of operations for each period were as follows:

	Year ended December 31,		Three Months Ended			
	2021	2020	December 31, 2021	October 2, 2021	December 31, 2020	
	(In millions, except per share amounts)		(Unaudited, in millions, except per share amounts)			
Net revenues	\$ 12,761	\$ 10,219	\$ 3,556	\$ 3,197	\$ 3,235	
Gross profit	5,326	3,789	1,609	1,330	1,254	
Gross margin as percentage of net revenues	41.7%	37.1%	45.2%	41.6%	38.8%	
Operating income	2,419	1,323	885	605	657	
Operating margin	19.0%	12.9%	24.9%	18.9%	20.3%	
Net income attributable to parent company	2,000	1,106	750	474	582	
Diluted earnings per share	\$ 2.16	\$ 1.20	\$ 0.82	\$ 0.51	\$ 0.63	

Our total available market is defined as our "TAM", while our serviceable available market is defined as our "SAM" and represents the market for products sold by us (i.e., our TAM excluding major devices such as microprocessors, dynamic random-access memories, optoelectronics devices, flash memories and wireless application specific market products, such as baseband and application processors).

Based on industry data published by WSTS, semiconductor industry revenues in 2021 increased on a year-over-year basis by approximately 26% for the TAM and by approximately 29% for the SAM, to reach approximately \$556 billion and \$261 billion, respectively. In the fourth quarter of 2021, on a year-over-year basis, both the TAM and the SAM increased by approximately 28%. Sequentially, the TAM increased by approximately 5% and the SAM increased by approximately 6%.

Full year 2021 net revenues increased 24.9% to \$12.76 billion, reflecting strong performance across all the end markets we address and our engaged customers programs throughout the year; gross margin was 41.7% and operating margin was 19.0%.

Our fourth quarter net revenues amounted to \$3,556 million, increasing 9.9% year-over-year, gross margin was 45.2%, and operating margin was 24.9%. On a sequential basis, fourth quarter net revenues grew by 11.2%, 140 basis points above the high-end of our guidance, with all product groups contributing to the growth, except the Imaging sub-group.

Our quarterly performance was above the SAM on a sequential basis.

Our effective average exchange rate was \$1.18 for €1.00 for the full year 2021, as compared to \$1.13 for €1.00 for the full year 2020. Our effective average exchange rate for the fourth quarter of 2021 was \$1.17 for €1.00, compared to \$1.19 for €1.00 for the third quarter of 2021 and \$1.16 for €1.00 in the fourth quarter of 2020. 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 2021 gross margin increased 460 basis points to 41.7% from 37.1% in 2020, principally driven by manufacturing efficiencies and loading improvements, favorable pricing and product mix, partially offset by negative currency effects, net of hedging.

Our fourth quarter 2021 gross profit was \$1,609 million and gross margin was 45.2%, 20 basis points above the high-end of our guidance, principally driven by improved product mix, favorable pricing, and manufacturing efficiencies. On a sequential basis, gross margin improved by 360 basis points, mainly driven by positive sales price impact and more favorable product mix. Our gross margin increased 640 basis points year-over-year, principally driven by favorable pricing, improved product mix and manufacturing efficiencies.

Our operating expenses, comprised of aggregated selling, general & administrative (“SG&A”) and research & development (“R&D”) expenses, amounted to \$3,046 million in 2021, increasing by 14.6% from \$2,657 million in the prior year, mainly due to higher cost of labor and negative currency effects, net of hedging. Aggregated R&D and SG&A expenses were \$752 million for the fourth quarter of 2021, compared to \$757 million and \$729 million in the prior and year-ago quarters, respectively. On a sequential basis our operating expenses remained substantially flat. The year-over-year increase of operating expenses was mainly due to salary dynamic, partially offset by lower calendar days.

Other income and expenses, net, were \$141 million in 2021 compared to \$202 million in 2020, decreasing mainly due to lower income from public funding. Fourth quarter other income and expenses, net, were \$32 million, substantially flat compared to \$33 million in the prior quarter and decreasing when compared to \$131 million in the year-ago quarter, mainly due to the Important Projects of Common European Interest (“IPCEI”) grants catch-up recorded in 2020.

In 2021, impairment and restructuring charges were \$2 million compared to \$11 million in 2020.

Operating income in 2021 was \$2,419 million, increasing by \$1,096 million compared to 2020, mainly driven by the combining effect of higher revenues and improved gross margin profitability, partially offset by higher operating expenses and lower level of public funding.

Operating income in the fourth quarter grew on a sequential and year-over-year basis to \$885 million compared to \$605 million and \$657 million in the prior and year-ago quarter, respectively. The sequential increase was positively impacted by higher revenues and improved gross margin profitability. The year-over-year increase is mainly driven by the combined effect of higher revenues and increased gross margin profitability, partially offset by higher operating expenses and lower public funding.

Full year 2021 net income was \$2,000 million, or \$2.16 diluted earnings per share, compared to net income of \$1,106 million, or \$1.20 diluted earnings per share for the full year 2020. Fourth quarter net income increased on a sequential and year-over-year basis to \$750 million, or \$0.82 diluted earnings per share, compared to net income of \$474 million, or \$0.51 diluted earnings per share, in the prior quarter, and a net income of \$582 million, or \$0.63 diluted earnings per share, in the year-ago quarter.

During 2021, our cash increased by \$219 million, with net cash from operating activities of \$3,060 million. Capital expenditure payments, net of proceeds from sales, were \$548 million and \$1.83 billion during the fourth quarter and full year 2021, respectively. Full year 2020 capital expenditures, net of proceeds from sales, were \$1.28 billion.

Our free cash flow, a non-U.S. GAAP measure, amounted to \$1,120 million in 2021 compared to \$627 million in 2020. Refer to “Liquidity and Capital Resources” for the reconciliation of the free cash flow, a non-U.S. GAAP measure, to our consolidated statements of cash flows.

During 2021, we received \$788 million of proceeds from long-term debt and used \$1,263 million for the settlement of Tranche B of the senior unsecured convertible bonds issued on July 3, 2017 (the “2017 Senior Unsecured Convertible Bonds”). In addition, we used \$485 million for the repurchase of common stock, \$205 million of cash dividends to our shareholders and \$134 million for long-term debt repayment.

Business Outlook

Our first quarter 2022 outlook reflects revenues of approximately \$3.5 billion at the mid-point, increasing year-over-year by about 16.1%. Sequentially, this represents a decrease of approximately 1.6%, plus or minus 350 basis points. Gross margin is expected to be at approximately 45.0%, plus or minus 200 basis points. For 2022, we plan to invest about \$3.4 billion to \$3.6 billion in capital expenditures to further increase our production capacity and to support our strategic initiatives including the first industrialization line of our new 300mm wafer fab in Agrate, Italy.

Our capital expenditures plan and the strong customer demand expected in 2022, will allow us to drive the Company based on a plan for 2022 revenues in the range of \$14.8 billion to \$15.3 billion.

This outlook is based on an assumed effective currency exchange rate of approximately \$1.15 = €1.00 for the 2022 first quarter and includes the impact of existing hedging contracts. The first quarter will close on April 2, 2022.

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 November 18, we announced the following changes in our Executive Committee, effective as of January 1, 2022:

- The appointment of Marco Cassis, as President, Analog, MEMS and Sensors Group. In addition to his Product Group role, Cassis will retain a number of corporate responsibilities, namely Strategy Development, System Research and Applications and the Innovation Office;
- The appointment of Remi El-Ouazzane, as President of the Microcontroller and Digital ICs Group, following Claude Dardanne’s decision to retire at the end of the year from this position;
- Lorenzo Grandi is confirmed in his Chief Financial Officer role and will be appointed President of Finance, Purchasing, ERM and Resilience;
- The appointment of Jerome Roux, currently Executive Vice President, Asia Pacific Region, as President, Sales & Marketing.

On August 18, we published our IFRS 2021 Semi Annual Accounts for the six-month period ended July 3, 2021 on our website and filed them with the Netherlands Authority for the Financial Markets (*Autoriteit Financiële Markten*).

On August 17, we announced the expansion of an existing multi-year, long-term silicon carbide wafer supply agreement with Cree. The amended agreement, which calls for Cree to supply us with 150mm silicon carbide bare and epitaxial wafers over the next several years, is now worth more than \$800 million.

On July 1, we announced the launch of a share buy-back program of up to \$1,040 million to be executed within a 3-year period. We intend to carry out the buy-back program and hold the shares bought back as treasury stock for the purpose of meeting our obligations in relation to our employee stock award plans and to support the potential settlement of our outstanding convertible bonds.

On June 25, we announced a strategic cooperation with the Renault Group on advanced power semiconductor products for electric and hybrid vehicles which will see us benefit from significant volumes guaranteed of power modules and wide bandgap power transistors to be supplied from 2026-2030.

On June 24, we signed an agreement with Tower Semiconductor (“Tower”) by which Tower will share a portion of the cleanroom of our new Agrate R3 300mm fab, which is currently under construction, in order to accelerate fab ramp-up to reach a high utilization level and scale.

On June 9, we announced that Benedetto Vigna, President of the Analog, MEMS and Sensors Group, has informed the Company that he will step down from his position on August 31, 2021 to become CEO of another company.

On May 27, we held our Annual General Meeting of Shareholders (AGM) in Schiphol, the Netherlands. The resolutions, approved by the stakeholders, were:

- The adoption of the Company's Statutory Annual Accounts for the year ended December 31, 2020, prepared in accordance with International Financial Reporting Standards (IFRS) and filed with the Dutch Authority for the Financial Markets (AFM) on March 25, 2021;
- 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 2021 and first quarter of 2022;
- The reappointment of Mr. Jean-Marc Chery as sole member of the Managing Board for a three-year term to expire at the end of the 2024 AGM;
- The reappointment of Mr. Nicolas Dufourcq, as member of the Supervisory Board, for a three-year term to expire at the end of the 2024 AGM;
- The adoption of an amended remuneration policy for the Managing Board, in line with recent changes in Dutch corporate law and the EU's Shareholder Rights Directive II (SRDII);
- The approval of the stock-based portion of the compensation of the President and CEO;
- The adoption of a new 3-year Unvested Stock Award Plan for Management and Key Employees;
- The authorization to the Managing Board, until the end of the 2022 AGM, to repurchase shares, subject to the approval of the Supervisory Board;
- The delegation to the Supervisory Board of the authority to issue new common shares, to grant rights to subscribe for such shares, and to limit and/or exclude existing shareholders' preemptive rights on common shares, until the end of the 2022 AGM;
- The discharge of the sole member of the Managing Board; and
- The discharge of the members of the Supervisory Board.

On May 19, we announced the acquisition of the assets of Cartesiam, a French software company specialized in artificial intelligence development tools, and the transfer and integration of its employees. The transaction was closed on July 6, 2021.

On May 5, we announced the publication of our 24th sustainability report detailing the 2020 performance.

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 ("ASICs"), full-custom devices and semi-custom devices and application-specific standard products ("ASSPs") 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, and discrete and power transistor products.
- *Analog, MEMS and Sensors Group (AMS)*, comprised of analog, smart power, low power RF, MEMS sensors and actuators, and optical sensing solutions.

- *Microcontrollers and Digital ICs Group (MDG)*, comprised of microcontrollers (general purpose and secure), memories (RF and EEPROM), and RF communications.

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, SG&A expenses and a part of R&D expenses. In compliance with our internal policies, certain costs are not allocated to the segments, but reported in "Others". Those comprise unused capacity charges, including reduced manufacturing activity due to COVID-19, impairment, restructuring charges and other related closure costs, management reorganization expenses, phase-out and start-up costs of certain manufacturing facilities and other unallocated expenses such as: strategic or special R&D 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 other products. 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 cost of sales. Finally, public grants are allocated to our segments proportionally to the incurred 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.

Annual Results of Operations

The following table sets forth certain financial data from our consolidated statements of income:

	2021		2020		2019	
	\$ million	% of net revenues	\$ million	% of net revenues	\$ million	% of net revenues
Net sales	\$ 12,729	99.7%	\$ 10,181	99.6%	\$ 9,529	99.7%
Other revenues	32	0.3	38	0.4	27	0.3
Net revenues	12,761	100.0	10,219	100.0	9,556	100.0
Cost of sales	(7,435)	(58.3)	(6,430)	(62.9)	(5,860)	(61.3)
Gross profit	5,326	41.7	3,789	37.1	3,696	38.7
Selling, general and administrative	(1,323)	(10.4)	(1,109)	(10.9)	(1,093)	(11.4)
Research and development	(1,723)	(13.5)	(1,548)	(15.1)	(1,498)	(15.7)
Other income and expenses, net	141	1.2	202	1.9	103	1.1
Impairment, restructuring charges and other related closure costs	(2)	—	(11)	(0.1)	(5)	(0.1)
Operating income	2,419	19.0	1,323	12.9	1,203	12.6
Interest income (expense), net	(29)	(0.2)	(20)	(0.1)	1	—
Other components of pension benefit costs	(10)	(0.1)	(12)	(0.1)	(16)	(0.2)
Income (loss) on equity-method investments	—	—	2	—	1	—
Loss on financial instruments, net	(43)	(0.4)	(26)	(0.3)	—	—
Income before income taxes and noncontrolling interest	2,337	18.3	1,267	12.4	1,189	12.4
Income tax expense	(331)	(2.6)	(159)	(1.6)	(156)	(1.6)
Net income	2,006	15.7	1,108	10.8	1,033	10.8
Net income attributable to noncontrolling interest	(6)	—	(2)	—	(1)	—
Net income attributable to parent company stockholders	\$ 2,000	15.7%	\$ 1,106	10.8%	\$ 1,032	10.8%

Net revenues

	Year Ended December 31,			% Variation	
	2021	2020	2019	2021 vs 2020	2020 vs 2019
	(in millions)				
Net sales	\$ 12,729	\$ 10,181	\$ 9,529	25.0%	6.8%
Other revenues	32	38	27	(17.2)	43.4
Net revenues	\$ 12,761	\$ 10,219	\$ 9,556	24.9%	6.9%

Our 2021 net revenues increased 24.9% compared to the prior year, as a result of an approximate 19% increase in volumes and an approximate 6% increase in average selling price, mainly due to higher selling prices and a more favorable product mix.

Our 2020 net revenues increased 6.9% compared to the prior year, due to both higher volumes of approximately 4% and higher average selling prices of approximately 3%, mainly due to a more favorable product mix, partially offset by a negative pricing effect.

In 2021, 2020 and 2019, our largest customer, Apple, accounted for 20.5%, 23.9% and 17.6% of our net revenues, respectively, reported within our three product groups.

Net revenues by product group

	Year Ended			% Variation	
	2021	2020	2019	2021 vs 2020	2020 vs 2019
	(In millions)				
ADG	\$ 4,350	\$ 3,284	\$ 3,606	32.5%	(8.9)%
AMS	4,623	3,892	3,299	18.8	18.0
MDG	3,766	3,030	2,638	24.3	14.9
Others	22	13	13	—	—
Total consolidated net revenues	\$ 12,761	\$ 10,219	\$ 9,556	24.9%	6.9%

For the full year 2021, ADG revenues were up 32.5% with higher volumes of approximately 17% and higher average selling prices of approximately 15%, mainly due to favorable product mix and higher selling prices. AMS revenues increased 18.8%, due to higher volumes of approximately 22%, partially offset by lower average selling prices of approximately 3%, as a result of a less favorable product mix. MDG revenues increased 24.3% compared to the prior year, driven by higher volumes of approximately 20%, and higher average selling prices of approximately 4%, mainly due to higher selling prices.

For the full year 2020, ADG revenues were down 8.9% compared to the prior year, with lower average selling prices of approximately 8%, negatively impacted by both product mix and lower selling prices, and lower volumes of approximately 1%. AMS revenues increased 18.0%, mainly driven by Imaging. The increase was due to higher average selling prices of approximately 16% and higher volumes of approximately 2%. The increase in average selling prices was due to a better product mix, partially offset by lower selling prices. MDG revenues increased 14.9%, due to higher volumes of approximately 17%, partially offset by lower average selling prices of approximately 2%, driven by lower selling prices.

Net revenues by Market Channel⁽¹⁾

	Year Ended December 31,		
	2021	2020	2019
	(As percentage of net revenues)		
OEM	66%	73%	70%
Distribution	34	27	30
Total	100%	100%	100%

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

By market channel, Distribution reached 34% share of total net revenues in 2021, compared to approximately 27% in 2020. In 2020 as compared to 2019, our net revenues weight in Distribution registered a decrease of 3 percentage points.

Net Revenues by Location of Shipment⁽¹⁾

	Year Ended December 31,			% Variation	
	2021	2020	2019	2021 vs 2020	2020 vs 2019
	(In millions)				
Europe, Middle East, Africa ("EMEA")	\$ 2,557	\$ 1,966	\$ 2,265	30.0%	(13.2)%
Americas	1,525	1,165	1,351	30.9	(13.7)
Asia Pacific	8,679	7,088	5,940	22.5	19.3
Total consolidated net revenues	\$ 12,761	\$ 10,219	\$ 9,556	24.9%	6.9%

(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. Furthermore, the comparison among the different periods may be affected by shifts in shipments from one location to another, as requested by our customers.

By location of shipment, EMEA revenues grew 30.0%, mainly driven by higher sales in Automotive, Microcontrollers and Power Discrete. Americas revenues increased 30.9%, mainly due to higher sales in Power Discrete and Microcontrollers. Asia Pacific revenues increased 22.5% with all sub-groups except RFC contributing to the increase.

In 2020, EMEA and Americas revenues decreased 13.2% and 13.7%, respectively, mainly due to lower sales in Automotive and Power Discrete. Asia Pacific revenues increased by 19.3% mainly supported by Microcontrollers, Imaging and Analog.

Gross profit

	Year Ended December 31,			Variation	
	2021	2020	2019	2021 vs 2020	2020 vs 2019
	(In millions)				
Cost of sales	\$ (7,435)	\$ (6,430)	\$ (5,860)	(15.6)%	(9.7)%
Gross profit	\$ 5,326	\$ 3,789	\$ 3,696	40.6%	2.5%
Gross margin (as percentage of net revenues)	41.7%	37.1%	38.7%	460 bps	-160 bps

In 2021, gross margin increased by 460 basis points to 41.7% from 37.1% in the full year 2020, principally driven by improved manufacturing efficiency, lower unused charges, product mix and favorable pricing. Unused capacity charges in 2021 were \$16 million.

In 2020, gross margin decreased by 160 basis points to 37.1% from 38.7% in the full year 2019 mainly due to normal price pressure and increased unsaturation charges, partially offset by a better product mix. Unused capacity charges in 2020 were \$153 million, impacting full year gross margin by 150 basis points.

Operating expenses

	Year Ended December 31,			Variation	
	2021	2020	2019	2021 vs 2020	2020 vs 2019
	(In millions)				
Selling, general and administrative expenses	\$(1,323)	\$(1,109)	\$(1,093)	(19.2)%	(1.6)%
Research and development expenses	(1,723)	(1,548)	(1,498)	(11.3)	(3.3)
Total operating expenses	\$(3,046)	\$(2,657)	\$(2,591)	(14.6)%	(2.6)%
As percentage of net revenues	23.9%	26.0%	27.1%	-210 bps	-110 bps

The 2021 operating expenses increased 14.6% compared to the prior year, mainly due to higher cost of labor and negative currency effects, net of hedging.

The 2020 operating expenses increased 2.6% compared to the prior year, mainly due to salary dynamic, higher share-based compensation cost and increased spending on certain R&D programs, partially offset by lower discretionary spending and favorable currency effects, net of hedging.

The R&D expenses were net of research tax credits, which amounted to \$130 million in 2021, \$131 million in 2020 and \$126 million in 2019.

Other income and expenses, net

	Year Ended December 31,		
	2021	2020	2019
	(In millions)		
Public funding	\$ 162	\$ 231	\$ 132
Phase-out and start-up costs	—	(8)	(38)
Exchange gains and losses, net	7	8	—
Patent costs	(10)	(11)	(1)
Gain on sale of non-current assets	5	14	7
COVID-19 incremental costs	(19)	(32)	—
Other, net	(4)	—	3
Other income and expenses, net	\$ 141	\$ 202	\$ 103
As percentage of net revenues	1.2%	1.9%	1.1%

In 2021 we recognized other income, net, of \$141 million, decreasing compared to \$202 million in 2020. The decrease was mainly due to lower public funding.

In 2020 we recognized other income, net, of \$202 million compared to \$103 million in 2019, increasing mainly due to a non-recurrent favorable impact associated with the IPCEI grants catch-up and lower level of start-up costs, partially offset by incremental expenses associated with the COVID-19 pandemic.

Impairment, restructuring charges and other related closure costs

	Year Ended December 31,		
	2021	2020	2019
	(In millions)		
Impairment, restructuring charges and other related closure costs	\$ (2)	\$ (11)	\$ (5)

In 2021 we recorded \$2 million of impairment, restructuring charges and other related closure costs, composed of \$3 million restructuring charges in association with the restructuring plan in Bouskoura, Morocco, \$2 million reversal as an adjustment to accrued restructuring charges when compared to actual amounts paid and \$1 million impairment charge on licenses with no alternative future use.

In 2020 we recorded \$11 million of impairment, restructuring charges and other related closure costs, mainly composed of \$8 million restructuring charges in association with the restructuring plan in Bouskoura, Morocco and \$4 million consisting of impairment of licenses with no alternative future use.

In 2019 we recorded \$5 million of impairment, restructuring charges and other related closure costs, mainly consisting of impairment of equipment and licenses dedicated exclusively to certain development projects that were cancelled, while no alternative future use was identified internally.

Operating income

	Year Ended December 31,		
	2021	2020	2019
Operating income	\$ 2,419	\$ 1,323	\$ 1,203
As percentage of net revenues	19.0%	12.9%	12.6%

Operating income in 2021 was \$2,419 million, increasing by \$1,096 million compared to 2020, mainly driven by the combining effect of higher revenue and improved gross margin profitability, partially offset by higher operating expenses and lower public funding.

Operating income in 2020 was \$1,323 million, increasing by \$120 million compared to 2019, mainly driven by higher revenues and increased level of grants associated with the IPCEI catch-up, partially offset by increased unsaturation charges and salary dynamic.

Operating income by product group

	Year Ended December 31,					
	2021		2020		2019	
	\$ million	% of net revenues	\$ million	% of net revenues	\$ million	% of net revenues
ADG	\$ 512	11.8%	\$ 182	5.5%	\$ 357	9.9%
AMS	1,015	21.9	810	20.8	596	18.1
MDG	915	24.3	504	16.6	354	13.4
Total operating income of product groups	2,442	19.2	1,496	14.6	1,307	13.7
Others ⁽¹⁾	(23)	—	(173)	—	(104)	—
Total consolidated operating income	\$ 2,419	19.0%	\$ 1,323	12.9%	\$ 1,203	12.6%

(1) Operating income (loss) of Others includes items such as unused capacity charges, including reduced manufacturing activity due to COVID-19, impairment, restructuring charges and other related closure costs, management reorganization costs, phase-out and start-up costs of certain manufacturing facilities, and other unallocated expenses such as: strategic or special R&D 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 other products.

In 2021, ADG operating income was \$512 million compared to \$182 million in 2020, with higher profitability in both Automotive and Power Discrete. AMS operating income increased by \$205 million to \$1,015 million, mainly driven by Analog and MEMS. MDG operating income increased to \$915 million from \$504 million in 2020, driven by Microcontrollers.

In 2020, ADG operating income was \$182 million compared to \$357 million in 2019, with lower profitability in both Automotive and Power Discrete. AMS operating income increased by \$214 million to \$810 million, mainly driven by Imaging, with all sub-groups improving. MDG operating income increased to \$504 million from \$354 million in 2019, due to Microcontrollers.

Reconciliation to consolidated operating income

	Year Ended December 31,		
	2021	2020	2019
	(In millions)		
Total operating income of product groups	\$ 2,442	\$ 1,496	\$ 1,307
Impairment, restructuring charges and other related closure costs	(2)	(11)	(5)
Unused capacity charges	(16)	(153)	(65)
Other unallocated manufacturing results	1	(8)	(25)
Gain on sale of non-current assets	3	11	6
Strategic and other R&D programs and other non-allocated provisions ⁽¹⁾	(9)	(12)	(15)
Total operating loss Others	(23)	(173)	(104)
Total consolidated operating income	\$ 2,419	\$ 1,323	\$ 1,203

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

Interest income (expense), net

	Year Ended December 31,		
	2021	2020	2019
	(In millions)		
Interest income (expense), net	\$ (29)	\$ (20)	\$ 1

In 2021, interest expense on our borrowings and banking fees amounted to \$42 million, of which \$34 million was a non-cash interest expense resulting from the accretion of the liability component of our senior unsecured convertible bonds. The interest expense was partially offset by \$13 million of interest income on cash and cash equivalents, short-term deposits and marketable securities.

In 2020, interest expense and fees on our borrowings and banking fees amounted to \$54 million, of which \$42 million was a non-cash interest expense related to our senior unsecured convertible bonds. The interest expense was partially offset by \$34 million of interest income on cash and cash equivalents, short-term deposits and marketable securities.

In 2019, interest expense and fees on our borrowings and banking fees amounted to \$54 million, of which \$37 million was a non-cash interest expense related to our senior unsecured convertible bonds. The interest expense was more than offset by \$55 million of interest income on cash and cash equivalents and marketable securities.

Loss on financial instruments, net

	Year Ended December 31,		
	2021	2020	2019
Loss on financial instruments, net	\$ (43)	\$ (26)	\$ —

In 2021, we recorded a net \$43 million loss on financial instruments, of which \$45 million loss on the settlement of Tranche B of our 2017 Senior Unsecured Convertible Bonds. This loss was associated with the fair value measurement of the liability component of Tranche B upon settlement and the write-off of unamortized debt issuance costs. In addition, we recorded a \$2 million gain on the sale of one of our non-strategic investments.

In 2020, we recorded a \$26 million loss on financial instruments, of which \$25 million loss on the settlement of Tranche A of our 2017 Senior Unsecured Convertible Bonds. This loss was associated with the fair value measurement of the liability component of Tranche A upon settlement and the write-off of the unamortized portion of issuance costs.

In 2019 we did not recognize any income or loss on financial instruments.

Income tax expense

	Year Ended December 31,		
	2021	2020	2019
	(In millions)		
Income tax expense	\$ (331)	\$ (159)	\$ (156)

In 2021, we registered an income tax expense of \$331 million, while we registered an income tax expense of \$159 million in 2020 and \$156 million in 2019. 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 realization, in certain jurisdictions, against future taxable profits, one-time tax benefits related to previous year positions and our best estimate of additional tax charges related to potential uncertain tax positions and claims.

In 2021, the effective tax rate was 15%, before \$17 million of tax benefit from discrete items, which included the release of valuation allowances in certain tax jurisdictions.

In 2020, the effective tax rate was 15%, before \$31 million of tax benefit from discrete items.

In 2019, the effective tax rate was 15%, before \$24 million of tax benefit, mainly due to the revaluation of deferred tax assets and following the enactment of the Swiss tax reform which cancelled all favorable tax regimes and introduced a single tax rate for all companies.

Our tax rate is variable and depends on changes in the level of operating results within various local jurisdictions and on changes in the taxation rates applicable in these jurisdictions, as well as changes in estimates and assumptions used when assessing our tax positions. 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 planning; in the case of material changes in these plans, the valuation allowances could be adjusted accordingly with an impact on our income tax expense (benefit). 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 expense includes the estimated impact of provisions related to tax positions which have been considered as uncertain.

Net income attributable to noncontrolling interest

	Year Ended December 31,		
	2021	2020	2019
	(In millions)		
Net income attributable to noncontrolling interest	\$ (6)	\$ (2)	\$ (1)

In 2021, 2020 and 2019, respectively, we recorded \$6 million, \$2 million and \$1 million of net income attributable to noncontrolling interest.

Net income attributable to parent company

	Year Ended December 31,		
	2021	2020	2019
	(In millions)		
Net income attributable to parent company	\$ 2,000	\$ 1,106	\$ 1,032
As percentage of net revenues	15.7%	10.8%	10.8%

For 2021, we reported a net income attributable to parent company of \$2,000 million, compared to a net income of \$1,106 million and \$1,032 million for 2020 and 2019, respectively.

The 2021 net income attributable to parent company represented diluted earnings per share of \$2.16 compared to \$1.20 and \$1.14 for 2020 and 2019, respectively.

Quarterly Results of Operations

Certain quarterly financial information for the years 2021 and 2020 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, 2021	October 2, 2021	December 31, 2020	Sequential	Year-Over-Year
	(Unaudited, in millions)				
Net sales	\$ 3,542	\$ 3,192	\$ 3,206	11.0%	10.5%
Other revenues	14	5	29	180.4	(50.7)
Net revenues	\$ 3,556	\$ 3,197	\$ 3,235	11.2%	9.9%

Our fourth quarter 2021 net revenues amounted to \$3,556 million, registering a sequential increase of 11.2%, 140 basis points above the high-end of the released guidance. The sequential increase resulted from higher average selling prices of approximately 9%, driven by a more favorable product mix and pricing and from higher volumes of approximately 2%.

On a year-over-year basis, our net revenues increased by 9.9%. This increase was mainly due to higher volumes of approximately 5% and higher average selling prices of approximately 5%, mainly driven by higher selling prices.

Net revenues by product group

	Three Months Ended			% Variation	
	December 31, 2021	October 2, 2021	December 31, 2020	Sequential	Year-Over-Year
	(Unaudited, in millions)				
ADG	\$ 1,226	\$ 1,005	\$ 953	22.0%	28.6%
AMS	1,260	1,268	1,419	(0.6)	(11.2)
MDG	1,062	920	859	15.4	23.7
Others	8	4	4	—	—
Total consolidated net revenues	\$ 3,556	\$ 3,197	\$ 3,235	11.2%	9.9%

On a sequential basis, ADG revenues were up 22.0%, driven by an approximate 17% increase in average selling prices, mainly due to a more favorable product mix and higher volumes of approximately 5%. AMS revenues decreased 0.6%, as a result of lower volumes of approximately 3%, partially offset by higher average selling prices of 2%. MDG revenues increased 15.4% due to higher average selling prices of approximately 14%, mainly as a result of a more favorable product mix and higher volumes of approximately 2%.

On a year-over-year basis, fourth quarter net revenues increased 9.9%. ADG revenues increased 28.6% compared to the year-ago quarter due to higher average selling prices of approximately 22%, mainly due to a better product mix and higher selling prices and higher volumes of approximately 7%. AMS quarter revenues decreased 11.2% year-over-year. The decrease was driven by lower average selling prices of approximately 12% due to unfavorable product mix, partially offset by higher volumes of approximately 2%. MDG fourth quarter revenues increased 23.7%, driven by higher average selling prices of approximately 18%, due to the combination of more favorable product mix and higher selling prices and higher volumes of approximately 6%.

Net Revenues by Market Channel⁽¹⁾

	Three Months Ended		
	December 31, 2021	October 2, 2021	December 31, 2020
	(Unaudited, in %)		
OEM	67%	68%	74%
Distribution	33	32	26
Total	100 %	100 %	100 %

(1) Original Equipment Manufacturers (“OEM”) are the end-customers to which we provide direct marketing application engineering support, while Distribution 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 33% of our total net revenues, substantially flat compared to the previous quarter and increasing on a year-over-year basis.

Net Revenues by Location of Shipment⁽¹⁾

	Three Months Ended			% Variation	
	December 31, 2021	October 2, 2021	December 31, 2020	Sequential	Year-Over-Year
	(Unaudited, in millions)				
EMEA	\$ 709	\$ 578	\$ 586	22.6%	21.0%
Americas	412	360	346	14.6	19.2
Asia Pacific	2,435	2,259	2,303	7.8	5.7
Total consolidated net revenues	\$ 3,556	\$ 3,197	\$ 3,235	11.2 %	9.9 %

(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. Furthermore, the comparison among the different periods may be affected by shifts in shipments from one location to another, as requested by our customers.

By region of shipment, in the 2021 fourth quarter, EMEA revenues grew 22.6%, mainly driven by higher sales in Automotive and Microcontrollers. Americas revenues increased 14.6%, mainly due to higher sales in RFC and Automotive. Asia Pacific revenues increased 7.8%, mainly driven by higher sales in Automotive and Microcontrollers, partially offset by lower sales in Imaging.

On a year-over-year basis, revenues grew 21.0% EMEA, mainly driven by higher sales in Microcontrollers, Automotive and Power Discrete. Americas revenues increased 19.2%, mainly due to higher sales in RFC and Microcontrollers. Asia Pacific revenues increased 5.7%, mainly due to higher sales in Power Discrete, Microcontrollers and Automotive, partially offset by lower sales in Imaging.

Gross Profit

	Three Months Ended			Variation	
	December 31, 2021	October 2, 2021	December 31, 2020	Sequential	Year-Over-Year
	(Unaudited, in millions)				
Cost of sales	\$ (1,947)	\$ (1,867)	\$ (1,981)	(4.3)%	1.7%
Gross profit	\$ 1,609	\$ 1,330	\$ 1,254	20.9%	28.3%
Gross margin (as percentage of net revenues)	45.2%	41.6%	38.8%	360 bps	640 bps

Fourth quarter gross profit was \$1,609 million and gross margin was 45.2%, 20 basis points above the high-end of our guidance, mainly due to better than forecasted product mix and sales price. On a sequential basis, gross margin increased 360 basis points, mainly due to positive sales price impact and more favorable product mix.

Gross margin increased 640 basis points year-over-year, principally driven by improved product mix, favorable pricing and manufacturing efficiencies.

Operating expenses

	Three Months Ended			% Variation	
	December 31, 2021	October 2, 2021	December 31, 2020	Sequential	Year-Over-Year
	(Unaudited, in millions)				
Selling, general and administrative expenses	\$ (350)	\$ (324)	\$ (308)	(8.0)%	(13.9)%
Research and development expenses	(402)	(433)	(421)	7.0	4.6
Total operating expenses	\$ (752)	\$ (757)	\$ (729)	0.6%	(3.2)%
As percentage of net revenues	21.1%	23.6%	22.5%	-250 bps	-140 bps

On a sequential basis, our operating expenses remained substantially flat.

On a year-over-year basis, operating expenses increased by \$23 million, mainly due to salary dynamic, partially offset by lower calendar days.

R&D expenses were net of research tax credits, which amounted to \$33 million in the fourth quarter of 2021, compared to \$31 million and \$42 million in the prior and year-ago quarters, respectively.

Other income and expenses, net

	Three Months Ended		
	December 31, 2021	October 2, 2021	December 31, 2020
	(Unaudited, in millions)		
Public funding	\$ 40	\$ 39	\$ 143
Exchange gains and losses, net	2	2	3
Patent costs	(5)	(2)	(6)
Gain on sale of non-current assets	—	2	—
COVID-19 incremental costs	(5)	(5)	(9)
Other, net	—	(3)	—
Other income and expenses, net	\$ 32	\$ 33	\$ 131
As percentage of net revenues	0.9%	0.9%	4.0%

In the fourth quarter of 2021, other income and expenses, net, amounted to \$32 million income, substantially flat compared to the prior quarter.

On a year-over-year basis, other income and expense, net, decreased by \$99 million, mainly due to the non-recurring favorable impact associated with IPCEI grants catch up recorded in the year-ago quarter.

Impairment, restructuring charges and other related closure costs

	Three Months Ended		
	December 31, 2021	October 2, 2021	December 31, 2020
	(Unaudited, in millions)		
Impairment, restructuring charges and other related closure costs	\$ (4)	\$ (1)	\$ 1

The impairment campaign was conducted in the fourth quarter and did not result in any impairment loss.

In the fourth quarter of 2021, we recorded \$4 million of restructuring charges, related to an additional charge on benefits paid to employees as part of prior year restructuring plans incurred in one of our back-end sites.

In the third quarter of 2021, we recorded a \$1 million impairment charge on licenses with no alternative future use.

In the fourth quarter of 2020, we recorded \$1 million income as an adjustment to accrued restructuring charges when compared to actual amounts paid.

Operating income

	Three Months Ended		
	December 31, 2021	October 2, 2021	December 31, 2020
	(Unaudited, in millions)		
Operating income	\$ 885	\$ 605	\$ 657
As percentage of net revenues	24.9%	18.9%	20.3%

In the fourth quarter of 2021, operating income was \$885 million, compared to an operating income of \$605 million and \$657 million in the prior and year-ago quarters, respectively.

On a sequential basis, our operating income was positively impacted by higher volumes and improved gross margin profitability.

On a year-over-year basis, the increase was mainly due to the combined effect of higher revenues and increased gross margin profitability, partially offset by higher operating expenses and lower public funding.

Operating income by product group

	Three Months Ended					
	December 31, 2021		October 2, 2021		December 31, 2020	
	\$ million	% of net revenues	\$ million	% of net revenues	\$ million	% of net revenues
ADG	\$ 216	17.6%	\$ 108	10.8%	\$ 94	9.9%
AMS	335	26.6	304	24.0	402	28.3
MDG	318	29.9	220	23.9	174	20.3
Total operating income of product groups	869	24.4	632	19.8	670	20.7
Others ⁽¹⁾	16	—	(27)	—	(13)	—
Total consolidated operating income	\$ 885	24.9%	\$ 605	18.9%	\$ 657	20.3%

(1) Operating income (loss) of Others includes items such as unused capacity charges, including unloading charges due to COVID-19, impairment, restructuring charges and other related closure costs, management reorganization costs, 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 operating earnings of other products.

On a sequential basis, ADG fourth quarter operating income improved by \$108 million, driven by both Automotive and Power Discrete. AMS operating income increased sequentially by \$31 million, reaching \$335 million, with both Analog and MEMS contributing to the increase. MDG operating income increased by \$98 million sequentially, reaching \$318 million mainly driven by Microcontrollers.

On a year-over-year basis, ADG operating income increased by \$122 million, reflecting higher profitability in both Power Discrete and Automotive. AMS operating income decreased by \$67 million, mainly due to lower profitability in Imaging. MDG operating income increased by \$144 million, mainly driven by Microcontrollers.

Reconciliation to consolidated operating income

	Three Months Ended		
	December 31, 2021	October 2, 2021	December 31, 2020
Total operating income of product groups	\$ 869	\$ 632	\$ 670
Impairment, restructuring charges and other related closure costs	(4)	(1)	1
Unused capacity charges	—	(14)	(17)
Other unallocated manufacturing results	8	(6)	4
Gain on sale of non-current assets	—	2	—
Strategic and other R&D programs and other non-allocated provisions	12	(8)	(1)
Total operating income (loss) Others	16	(27)	(13)
Total consolidated operating income	\$ 885	\$ 605	\$ 657

Interest income (expense), net

	Three Months Ended		
	December 31, 2021	October 2, 2021	December 31, 2020
Interest income (expense), net	\$ (5)	\$ (8)	\$ (8)

In the fourth quarter of 2021, we recorded a net interest expense of \$5 million, compared to \$8 million in the prior quarter and \$8 million in the year-ago quarter. The fourth quarter net interest expense was composed of \$7 million of interest expense on our borrowings and banking fees, partially offset by \$2 million of interest income.

Net interest expense recorded in the fourth quarter of 2021 included a \$5 million non-cash charge, resulting from the accretion of the liability component of our 2020 Senior Unsecured Convertible Bonds compared to a \$8 million charge in the third quarter of 2021 and a \$11 million charge in the fourth quarter of 2020, respectively.

Loss on financial instruments, net

	Three Months Ended		
	December 31, 2021	October 2, 2021	December 31, 2020
	(Unaudited, in millions)		
Loss on financial instruments, net	\$ —	\$ (45)	\$ —

In the fourth quarters of 2021 and 2020, no income (loss) was recognized on financial instruments. In the third quarter of 2021, we recorded a \$45 million loss on financial instruments on the settlement of Tranche B of our 2017 Senior Unsecured Convertible Bonds. This loss was associated with the fair value measurement of the liability component of Tranche B upon settlement and the write-off of unamortized debt issuance costs.

Income tax expense

	Three Months Ended		
	December 31, 2021	October 2, 2021	December 31, 2020
	(Unaudited, in millions)		
Income tax expense	\$ (127)	\$ (73)	\$ (63)

During the fourth and third quarters of 2021 and the fourth quarter of 2020, we recorded an income tax expense of \$127 million, \$73 million and \$63 million, respectively, reflecting (i) in the third quarter of 2021 the estimated annual effective tax rate based on expected taxes to be paid or received in each of our jurisdictions, as applied to the consolidated income before income taxes and (ii) in both fourth quarters, the actual income tax expense or benefit in each jurisdiction as well as the true-up of tax provisions based upon the most updated visibility on open tax positions.

Net income attributable to parent company

	Three Months Ended		
	December 31, 2021	October 2, 2021	December 31, 2020
	(Unaudited, in millions)		
Net income attributable to parent company	\$ 750	\$ 474	\$ 582
As percentage of net revenues	21.1%	14.8%	18.0%

For the fourth quarter of 2021, we reported a net income of \$750 million, compared to a net income of \$474 million and \$582 million in the prior and year-ago quarters, respectively. The fourth quarter 2021, net income represented diluted earnings per share of \$0.82 compared to \$0.51 in the prior quarter and \$0.63 in the prior-year quarter.

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 are quoted in currencies other than the U.S. dollar, such as Euro-denominated sales, and

consequently 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 translated into 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 Eurozone 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.

Our principal strategy to reduce the risks associated with exchange rate fluctuations is 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 hedge certain line items on our consolidated statements of income, in particular with respect to a portion of cost of sales, most of R&D expenses and certain SG&A expenses, located in the Eurozone, which we designate as cash flow hedge transactions. We use two different types of hedging instruments: forward contracts and currency options (including collars).

Our consolidated statements of income 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 2021 and \$1.13 for €1.00 for the full year 2020. Our effective exchange rate was \$1.17 for €1.00 for the fourth quarter of 2021, \$1.19 for €1.00 for the third quarter of 2021 and \$1.16 for €1.00 for the fourth quarter of 2020. These effective exchange rates reflect the actual exchange rates combined with the effect of cash flow hedge transactions impacting earnings 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 at December 31, 2021, the outstanding hedged amounts were €1,118 million to cover manufacturing costs and €653 million to cover operating expenses, at an average exchange rate of approximately \$1.18 and \$1.19 for €1.00 (considering the collars at upper strike), respectively, maturing from January 5, 2022 to February 1, 2023. As at December 31, 2021, measured in respect to the exchange rate at period closing of about \$1.13 to €1.00, these outstanding hedging contracts and certain settled contracts covering manufacturing expenses capitalized in inventory resulted in a deferred loss of approximately \$48 million before tax, recorded in "Accumulated other comprehensive income (loss)" in the consolidated statements of equity, compared to a deferred gain of approximately \$57 million before tax at December 31, 2020.

We also hedge certain manufacturing costs denominated in Singapore dollars (SGD); as at December 31, 2021, the outstanding hedged amounts were SGD 214 million at an average exchange rate of about SGD 1.35 to \$1.00 maturing over the period from January 6, 2022 to December 1, 2022. As at December 31, 2021, the deferred gain (loss) of these outstanding hedging contracts were immaterial, compared to a deferred gain of approximately \$4 million before tax as at December 31, 2020.

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 2021, as a result of our cash flow hedging, we recycled to earnings a gain of \$19 million, of which approximately a \$15 million gain impacting cost of sales, \$3 million gain impacting R&D and \$1 million gain impacting SG&A expenses. In 2020, we recorded a net gain of less than \$1 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 foreign exchange forward contracts and currency options to cover foreign currency exposure in payables or receivables at our affiliates, which we do not designate for hedge accounting. We may in the future purchase or sell similar types of instruments. See "Item 11. Quantitative and Qualitative Disclosures About Market Risk" in our Form 20-F. Furthermore, we may not predict on a timely basis the amount of future transactions in the volatile industry environment. No assurance may be given that our hedging activities will sufficiently protect us against fluctuations 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 in payables and receivables at our affiliates resulted in a net gain of \$7 million recorded in “Other income and expenses, net” in our 2021 consolidated statements of income compared to net gain of 8 million in 2020 and net gain of less than \$1 million in 2019.

The assets and liabilities of subsidiaries whose functional currency is different from the U.S. dollar reporting currency 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 these currency translations have been, and may 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 currency translation are recorded directly in equity and are reported as “Accumulated other comprehensive income (loss)” in the consolidated statements of equity. At December 31, 2021, 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, short-term deposits 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, short-term deposits and marketable securities and interest expense recorded on our financial liabilities, including non-cash interest expense on the senior unsecured convertible bonds, and bank fees (including fees on committed credit lines or on the sale without recourse of receivables, if any). 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 (“EIB”) and Cassa Depositi e Prestiti SpA (“CDP”) Floating Rate Loans at Euribor plus variable spreads. See Note 15 to our Consolidated Financial Statements.

As at December 31, 2021, our total financial resources, including cash and cash equivalents and short-term deposits, generated an average annual interest rate of 0.24%. At the same date, the average annual interest rate on our outstanding debt was 0.90% including the non-cash effective interest on our senior unsecured convertible bonds, while the average coupon interest rate was only 0.04%.

Impact of Changes in Equity Prices

As at December 31, 2021, we did not hold any significant investments in equity securities with a material exposure to equity price risk. However, on these equity investments, carrying value could be reduced due to further losses or impairment charges. See Note 12 and Note 13 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 as single A long-term rating from two of the major rating agencies, meaning at least A3 from Moody’s Investors Service (“Moody’s”) and A- from Standard & Poor’s (“S&P”) or Fitch Ratings (“Fitch”). Marginal amounts are held in other currencies. See “Item 11. Quantitative and Qualitative Disclosures About Market Risk”.

Our total liquidity was \$3,516 million as at December 31, 2021, decreasing compared to \$3,720 million as at December 31, 2020. As at December 31, 2021, our total liquidity was comprised of \$3,225 million in cash

and cash equivalents and \$291 million in short-term deposits, all considered as current assets. These short-term deposits represent cash investments with original maturity beyond three months and no significant risk of changes in fair value.

Cash flow

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

During 2021, our cash and cash equivalents increased by \$219 million. The components of the net cash increase for 2021 and the comparable periods are set forth below:

	Year Ended December 31,		
	2021	2020	2019
	(In millions)		
Net cash from operating activities	\$ 3,060	\$ 2,093	\$ 1,869
Net cash used in investing activities	(1,518)	(2,043)	(1,172)
Net cash from (used in) financing activities	(1,314)	348	(343)
Effect of changes in exchange rates	(9)	1	(13)
Net cash increase	\$ 219	\$ 399	\$ 341

Net cash from operating activities. Net cash from operating activities is the sum of (i) net income adjusted for non-cash items and (ii) changes in net working capital. The net cash from operating activities in 2021 was \$3,060 million compared to \$2,093 million in the prior year, increasing mainly due to higher net income.

Net cash used in investing activities. Investing activities used \$1,518 million of cash in 2021, decreasing from \$2,043 million in the prior year, mainly due to lower net investments in short-term deposits and proceeds from matured marketable securities, partially offset by higher payment for net purchase of tangible assets which totaled \$1,828 million in 2021 compared to \$1,279 million in the prior year.

Net cash from (used in) financing activities. Net cash used in financing activities was \$1,314 million in 2021, compared to net cash from financing activities of \$348 million in 2020, and consisted mainly of \$1.22 billion cash used to settle Tranche B of our 2017 Senior Unsecured Convertible Bonds, \$485 million repurchase of common stock, \$205 million of dividends paid to our stockholders and \$134 million repayment of long-term debt, partially offset by \$602 million proceeds from the drawdowns of our credit facility signed with the EIB and \$182 million proceeds from the drawdown of our credit facility signed with CDP.

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 purchase of (and proceeds from matured) marketable securities, and net investment in (and proceeds from) short-term deposits, which are considered as temporary financial investments. The result of this definition is ultimately net cash from operating activities plus payment for purchase (and proceeds from sale) of tangible, intangible and financial assets, and net 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 net cash increase (decrease) by including the payment for purchase of (and proceeds from matured) marketable securities and net investment in (and proceeds from) short-term deposits, the net cash from (used in) financing activities and the effect of changes in exchange rates. In addition, our definition of Free Cash Flow may differ from definitions used by other companies. Free Cash Flow is determined from our consolidated statements of cash flows as follows:

	Year Ended December 31,		
	2021	2020	2019
	(In millions)		
Net cash from operating activities	\$ 3,060	\$ 2,093	\$ 1,869
Net cash used in investing activities	(1,518)	(2,043)	(1,172)
Excluding:			
<i>Payment for purchase of (and proceeds from matured) marketable securities and net investment in (and proceeds from) short-term deposits</i>	(422)	577	(200)
<i>Payment for purchase (and proceeds from sale) of tangible, intangible and financial assets, and net cash paid for business acquisitions⁽¹⁾</i>	(1,940)	(1,466)	(1,372)
Free Cash Flow (non-U.S. GAAP measure)	\$ 1,120	\$ 627	\$ 497

(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, Net payment for financial assets, Proceeds from sale of financial assets, Proceeds from sale of equity investments and Payment for business acquisitions, net of cash acquired.

Free Cash Flow was positive \$1,120 million in 2021, compared to positive \$627 million and positive \$497 million in 2020 and 2019, respectively.

Capital Resources

Net Financial Position (non-U.S. GAAP measure). Our Net Financial Position represents the difference between our total liquidity and our total financial debt. Our total liquidity includes cash and cash equivalents, restricted cash, short-term deposits and marketable securities, and our total financial debt includes short-term debt and long-term debt, as reported 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, restricted cash, short-term deposits and marketable securities and the total level of our financial debt. 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,		
	2021	2020	2019
	(In millions)		
Cash and cash equivalents	\$ 3,225	\$ 3,006	\$ 2,597
Restricted cash	—	—	10
Short-term deposits	291	581	4
Marketable securities	—	133	133
Total liquidity	3,516	3,720	2,744
Short-term debt	(143)	(795)	(173)
Long-term debt	(2,396)	(1,826)	(1,899)
Total financial debt	(2,539)	(2,621)	(2,072)
Net Financial Position	\$ 977	\$ 1,099	\$ 672

Our Net Financial Position as at December 31, 2021 was a net cash position of \$977 million, decreasing compared to the net cash position of \$1,099 million at December 31, 2020.

Cash and cash equivalents amounted to \$3,225 million as at December 31, 2021.

Short-term deposits amounted to \$291 million as at December 31, 2021 and consisted of available liquidity with original maturity over three months.

Marketable securities which consisted of U.S. Treasury Bonds classified as available-for-sale, reached maturity in 2021.

Financial debt was \$2,539 million, as at December 31, 2021 and was composed of (i) \$143 million of short-term debt and (ii) \$2,396 million of long-term debt. The breakdown of our total financial debt included (i) \$990 million in EIB loans, (ii) \$156 million in the CDP loan, (iii) \$1,387 million in our 2020 Senior Unsecured Convertible Bonds, and (iii) \$6 million in loans from other funding programs.

The EIB Loans are comprised of two long-term amortizing credit facilities as part of our public funding programs. The first, signed in August 2017, is a €500 million loan, in relation to R&D and capital expenditures in the European Union, fully drawn in Euros, of which \$424 million was outstanding as at December 31, 2021. The second, signed in 2020, is a €500 million credit facility agreement with EIB to support R&D and capital expenditure programs in Italy and France. It was fully drawn in 2021, of which \$566 million was outstanding as at December 31, 2021.

In 2021, we signed a new Facility Agreement with CDP for an amount of €150 million, fully drawn in Euros, of which \$156 million was outstanding as at December 31, 2021.

On July 3, 2017, we issued a \$1.5 billion offering of senior unsecured bonds convertible into new or existing ordinary shares of the Company, for net proceeds of \$1,502 million. The 2017 Senior Unsecured Convertible Bonds were issued in two \$750 million principal amount tranches, Tranche A with a maturity of 5 years (37.5% conversion premium, negative 0.25% yield to maturity, 0% coupon) and Tranche B with a maturity of 7 years (37.5% conversion premium, 0.25% yield to maturity, 0.25% coupon). The conversion price was \$20.54 on each tranche corresponding approximately to 36.5 million underlying shares per tranche. The 2017 Senior Unsecured Convertible Bonds were convertible by the bondholders or callable by us, following contractual terms and schedule, if certain conditions were satisfied. Under the terms of the 2017 Senior

Unsecured Convertible Bonds, the conversion rights could be satisfied either in cash or shares, or a combination of the two, at our election. Upon initial recognition, the proceeds were allocated between debt and equity by determining first the fair value of the liability component using an income approach.

The call option available to us for the early redemption of Tranche A was exercised in July 2020. As a consequence, bondholders exercised their conversion rights on the full Tranche A. As we elected to net share settle the bonds, each conversion exercised by the bondholders followed the process defined in the original terms and conditions of the 2017 Senior Unsecured Convertible Bonds, which determined the actual number of shares to be transferred upon each conversion. We settled Tranche A of the 2017 Senior Unsecured Convertible Bonds upon conversion by redeeming through cash the \$750 million principal amount, and by settling the residual consideration through the delivery of approximately 11.4 million treasury shares. The net-share settlement was fully completed as at October 1, 2020.

The call option available to us for the early redemption of Tranche B was exercised in July 2021. As a consequence, bondholders exercised their conversion rights on the full Tranche B. Each conversion exercised by the bondholders followed the process defined in the original terms and conditions of the 2017 Senior Unsecured Convertible Bonds, which determined the actual consideration to be transferred to bondholders upon each conversion. Out of the 3,750 bonds composing Tranche B, we elected to settle 1,238 bonds on a net-share basis for a total consideration of \$479 million, through the payment of the \$248 million nominal value in cash and the delivery of approximately 5.8 million treasury shares. The remaining 2,512 bonds were settled on a full cash basis for a total consideration of \$1,015 million. The settlement was fully completed during the third quarter of 2021.

On August 4, 2020, we issued a \$1.5 billion offering of senior unsecured convertible bonds convertible into new or existing ordinary shares of the Company. The 2020 Senior Unsecured Convertible Bonds were issued in two \$750 million principal amount tranches, Tranche A with a maturity of 5 years (47.5% conversion premium, negative 1.12% yield to maturity, 0% coupon) and Tranche B with a maturity of 7 years (52.5% conversion premium, negative 0.63% yield to maturity, 0% coupon). The conversion price is \$43.62 on Tranche A and \$45.10 on Tranche B. The 2020 Senior Unsecured Convertible Bonds are convertible by the bondholders if certain conditions are satisfied. Under the terms of the 2020 Senior Unsecured Convertible Bonds, we can satisfy the conversion rights either in cash or shares, or a combination of the two, at our election. Proceeds from the issuance of the bonds, net of \$10 million transaction costs, amounted to \$1,567 million.

Our long-term debt contains standard conditions but does not impose minimum financial ratios. We had unutilized committed medium-term credit facilities with core relationship banks totaling \$910 million as at December 31, 2021.

As at December 31, 2021, debt payments at principal amount by period were as follows:

	Payments Due by Period						
	Total	2022	2023	2024	2025	2026	Thereafter
				(In millions)			
Long-term debt (including current portion)	\$ 2,652	\$ 143	\$ 143	\$ 143	\$ 893	\$ 142	\$ 1,188

Our 2020 Senior Unsecured Convertible Bonds are presented at their nominal value with original maturity date of 2025 for Tranche A and 2027 for Tranche B, in line with contractual terms.

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: "Baa2" with stable outlook; Fitch: "BBB" with stable outlook.

Contractual Obligations, Commercial Commitments and Contingencies

Our contractual obligations, commercial commitments and contingencies as at December 31, 2021, and for each of the five years to come and thereafter, were as follows:⁽¹⁾

	Total	2022	2023	2024	2025	2026	Thereafter
Purchase obligations ⁽²⁾	\$ 4,064	\$ 3,272	\$ 405	\$ 186	\$ 163	\$ 38	—
of which:							
<i>Equipment and other asset purchases</i>	2,412	2,406	6	—	—	—	—
<i>Foundry purchases</i>	1,488	768	358	167	157	38	—
<i>Software, design, technologies and licenses</i>	164	98	41	19	6	—	—
Other obligations ⁽²⁾	1,059	621	172	107	63	30	66
Lease obligations (including current portion) ⁽³⁾	203	55	43	27	15	10	53
Long-term debt obligations (including current portion) ⁽³⁾⁽⁴⁾	2,652	143	143	143	893	142	1,188
Pension obligations (including current portion) ⁽³⁾	438	39	40	50	58	69	182
Other long-term liabilities ⁽³⁾⁽⁵⁾	268	—	51	50	29	24	114
Total	\$ 8,684	\$ 4,130	\$ 854	\$ 563	\$ 1,221	\$ 313	\$ 1,603

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

(2) Items not reflected on the Consolidated balance sheet as at December 31, 2021.

(3) Items reflected on the Consolidated balance sheet as at December 31, 2021.

(4) 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. See Note 15 to our Consolidated Financial Statements as at December 31, 2021 for additional information related to long-term debt.

(5) For other long-term liabilities, the difference with the amount reported on the Consolidated balance sheet as at December 31, 2021 is related to the long-term portion of the lease obligation of \$148 million reported under the "Lease obligations" line. See Note 11 and Note 17 to our Consolidated Financial Statements as at December 31, 2021 for additional information related to leases and other long-term liabilities.

Purchase obligations are primarily comprised of purchase commitments for equipment, outsourced foundry wafers and 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 the table above, our 2020 Senior Unsecured Convertible Bonds are presented at their nominal value with original maturity date of 2025 for Tranche A and 2027 for Tranche B, in line with contractual terms. In 2022 we expect to repay with available cash and cash equivalents an amount of \$142 million related to our loan with the European Investment Bank as an annual installment. See "— Net financial position (non-U.S. GAAP measure)" above.

Pension obligations amounting to \$438 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 16 to our Consolidated Financial Statements.

Other long-term liabilities mainly include future obligations related to other long-term employees benefits, contingent consideration on business combinations and other contractual obligations. In accordance with the authoritative guidance for accounting for uncertainty in income taxes, as at December 31, 2021, we had \$31 million of estimated liabilities on uncertain tax positions.

Off-Balance Sheet Arrangements

We had no material off-balance sheet arrangements as at December 31, 2021.

Financial Outlook: Capital Investment

Our policy is to modulate our capital spending according to the evolution of the semiconductor market. To further increase our production capacity and to support our strategic initiatives, we plan to invest about \$3.4 billion to \$3.6 billion in capital expenditures in 2022. A large portion of these capital expenditures will be devoted to support capacity additions and mix change in our manufacturing footprint, in particular for our wafer fabs: (i) digital 300mm in Crolles, France, optimizing existing infrastructures and extending the cleanroom to support production ramp up on our main runner technologies; (ii) certain selected programs of capacity growth and infrastructure preparation in some of our most advanced 200mm fabs, including the analog 200mm fab in Singapore and (iii) increase capacity for SiC power mosfet in our Catania and Singapore fabs. The most important 2022 capital investments for our back-end facilities will be: (i) capacity growth on certain package families, including the SiC technology and automotive related packages, next generation optical sensing technologies and the new generation of Intelligent Power Modules for Automotive and Industrial applications and (ii) specific investments in innovative assembly processes and test operations.

A portion of our capital expenditures will be devoted to strategic initiatives which include: (i) the first industrialization line of our new 300mm wafer fab in Agrate, Italy, to support next generation mixed signal and power technologies; (ii) Gallium nitride (“GaN”) power technologies in our 200mm fab in Tours, France, and prototyping for GaN RF devices in our 150mm fab in Catania, Italy, and (iii) investments for Silicon Carbide (“SiC”) substrates activities. The remaining part of our capital investment plan covers the overall maintenance and efficiency improvements of our manufacturing operations and infrastructure, as well as our Carbon Neutrality execution program in both 150mm, 200mm 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 with cash provided by operating activities, available funds and support from third parties, and may have recourse to borrowings under available credit lines and, to the extent necessary or attractive based on market conditions prevailing at the time, the issuance of debt, convertible bonds or additional equity securities. A substantial deterioration of our economic results, and consequently of our profitability, could generate a deterioration of the cash generated by our operating activities. Therefore, there can be no assurance that, in future periods, we will generate the same level of cash as in prior years to fund our capital expenditure plans for expanding/upgrading our production facilities, our working capital requirements, our R&D and manufacturing costs.

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

Our capital expenditures plan and the strong customer demand expected in 2022, will allow us to drive the Company based on a plan for 2022 revenues in the range of \$14.8 billion to \$15.3 billion.

Impact of Recently Issued U.S. Accounting Standards

See Note 2 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.

For the purposes of this Form 20-F, the term “Directors” refers to the Supervisory Board of the Company and the term “Senior Management” refers to:

- The Executive Committee (including the sole member of the Managing Board: our President and Chief Executive Officer) of the Company; and
- The Executive Vice Presidents of the Company.

A. Supervisory Board**i. Role of the 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 at December 31, 2021:

Name	Position	Year First Appointed	Term Expires	Age
Maurizio Tamagnini	Chairman	2014	2023	56
Nicolas Dufourcq	Vice Chairman	2015	2024	58
Janet Davidson	Member	2013	2022	65
Ana de Pro Gonzalo	Member	2020	2023	54
Yann Delabrière	Member	2020	2023	71
Heleen Kersten	Member	2014	2023	56
Lucia Morselli	Member	2019	2022	65
Alessandro Rivera	Member	2011	2023	51
Frédéric Sanchez	Member	2017	2023	61

Resolutions of our Supervisory Board require the approval of at least three-quarters of its members in office, with each member being entitled to one vote. 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 2021, the average attendance rate for the meetings of our Supervisory Board was 87%. 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 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, on an annual basis our Supervisory Board undertakes to perform an evaluation of the functioning of the Managing Board and the Supervisory Board (which also includes an evaluation of the functioning of the Supervisory Board’s committees and its members). Once every three years, this evaluation is conducted by an independent external expert, whose mission is to assist the Supervisory Board in this evaluation through, *inter alia*, conducting interviews with individual members of the Supervisory Board and Managing Board and facilitating discussions

within the Supervisory Board on the functioning of the boards, its committees and its members, including an evaluation of the involvement of each member, the culture within the Supervisory Board and the relationship between the Supervisory Board and the Managing Board. The evaluation for the year ended December 31, 2021 was completed on January 26, 2022 and concluded that both the Supervisory Board and the Managing Board of the Company are functioning well. The evaluation also noted opportunities for further improvements including but not limited to the establishment of a new Sustainability Committee, additional training sessions for members of the Supervisory Board, and succession planning.

ii. Biographies of our Current Supervisory Board Members

Maurizio Tamagnini

Maurizio Tamagnini has been a member since June 2014 and has been the Chairman of our Supervisory Board since June 2020. He was the Chairman of the Supervisory Board from June 2014 to June 2017 and Vice Chairman from June 2017 to June 2020. He also serves on our Supervisory Board's Nominating and Corporate Governance Committee and chairs its Compensation Committee and Strategic Committee. Mr. Tamagnini is currently Chief Executive Officer of FSI SGR S.p.A., an asset management company participated, with a significant stake (39%), among others, by Cassa Depositi e Prestiti S.p.A. (CDP), which is 82.7% controlled by the Italian Government. FSI SGR S.p.A. manages "FSI I", a private equity closed-end fund with approximately €1.4 billion capital endowment, specialized on growth equity investments in Italian midmarket companies with development potential. He was, until April 2019, non-executive Chairman of FSI Investimenti S.p.A., which is controlled 77% by CDP. Until 31st March 2016, Mr. Tamagnini was Chief Executive Officer and Chairman of the Investment Committee of Fondo Strategico Italiano S.p.A. (now CDP Equity S.p.A.), an investment company controlled by CDP. Until April 2016, he was Chairman of the joint venture between Fondo Strategico Italiano S.p.A. and Qatar Holding (IQ Made in Italy Investment Company S.p.A.) with capital endowment of up to €2 billion in total for investments in the food, brands, furniture & design and tourism sectors. 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. 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.

Nicolas Dufourcq

Nicolas Dufourcq has been a member of our Supervisory Board since May 2015, its Chairman from June 2017 to June 2020 and its Vice-Chairman since June 2020. He serves on our Supervisory Board's Nominating and Corporate Governance Committee, 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 Cap Gemini 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 one of the shareholders of ST Holding. Until January 2021, he was the permanent representative of Bpifrance Participations as a member of the board of directors of Orange. Mr. Dufourcq is also a member of the strategic advisory board of Euler Hermes (up to June 2021), a member of the Supervisory Committee of Doctolib and of the Board of Directors of Stellantis (since January 2021).

Janet Davidson

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 and a member of the board of directors of Millicom from April 2016 until June 2020. Ms. Davidson is also a member of the board of the AES Corporation, since February 2019. 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.

Ana de Pro Gonzalo

Ana de Pro Gonzalo has been a member of our Supervisory Board since June 2020. She chairs our Supervisory Board's Audit Committee. Since June 2019, Ms. de Pro Gonzalo is an independent member of the Global Steering Group for Impact Assessment (*Consejo Asesor Nacional Español*); since October 2019, she has been an independent non-executive director for National Express Group PLC and a member of its safety and security committee, audit committee and remuneration committee; and since December 2020, she has also been an independent non-executive director for Indra Sistemas S.A. and member of its sustainability and audit committees. She was until December 2020 chief financial officer of Amadeus IT Holding (a world leading technology provider and transaction processor for the global travel and tourism industry), with global responsibility for financial management and control for the Amadeus group. She was appointed in this role in February 2010 and was also a member of the Amadeus executive management team. From 2002 to 2010, Ms. de Pro Gonzalo was corporate general manager at Sacyr Vallehermoso and was instrumental in leading the international expansion of one of the major construction groups in the world. From 1994 to 2002, Ms. de Pro Gonzalo was deputy general manager and finance director at Metrovacesa, and from 1990 to 1994 she was a senior auditor at Arthur Andersen. Ms. de Pro Gonzalo holds a BSc in Business Studies, specializing in Auditing, from Universidad Complutense de Madrid, and completed IESE Business School's general management executive program.

Yann Delabrière

Yann Delabrière has been a member of our Supervisory Board since June 2020. He serves on our Supervisory Board's Audit Committee. Mr. Delabrière began his career with the French Court of Auditors before working in the French Foreign Trade Ministry from 1981 to 1983. He served as chief financial officer for COFACE, from 1983 to 1987, and for Printemps (a retail group, now Kering) as group CFO from 1987 to 1990. In 1990, he joined PSA Peugeot Citroën as chief finance officer and, in 1998, he joined the newly created executive committee of the group and, in parallel of his position as CFO, became chairman and chief executive officer of PSA's consumer finance unit, Banque PSA Finance. From February 2007 until July 2016, Mr. Delabrière was the chief executive officer of Faurecia, and the chairman of its board of directors until May 2017. He was appointed in April 2017 advisor to the board and then in June 2017 chief executive officer of Zodiac Aerospace and oversaw the sale to Safran group in February 2018. Since July 2020, Mr. Delabrière has been the chairman of the board of Idemia, a global leader in augmented reality, where he previously served as president and CEO (between October 2018 and July 2020). He has been appointed as non-executive member of the board of directors of Leddar Tech in February 2021 and has been the lead independent director of Alstom since March 2017. Mr. Delabrière also served as non-executive director and chairman of the audit committee of Capgemini from 2004 to May 2018, and as non-executive director of Société Générale from 2012 to 2016. Mr. Delabrière holds a PhD in Mathematics having graduated from the Ecole Normale Supérieure and the Ecole Nationale d'Administration. He is also a Chevalier de la Légion d'Honneur (Knight of the Legion of Honor) and Officier de l'Ordre National du Mérite (Officer of the National Order of Merit).

Heleen Kersten

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, Dubai and Hong Kong. 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 chairman of the board of the Dutch Red Cross (*Vereniging Het Nederlandse Rode Kruis*), since January 2020, and a supervisory board member of the Rijksmuseum (*Stichting Het Rijksmuseum*), since 2015. She is also a board member of the Foundation Concertgebouworkest since 2010. Ms. Kersten holds master's degrees in Dutch law and tax law, both from Leiden University in the Netherlands.

Lucia Morselli

Lucia Morselli has been a member of our Supervisory Board since May 2019. She serves on our Supervisory Board's Audit Committee and Compensation Committee. Ms. Morselli is a member of the board of directors and President of the Related Party Committee and member of the Audit Committee of Telecom Italia. She is a member of the board of directors of EssilorLuxottica (Paris), of Sisal S.p.A., and member of the advisory board of Veneranda Fabbrica del Duomo di Milano. She is also in charge of the degree course in Economics of the Link Campus University (Rome). Ms. Morselli graduated with the highest grades in Mathematics at the University of Pisa. She completed a PhD in Mathematical Physics at the University of Rome and she holds two master degrees, the first one in Business Administration at the University of Turin and the second one in European Public Administration at the University of Milan. She started her career at Olivetti as an assistant to the CFO; from 1985 to 1990 she was senior manager Strategic and Manufacturing Service with Accenture; from 1990 to 1995 she was CFO of the Aircraft Division at Finmeccanica S.p.A. Subsequently she was CEO of Telepiù Group (1995-1998), of News Corporate Europe and Stream (Sky) S.p.A. (1998-2003), of Tecno sistemi S.p.A. (2004), of Mikado S.p.A. and Compagnia Finanziaria S.p.A. (2009), of Bioera S.p.A. (2010-2011), of Berco Group (2013-2014), of Acciai Speciali Terni (2014-2016) and of Acciaitalia S.p.A. (2016). She also served as chairman of the board and CEO of Magiste International SA (2006), and of Scorpio Shipping Group Ltd (2011-2013). She was a member of the board of directors of NDS (2004-2005) and IPI S.p.A. (2007-2008). In 2003 she funded the consulting firm Franco Tatò & Partner. Since 2009 she has been a member of the advisory board (restructuring fund) of DGPA & TATO' Investment Fund. In October 2019 Ms. Morselli was appointed chairman of the board of directors and CEO of ArcelorMittal Italia.

Alessandro Rivera

Alessandro Rivera has been a member of our Supervisory Board since May 2011. Mr. Rivera serves on our Supervisory Board's Strategic Committee and Nominating and Corporate Governance Committee. He was appointed as the Director General of the Treasury in August 2018. He is the representative for Finance Deputies meetings of the G7, G20, and the IMF, and a member of the Economic and Financial Committee (as Vice-President) and the Euro Working Group of the European Union, and of the Board of Directors of the European Stability Mechanism. He chairs the EFC Sub-Committee on IMF related issues. Prior to his appointment as Director General of the Treasury, 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 2013, he has been a member of the Board of Directors of Cassa Depositi e Prestiti. He was the Chairman of the Board of Directors of AMCO S.p.A. (formerly SGA S.p.A.) (2017-2020). He was a member of the Boards of Directors and Compensation Committees of: Poste Italiane S.p.A. (2011-2014); Italia Lavoro S.p.A. (2005- 2008); Mediocredito del Friuli-Venezia Giulia S.p.A. (2001-2003).

Frédéric Sanchez

Frederic Sanchez has been a member of our Supervisory Board since June 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 FivesLille 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 FivesLille" (renamed Fives in 2007) became a company with a management board and supervisory board chaired by Mr. Sanchez. In 2018, Fives became a French simplified joint stock company (*société par actions simplifiée*) and Mr. Sanchez its chairman and CEO. Within MEDEF (French Business Confederation), Mr. Sanchez is President of MEDEF International, President of the Council of Entrepreneurs France-Japan, France-United Arab Emirates and France-Barhain. Mr. Sanchez is an administrator of Primagaz, Orange, Thea and Bureau Veritas and he is 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).

iii. Supervisory Board Committees

Membership and Attendance. As at December 31, 2021, the composition of the four standing committees of our Supervisory Board was as follows: (i) Ms. Ana de Pro Gonzalo is the Chair of the Audit Committee, and Ms. Janet Davidson, Mr. Yann Delabrière, Ms. Heleen Kersten and Ms. Lucia Morselli are members of the Audit Committee; (ii) Mr. Maurizio Tamagnini is the Chair of the Compensation Committee, and Mr. Nicolas Dufourcq, Ms. Heleen Kersten, Ms. Lucia Morselli 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. Maurizio Tamagnini is the Chair of the Strategic Committee, and Ms. Janet Davidson, and Messrs. Nicolas Dufourcq, Alessandro Rivera and Frédéric Sanchez are members of the Strategic Committee.

Detailed information on attendance at full Supervisory Board and Supervisory Board Committee meetings during 2021 is as follows:

Number of Meetings attended in 2021	Supervisory Board		Audit Committee		Compensation Committee		Strategic Committee		Nominating & Corporate Governance Committee	
		% Attendance		% Attendance		% Attendance		% Attendance		% Attendance
Maurizio Tamagnini	11	100	—	—	4	100	2	100	1	100
Nicolas Dufourcq	9	82	—	—	4	100	2	100	1	100
Janet Davidson	10	91	10	100	—	—	2	100	—	—
Heleen Kersten	9	82	8	80	4	100	—	—	1	100
Yann Delabrière	10	91	10	100	—	—	—	—	—	—
Lucia Morselli	9	82	9	90	4	100	—	—	—	—
Alessandro Rivera	7	64	—	—	—	—	2	100	1	100
Frédéric Sanchez	11	100	—	—	4	100	2	100	1	100
Ana de Pro Gonzalo	10	91	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 10 times during 2021. 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 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, 2021, and the results press release was published on January 27, 2022.

Our Audit Committee approved the compensation of our external auditors for 2021 and discussed the scope of their audit, audit related and non-audit related services for 2021.

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 27, 2021. See “Item 3. Key Information—Risk Factors—Risks Related to Our Operations”.

Our Audit Committee regularly reviewed management’s conclusions as to the effectiveness of internal control over financial reporting and supervised the implementation of our corporate Enterprise Risk Management (“ERM”) process.

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 in relation thereto.

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 4 times in 2021.

Among its main activities, in 2021 our Compensation Committee: (i) reviewed and amended the remuneration policy for the sole member of the Managing Board, President and CEO, Mr. Jean-Marc Chery, in line with recent changes in Dutch corporate law and the EU’s Shareholder Rights Directive II (SRDII) ; (ii) reviewed the objectives met as compared to the performance criteria relating to the bonus of our President and CEO for the fiscal year ended on December 31, 2020; (iii) discussed the performance targets relating to the bonus of our President and CEO for the fiscal year ending on December 31, 2021 (which short-term targets are based on, *inter alia*, four to seven performance conditions with a mix of financial criteria for approximately 70% and non-financial criteria (including sustainability/corporate social responsibility index performance) for approximately 30%, and long-term targets are based on, *inter alia*, two financial performance conditions constituting revenue growth versus peer group and average of operating margin ratio before restructuring, and one non-financial performance condition constituting the composite corporate social responsibility index including health and safety, CO2 neutrality, diversity & inclusion and people engagement (as further detailed in “—Compensation”)); and (iv) 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 employee stock award plans to benefit from such awards (for the 2021 unvested stock award plan, these performance criteria are further described below in “Item 6. Managing Board – Managing Board Compensation – Managing Board Remuneration Structure”).

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 two times in 2021. 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 one time during 2021 to discuss succession planning for our Supervisory Board and Managing Board, 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. 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. Mr. Gabriele Pagnotta serves as Secretary and Ms. Charlotte Fadlallah serves as Vice Secretary. Mr. Pagnotta and Ms. Fadlallah serve as a Managing Director of ST Holding.

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 Marco Zizzo. Mr. Samuel Dalens serves as a member of the supervisory board of ST Holding. 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”.

iv. Supervisory Board Compensation

a. Supervisory Board Remuneration Policy

On December 1, 2019, a Dutch act implementing the revised EU Shareholders’ Rights Directive (2017/828/EU (“SRDII”)) took effect in The Netherlands. As the Company is incorporated under the laws of The Netherlands and the common shares of the Company are admitted to trading on regulated markets in the European Union, the Company was required, *inter alia*, to update the remuneration policy accordingly with respect to the compensation of the Supervisory Board members and the sole member of our Managing Board, President and Chief Executive Officer and to comply with the respective disclosure requirements introduced to the Dutch Civil Code. In connection therewith, we present in this section certain comparative information on our performance relative to the compensation of the Supervisory Board members.

Our Articles of Association provide that the compensation of our Supervisory Board members is determined by our General Meeting of Shareholders. Our proposal for adoption of a remuneration policy for the Supervisory Board members to ensure compliance with the new requirements under the Dutch Civil Code, following the implementation of SRDII, was approved by the AGM on June 17, 2020 with a vote percentage in favor of the policy of 98.43%.

b. Compensation paid to current and former Supervisory Board Members in FY 2021

The Supervisory Board Members are only awarded a fixed remuneration (including an attendance fee), promoting effective and independent supervision in the interest of the Company and the long-term success of the Company.

The aggregate compensation for current and former members of our Supervisory Board with respect to service in 2021 was € 912,000 before any applicable withholding taxes, as set forth in the following table.

Supervisory Board Members Fees	Annual Fees	Reimbursement Fees	Attendance Fees	Total
Maurizio Tamagnini	€ 140,500	€ -	€ 19,500	€ 160,000
Nicolas Dufourcq (1)	€ -	€ -	€ -	€ -
Janet Davidson	€ 81,000	€ -	€ 22,500	€ 103,500
Ana de Pro Gonzalo	€ 130,000	€ -	€ 21,000	€ 151,000
Yann Delabrière	€ 77,500	€ -	€ 21,000	€ 98,500
Heleen Kersten	€ 84,500	€ -	€ 23,000	€ 107,500
Lucia Morselli	€ 81,000	€ -	€ 23,000	€ 104,000
Alessandro Rivera	€ 77,000	€ -	€ 10,500	€ 87,500
Frédéric Sanchez	€ 80,500	€ -	€ 19,500	€ 100,000
Total	€ 752,000	€ -	€ 160,000	€ 912,000

(1) Mr. Dufourcq waived his rights to receive any compensation from the Company in relation to his mandate as a member of the Supervisory Board or otherwise

c. Supervisory Board Remuneration Comparison

Set forth in the following table is the annual change over the last three years of (i) the average remuneration of our Supervisory Board Members, (ii) the performance of the Company and (iii) the average remuneration of our indirect employees (i.e., all indirect employees other than the members of our Senior Management, including the sole member of our Managing Board and President and Chief Executive Officer):

	2021	2020	2019
Supervisory Board remuneration			
Average remuneration of Supervisory Board Members ⁽¹⁾	\$ 114,775	\$ 99,431	\$ 105,066
Company's performance			
Net revenues (amounts in millions)	\$ 12,761	\$ 10,219	\$ 9,556
Operating income (amounts in millions)	\$ 2,419	\$ 1,323	\$ 1,203
Employee remuneration			
Average remuneration ⁽²⁾ of all global indirect employees (FTE basis) ⁽³⁾	\$ 111,200	\$ 98,500	\$ 97,300

(1) Using the Euro per U.S. dollar exchange rate on December 31, 2021 of €1 = \$1.13265.

(2) Remuneration is defined as all remuneration paid to employees including base salary, variable compensation in both cash and shares, social premiums, pension, expense allowances and benefits in kind. The average is calculated by taking the sum of remuneration costs and dividing by the average number of full-time equivalent indirect employees over the period.

(3) Global indirect employees are all employees other than those directly manufacturing our products, excluding Senior Management. "FTE" refers to full time equivalent.

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.

B. Managing Board

i. Role of the Managing Board

In accordance with Dutch law, our management is entrusted to the Managing Board under the supervision of our Supervisory Board. Mr. Jean-Marc Chery was appointed on May 31, 2018 for a three-year term and was re-appointed on May 27, 2021 for a subsequent three-year term expiring at the 2024 AGM and is currently the sole member of our Managing Board with the function of President and Chief Executive Officer. For further biographical details concerning Mr. Chery, please refer to the "Biographies of our Executive Committee members (including the President and Chief Executive Officer)" section.

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.

The sole member of our Managing Board 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 performance conditions related to corporate social responsibility and environmental, social and governance factors. Both short and long term incentive includes performance conditions promoting ST's sustainable growth.

ii. Managing Board Compensation

a. Guiding principles of Managing Board Compensation

The key principles that are considered to determine the remuneration of the sole member of our Managing Board, President and Chief Executive Officer as well as the other members of Senior Management are as follows:

- Alignment with the Company's strategy: the compensation package should be strongly linked to the achievement of targets that are indicators of the execution of the Company's business strategy.
- Improving the performance of the Company: most of the compensation (excluding base salary, benefits, and pensions) is directly linked to the Company's performance through variable pay incentives. These incentives are based on ambitious performance conditions that include a mix of internal and external criteria as well as relative performance conditions against peers.
- Enhancing long-term creation of shareholder value: to strengthen the alignment to the interests of the shareholders and to enhance the long-term value creation of the Company, the compensation structure includes long-term variable remuneration in the form of shares and short-term variable remuneration.
- Promoting Sustainable corporate development: to ensure that STMicroelectronics is managed in a sustainable and responsible manner for the common good, the remuneration includes non-financial performance conditions related to corporate social responsibility and environmental, social, and governance factors. Both short- and long-term incentive includes performance conditions promoting ST's sustainable growth.
- Retaining and motivating key employees: the compensation package should be highly competitive, ensuring remuneration levels are determined by reference internally against the Company's Senior Management and externally against companies of comparable size, complexity and global scope.

To determine the remuneration structure, the Supervisory Board considers, among others, the key principles outlined above.

In accordance with the key principles of the Company's remuneration structure, the total remuneration of the sole member of our Managing Board, President and Chief Executive Officer takes into consideration factors such as the size and complexity of our Company, our global presence and that of our customers, the pace of change in our industry, the Company's value proposition, strategy and goal of long-term value creation, and the need to recruit and retain key personnel.

b. Managing Board Remuneration Policy

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

On December 1, 2019, a Dutch act implementing the revised EU Shareholders' Rights Directive (2017/828/EU ("SRDII")) took effect in The Netherlands. As we are incorporated under the laws of The Netherlands and our common shares are admitted to trading on regulated markets in the European Union, we are required, *inter alia*, to update the remuneration policy with respect to the compensation of the Supervisory Board members and the sole member of our Managing Board, President and Chief Executive Officer and to comply with the respective disclosure requirements introduced to the Dutch Civil Code. In connection therewith, we present in this section certain comparative information on our performance relative to the compensation of the Supervisory Board members and the sole member of our Managing Board, President and Chief Executive Officer.

After careful review of comments received by proxy advisors and investors following our 2020 AGM, we conducted a thorough review of the compensation structure, with the involvement of members of the Company and members of the Supervisory Board (directly and through an ad-hoc committee and the Compensation Committee), each with the support of their own independent external consulting firm and a comprehensive qualitative and quantitative benchmark against our industry peers and best-in-class market practices. Subsequently, we prepared a revised remuneration policy for the Managing Board, which was submitted to the 2021 AGM, where it was approved with a substantial majority (95.86% in favor).

Set forth in the table below is the list of companies used for the peer group compensation analysis used for the remuneration policy for the Managing Board voted at the 2021 AGM:

ADI (+ Maxim Integrated)	On Semiconductor
Infineon	Texas Instruments
Monolithic Power Systems	Vishay
Microchip	Rohm
NXP	Renesas (+ Dialog)

Should one of the companies not publish financial results for any reason, Diodes and/or Melexis would replace the missing company.

The remuneration of the sole member of our Managing Board, President and Chief Executive Officer, is bound by the remuneration policy as adopted by our 2021 AGM for a duration of a maximum of 4 years. Under the terms of the Dutch Civil Code, the remuneration policy for the Managing Board is put to a binding vote at the AGM at least every four years, subject to a qualified majority of 75%.

The revised remuneration policy for the Managing Board, voted at the 2021 AGM, contains certain new features, including:

- the reinforcement of the link between Managing Board remuneration and long-term company strategy;
- the simplification of the short-term incentive structure (fully paid in cash, as compared to a hybrid cash-equity pay-out previously) featuring enhanced disclosure of criteria and threshold, targets, and maximum performance levels;
- the inclusion of Corporate Social Responsibility criteria among performance conditions for both the short-term ("STI") and long-term incentive ("LTI") in line with our objectives of promoting sustainable corporate development;
- enhanced disclosure of long-term incentive (share-settled) performance conditions and threshold and target performance levels as well as the remaining outstanding shares (which are not yet vested);
- a three-year performance period for long term incentives (as compared to one year previously), with vesting based on performance measured over the 3-year performance period, to improve alignment of Managing Board remuneration with our objective of enhancing long-term shareholder value;
- enhanced disclosure regarding early vesting provisions for the Unvested Stock Awards;
- the implementation of share ownership guidelines for the Managing Board; and
- the introduction of claw-back provisions in order to reclaim payments after they have been awarded or to withhold remuneration under specific conditions.

The 2020 remuneration report, which was based on our prior remuneration policy, was submitted to an advisory vote at the 2021 AGM, resulted in a majority shareholder vote in favor of the 2020 remuneration report (53.79%). Since then our remuneration policy has been replaced and we continue to increase in our remuneration report the level of disclosure and transparency in relation to the remuneration of the sole member of our Managing Board, President and Chief Executive Officer herein to address the 2020 and 2021 AGM results and provide our stakeholders with an increased level of insight in our remuneration practices.

Managing Board Remuneration Structure

The remuneration structure is reflective of the level of responsibility of the Company's sole member of the Managing Board, President and Chief Executive Officer. The remuneration structure is further adapted to the Company's context while remaining competitive and providing an incentive to promote the Company's performance over the medium to long-term, in compliance with the corporate interest and the interests of all the stakeholders.

The Compensation Committee advises the Supervisory Board in reviewing the remuneration package of the sole member of our Managing Board, President and Chief Executive Officer both in the context of the Company performance and against a range of semiconductor peer companies and relevant market index. Before setting targets for the sole member of our Managing Board, President and Chief Executive Officer, the Compensation Committee carries out scenario analyses of the possible financial outcomes of meeting target levels.

The Supervisory Board, on advice from Compensation Committee determines the remuneration structure and remuneration amounts for our sole member of the Managing Board, President and Chief Executive Officer based on the analysis of the theoretical maximum total direct remuneration (i.e., sum of base salary, maximum annual bonus opportunity, and maximum long-term incentives).

The remuneration package of the sole member of our Managing Board, President and Chief Executive Officer's comprised of the following:

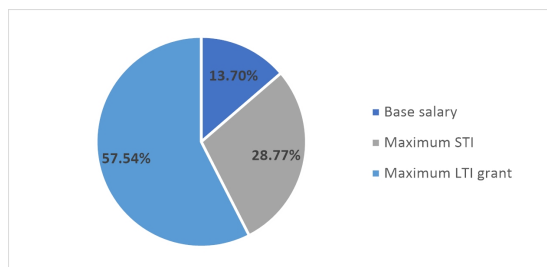
- **A base salary** that amounted to 800,000 EUR paid in 2021;
- **A short-term incentive** of up to 210% of base salary which is fully paid in cash. Prior to the implementation of the new remuneration policy following the 2021 AGM, the STI was partly paid in shares, partly in cash;
- **A long-term incentive** through the grant of **stock awards**, up to a maximum of 100,000 shares. The terms of this LTI are included in the long-term incentives plan ("LTIP") approved at the 2021 AGM allowing for grants in 2021, 2022 and 2023. The vesting of Unvested Stock Awards ("USAs") is subject to the achievement of performance conditions and calculated over a three-year performance period. Grants made in 2021, 2022 and 2023 will fully vest, subject to performance conditions, in 2024, 2025 and 2026 respectively.

The sum of these three elements represents the **maximum total direct remuneration** for the sole member of our Managing Board, President and Chief Executive Officer.

(i) *Breakdown of the maximum total direct remuneration structure of the sole member of our Managing Board, President and Chief Executive Officer*

The following provides a breakdown of the maximum total direct remuneration structure of the sole member of our Managing Board, President and Chief Executive Officer.

Given that the maximum LTI grant to which the sole member of our Managing Board, President and Chief Executive Officer is eligible is expressed as a quantity of shares, up to a maximum of 100,000, the below chart describing maximum total direct remuneration structure uses the share value at grant date of \$ 39.33 (grant date as of July 28, 2021).



Using the above hypothesis, the proportion of maximum total direct compensation for the sole member of our Managing Board, President and Chief Executive Officer comprised of share-settled long-term incentives has increased as a result of the evolution of the Company share price over the course of FY 2021.

The three components of the total maximum remuneration are described as follows:

Base salary

The purpose of the base salary is to provide a fixed level of earnings and to attract and retain the sole member of our Managing Board, President and Chief Executive Officer. It is a key component of overall remuneration, particularly as the annual bonus is expressed as a percentage of base salary. The Company seeks to determine a fair and competitive fixed salary as compared to industry and index peers. The determination of salary is based on several factors including, but not limited to, market pay levels among international industry peers of comparable size.

Short-Term Incentive (STI)

The purpose of the STI is to motivate the sole member of our Managing Board, President and Chief Executive Officer to achieve financial and commercial objectives consistent with and supportive of the Company's strategy and to create a tangible link between annual performance and individual pay opportunity.

In accordance with the Managing Board remuneration policy as approved at our 2021 AGM, and effective from the year 2021, the STI of the sole member of our Managing Board and President and Chief Executive Officer is to be fully paid in cash up to a maximum of 210% of the base salary for the relevant year, all subject to the assessment and achievement of a number of performance conditions which are set annually by the Compensation Committee of our Supervisory Board.

The STI is subject to annual performance measurement of a unique set of 4 to 7 predefined criteria (both financial and non-financial) and a performance matrix both for financial and non-financial criteria that explicitly outline threshold and target outcomes (as well as overperformance conditions for financial criteria).

Performance measures and weightings are reviewed annually by the Compensation Committee. The calculation of the target STI opportunity is based on the sum of the target weight of each performance criterion. The recommendations made by the Compensation Committee regarding scorecard targets and weightings are designed to support the delivery of the strategy. The Supervisory Board, upon recommendation by the Compensation Committee, retains the ability to adjust performance measure targets and weightings year-by-year within the overall target and maximum payouts approved in the remuneration policy.

The Supervisory Board, upon the recommendation of its Compensation Committee, set the conditions and performance criteria that must be met by Mr. Chery for the attribution of his 2021 bonus (to be paid in 2022).

These performance conditions will enable to conduct a holistic and comprehensive assessment of the sole member of our Managing Board, President and Chief Executive Officer's annual performance. The combination of financial and non-financial criteria is well balanced in terms of external and internal criteria and reflect the

challenging objectives set by the Compensation Committee in line with the Company's ambitious long-term vision and business strategy.

The external criterion is the market share evolution. Market share evolution is measured by assessing the Company's relative positioning and competitiveness in relation to its market and its industry peers and how fast the Company grows its revenues compared to its competitors. Market share is assessed on the basis of industry data published by WSTS ("World Semiconductor Trade Statistics").

The three internal criteria include total company revenue, operating income and net operating cash flow. Total company revenue represents the total amount of income generated by the Company's operations. Operating income is an important yardstick of profit measurement and reflects the operating performance of the business which does not take into consideration non-operating gains or losses suffered by business, the impact of financial leverage and tax factors. Net operating cash flow is a liquidity metric that evaluates whether the Company has enough liquidity to meet its debt obligations. This metric helps assess the financial soundness of the company in terms of liquidity risk, financial risk, credit risk and business risk.

The Supervisory Board consider the three above criteria to be crucial in determining the financial strength of the company.

The 2021 STI includes a sustainability index for sole member of the Managing Board, our President and Chief Executive Officer, as part of our effort to include corporate social responsibility into the performance framework of our Senior Management, including the Managing Board. The sustainability index is divided into four criteria related to health and safety, environment, diversity & inclusion, and people engagement.

For the 2021 STI, the Sustainability Index was comprised of the following KPIs:

- Health & Safety: measured against, amongst others, the employee safety performance
- Environment/Climate: measured against, amongst others, direct emissions (kCO₂ equivalent)
- Diversity & Inclusion: measured against, amongst others, gender ratio among management levels
- People Management: measured against, amongst others, the employee survey (engagement index)

The weight of the Sustainability Index is designed to remain stable over time, however the individual sub-components used to form the Sustainability Index may evolve in the future to address sustainability priorities facing the Company and the wider society.

Set forth in the following table are the performance criteria and weight set for 2021 that will be assessed by the Supervisory Board in March 2022 for the attribution of the 2021 STI (to be paid in 2022):

Table A1: Performance criteria with target weights and pay-out

Annual STI Performance criteria FY 2021 (to be paid in 2022)	Target Weighting (as a % of total weighting for performance criteria)	Target pay-out (as a % of base salary)
Financial performance conditions		
o Market share evolution	14%	30%
o Revenue growth	19%	40%
o Operating income	19%	40%
o Net operating cash flow	19%	40%
Sub-total for financial performance conditions	71%	150%
Non-financial performance conditions		
o Execute special manufacturing programs	14%	30%
o Execute strategy implementation	5%	10%
o Sustainability/CSR Index	10%	20%
Sub-total for non-financial performance conditions	29%	60%
Total	100%	210%

Table A2: Pay-out according to performance for each performance criterion

Annual STI Performance criteria FY 2021 (to be paid in 2022)	Pay-out as a percentage of base salary			
	Performance below threshold	Performance above or equal to threshold and below target	Performance above or equal to target and below stretch	Performance above stretch
Financial performance conditions				
o Market share evolution	0%	15%	30%	45%
o Revenue growth	0%	20%	40%	60%
o Operating income	0%	20%	40%	60%
o Net operating cash flow	0%	20%	40%	60%
Sub-total for financial performance conditions	0%	75%	150%	Capped at 150%(1)
Non-financial performance conditions				
o Execute special manufacturing programs	0%	15%	30%	30%
o Execute strategy implementation	0%	5%	10%	10%
o Sustainability/CSR Index	0%	10%	20%	20%
Sub-total for non-financial performance conditions	0%	20%	60%	60%(2)
Total	0%	105%	210%	STI pay-out capped at 210%

- (1) Over-performance for financial conditions can balance the potential under-performance of other financial condition if performance exceeds stretch targets, without exceeding a maximum pay-out of 150% of base salary regarding the portion of the STI dependent on financial performance criteria.
- (2) No stretch targets are defined for non-financial performance criteria.

As described in Table A2, the final pay-out is calculated by measuring the performance of each condition, then adding the sums of the corresponding pay-out from the above table, taking into account any applicable caps. The sum is then multiplied by the base salary to determine the final STI pay-out.

As of the publication of the Form 20-F the evaluation and assessment of the fulfillment of conditions and performance criteria as well as the determination of conditions for the 2022 STI have not yet been completed by the Supervisory Board upon the proposal of the Compensation Committee (expected in March 2022).

As a result, performance achievement levels and final pay-out for the STI based on 2021 performance (to be paid in 2022), as well as the scorecard for the 2022 STI will be disclosed at a later date, and is expected to be included in the 2021 Dutch Annual Report. Scorecard targets are not disclosed prospectively as it would require the disclosure of commercially sensitive information. Scorecard targets for the 2022 STI will be disclosed only when they are no longer deemed to be commercially sensitive.

Long-Term Incentive (LTI)

The purpose of the LTI is to motivate the sole member of our Managing Board, President and Chief Executive Officer to deliver sustainable long-term shareholder value through long-term profitability and share price growth.

Award levels are determined annually by the Compensation Committee within the maximum amounts set by the Supervisory Board. In accordance with the resolution adopted by our General Meeting of Shareholders, the maximum annual grant allowed in relation to the sole member of our Managing Board, President and Chief Executive Officer's stock award for 2019, 2020 and 2021 was 100,000 unvested stock awards ("USAs") subject to performance criteria.

The Supervisory Board, upon recommendation of the Compensation Committee, determines whether the performance criteria will be 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. Scorecard targets are not disclosed prospectively as it would require the disclosure

of commercially sensitive information. Scorecard targets will be disclosed only when they are no longer deemed to be commercially sensitive.

Grant in 2021

In accordance with the long-term incentives plan (“LTIP”) approved at the 2021 AGM, allowing for grants in 2021, 2022 and 2023, the stock awards vest at the end of a three-year performance period, from the date of the grant, provided that the eligible employee is still an employee at such time (subject to the termination provisions listed in section e.).

As compared to the prior LTI plan, a new corporate social responsibility condition has been introduced, which includes Health & Safety, CO2 Neutrality, Diversity, Inclusion & People Engagement.

For the 2021 grant, the Sustainability Index was comprised of the following KPIs, which include two external criteria:

- Environment/Climate: measured against, amongst others, the direct emissions (kCO₂ equivalent)
- Diversity & Inclusion: measured against, amongst others, gender ratio among management levels
- ESG Investor Index: measured against, amongst others, the Dow Jones Sustainability Indices
- Carbon Rating Agency: measured against, amongst others, the CDP Carbon Rating

The weight of the Sustainability Index is designed to remain stable for future grants, however the individual sub-components used to form the Sustainability Index may evolve in the future to address sustainability priorities facing the Company and the wider society.

Table B1: Performance criteria and target weights

LTIP Performance Criteria for to be assessed over a 3-year period	Target Weighting (as % of maximum achievement score)
Revenue growth (FY 2023 vs FY 2020 in comparison to peer group)	33.33%
Operating margin ratio before restructuring (average for the 2021 – 2023 period)	33.33%
Sustainability/CSR index	33.33%
Maximum achievement score	100%
	which correspond to a maximum of 100,000 USAs

Table B2: Shares to vest at the end of the 3-year vesting period according to performance for each performance criterion

LTIP Performance Criteria to be assessed over a 3-year period	Shares to vest as a percentage of maximum award			
	Performance below threshold	Performance equal to threshold	Performance above threshold and below target	Performance above or at target
Revenue growth (FY 2023 vs FY 2020 in comparison to peer group)	0%	16.67%	25%	33,33%
Operating margin ratio before restructuring (average for the 2021 – 2023 period)	0%	16.67%	16.67%	33,33%
Sustainability/CSR index	0%	16.67%	16.67%	33,33%
Total	0%	50%	58.34%	100%

Table B3: Vesting schedule for the 2021 LTI Grant

Set forth in the following table is an overview of the outstanding awards that have been granted to our sole member of our Managing Board, President and Chief Executive Officer, in accordance with the new LTI plan adopted in 2021. For the purposes of the vesting schedule table below, a hypothetical achievement rate of 100% of performance conditions is used:

Plan	Grant date	Final vesting date	Max. number of shares that can be granted	Share price at grant (in \$)	2022 vesting	2023 vesting	2024 vesting	2025 vesting	2026 vesting	2027 vesting	Unvested shares as of end of 2021
2021 USAs Grant	July 28, 2021	23 May, 2024	100,000	39.335			100,000 ⁽¹⁾				100,000
Total vesting											100,000

(1) In the event of 100% achievement of performance criteria to be assessed by the Supervisory Board

Grants in 2019 and 2020

Set forth in the following table are the performance criteria, weight, and achievement rate for the periods indicated below set for the LTI grants in 2019 and 2020.

Under the terms of the below grants from the previous LTI plan, performance was measured over the course of the year following the grant, subject to three performance conditions. Based on the achievement of LTI performance conditions, the total number of shares to be vested was determined, up to a maximum of 100,000 shares. Performance conditions were assessed once, one year following the grant date. The USAs then vested following the timeframe:

- One year post-grant: 32% of USAs vest (a maximum of 32,000 shares if all targets were met)
- 2 years post-grant: 32% of USAs vest (a maximum of 32,000 shares if all targets were met)
- 3 years post-grant: 36% of USAs vest (a maximum of 36,000 shares if all targets were met)

Following the implementation of the new remuneration policy after the 2021 AGM, the terms of LTI plans from 2021 onwards have changed, as detailed in the section “Grant in 2021”).

Assessment of performance criteria for 2019 and 2020 LTI grants

LTIP Performance Criteria	Target Weighting (as % of maximum achievement score)	2020	2019
		Evolution of Sales	33.33%
Evolution of Operating Income	33.33%	Criteria met	Criteria met
Return On Net Assets (RONA)	33.33%	Criteria met	Criteria not met
	100%	100%	67%
Maximum achievement score	which correspond to a maximum of 100,000 USAs	Performance Achieved	Performance Achieved

Vesting schedule for outstanding shares

Set forth in the following table is an overview of the outstanding awards under grants prior to implementation of the new LTI plan in 2021 that have been granted to our sole member of our Managing Board, President and Chief Executive Officer, including the 2018 grant for which the final vesting date took place in 2021:

Plan	Grant date	Final vesting date	Max. number of shares that can be granted	Number of shares awarded based on performance conditions achievement	Share price at grant (in \$)	2019 vesting	2020 vesting	2021 vesting	2022 vesting	2023 vesting	2024 vesting	Unvested shares as of end of 2021
2020 USAs Grant	July 23, 2020	June 17, 2023	100,000	100,000	\$29.97			32,000	32,000	36,000		68,000
2019 USAs Grant	July 24, 2019	May 23, 2022	100,000	66,672	\$19.45		21,335	21,335	24,002			24,002
2018 USAs Grant	July 24, 2018	May 31, 2021	100,000	100,000	\$23.64	32,000	32,000	36,000				0
Total vesting						32,000	53,335	89,335	56,002	36,000		92,002

Share ownership guidelines

The sole member of our Managing Board, President and Chief Executive Officer is expected to build up a shareholding in the Company equal to 1.5 times base salary (within 3 to 5 years based on LTI plan vested shares net of tax).

Claw-back provisions

All performance-related remuneration awarded to the sole member of our Managing Board, President and Chief Executive Officer are subject to the following claw-back provisions, in accordance with Dutch law. If the Supervisory Board considers that there is a significant downward restatement of the Company's financial results, breach of duty from the sole member of our Managing Board, President and Chief Executive Officer, or where remuneration has been paid based upon incorrect information about the achievement of the goals on which the remuneration was based or the circumstances on which the bonus was dependent, it may, in its discretion, within two years of the performance-related remuneration of the sole member of our Managing Board, President and Chief Executive Officer vesting or being paid:

- Require the sole member of our Managing Board, President and Chief Executive Officer to repay to the Company an amount equal to the after-tax value of some or all of any cash bonus or the Company's shares that were granted; and/or
- require the Company to withhold from, or offset against, any other remuneration to which the sole member of our Managing Board, President and Chief Executive Officer may be or become entitled in connection with its employment such an amount as the Supervisory Board considers appropriate.

When reaching its decision, the Supervisory Board will take into account of the significance of the breach of duty and in addition, the Supervisory Board may take other actions in relation to the statutory provision e.g. claim for damages.

During 2021, no claw-backs have occurred.

The Managing Board also may receive other types of remuneration included as part of the remuneration policy approved at the 2021 AGM, such as social premiums, benefits in kind (including company car), pension contributions and miscellaneous allowances.

d. Compensation paid to the sole member of the Managing Board, our President and Chief Executive Officer in FY 2021

The sole member of our Managing Board, President and Chief Executive Officer, received compensation in the form of a Base Salary, Short-term Incentive STI (paid fully paid in cash from 2021 onwards), Long-Term Incentive grant (Unvested Stock Awards), social premiums, benefits in kind (including company car), 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, Mr. Jean-Marc Chery, in 2021:

Base Salary	\$	936,357
STI(1)	\$	1,907,307
LTI(2)	\$	3,245,640
Other(3)	\$	1,470,226
Total	\$	7,559,530

(1) Bonus includes both the amount paid in cash and the amount paid in shares in 2021 (based on 2020 performance). The achievement rate based on 2020 performance, was 183% (135% in cash and 48% in shares), and paid in the course of the year 2021.

(2) Our sole member of our Managing Board, President and Chief Executive Officer was granted, in accordance with the compensation policy adopted by our General Meeting of Shareholders and subsequent shareholder authorizations, up to 100,000 USAs, subject to performance criteria. 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) Including social premiums, benefits in kind (including company car), pension contributions and miscellaneous allowances.

During 2021, our sole member of our Managing Board, President and Chief Executive Officer, Mr. Chery, did not have any stock options, and did not purchase any shares in the Company. During 2021, our sole member of our Managing Board, President and Chief Executive Officer, Mr. Chery, sold 62,542 shares.

e. Evolution of paid remuneration to the Managing Board

Set forth in the following table is the total compensation of the sole member of our Managing Board, President and Chief Executive Officer, in 2021, 2020 and 2019. The total compensation of the sole member of our Managing Board, President and Chief Executive Officer, comprises (i) with relation to 2021, of the total compensation of Mr. Jean-Marc Chery (ii) with relation to 2020, of the total compensation of Mr. Jean-Marc Chery and takes into consideration the voluntary decrease of the base salary for the period of six months as a result of the COVID-19 pandemic, and (iii) with relation to 2019 (y) the total compensation of Mr. Jean-Marc Chery and (z) contractually obligated deferred compensation relating to Mr. Carlo Bozotti's retirement in 2018:

	2021		2020		2019	
Salary	\$	936,357	\$	856,837	\$	896,297
STI (1)	\$	1,907,307	\$	1,285,378	\$	1,280,173
LTI(2)	\$	3,245,640	\$	2,224,984	\$	1,130,443
Other(3)	\$	1,470,226	\$	1,372,048	\$	4,487,939
Total	\$	7,559,530	\$	5,739,247	\$	7,794,852

(1) The bonus paid in 2021, 2020 and 2019 was approved by the Compensation Committee and Supervisory Board with respect to the 2020, 2019 and 2018 financial year, respectively, based on the evaluation and assessment of the actual achievement of a number of pre-defined objectives for such year.

- (2) Including stock awards of 100,000 USAs in 2021, 2020 and 2019, during which years our sole member of our Managing Board, President and Chief Executive Officer, Mr. Chery, was granted, in accordance with the compensation policy adopted by our General Meeting of Shareholders and subsequent shareholder authorizations, up to 100,000 USAs, subject to performance criteria. 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) Including social premiums, benefits in kind (including company car allowance), pension contributions and miscellaneous allowances, as well as one-off contractually obligated deferred compensation paid to Mr. Bozotti in 2019.

f. Managing Board Remuneration Comparison

Set forth in the following table is the annual change over the last three years of (i) the remuneration of the sole member of our Managing Board, President and Chief Executive Officer, (ii) the performance of the Company and (iii) the average remuneration of our indirect employees (i.e., all indirect employees other than the members of our Senior Management, including the sole member of our Managing Board and President and Chief Executive Officer):

	2021	2020	2019 ⁽¹⁾
Managing Board remuneration			
Total remuneration of the sole member of our Managing Board, President and Chief Executive Officer ⁽¹⁾	\$ 7,559,530	\$ 5,739,247	\$ 7,794,852
Company's performance			
Net revenues (amounts in millions)	\$ 12,761	\$ 10,219	\$ 9,556
Operating income (amounts in millions)	\$ 2,419	\$ 1,323	\$ 1,203
Employee remuneration			
Average remuneration ⁽²⁾ of all global indirect employees (FTE basis) ⁽³⁾	\$ 111,200	\$ 98,500	\$ 97,300

- (1) Total Managing Board remuneration for 2019 includes one-off contractually obligated deferred compensation paid to Mr. Bozotti.
- (2) Remuneration is defined as all remuneration paid to employees including base salary, variable compensation in both cash and shares, social premiums, pension, expense allowances and benefits in kind. The average is calculated by taking the sum of remuneration costs and dividing by the average number of full-time equivalent indirect employees over the period.
- (3) Global indirect employees are all employees other than those directly manufacturing our products, excluding Senior Management. "FTE" refers to full time equivalent.

g. Termination provisions for the sole member of the Managing Board, our President and Chief Executive Officer

The 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. At the 2021 AGM, he was reappointed for another three-year term, expiring at the 2024 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.

The agreement can be terminated with a notice period of 3 months if terminated by the Company or 6 months if terminated by the Managing Board member.

Vesting of stock awards in the event of termination not in connection with a change-in-control

If the sole member of our Managing Board, President and Chief Executive Officer is not employed by the Company at the time of vesting, stock awards will lapse, except in certain circumstances as determined by the Supervisory Board including sickness, death, retirement and in the event of the sole member of our Managing Board, President and Chief Executive Officer not being re-appointed or any other circumstance as decided by the Supervisory Board. Good and bad leaver conditions will be included in the appendix of the contract of the sole member of our Managing Board, President and Chief Executive Officer.

In the case that employment is terminated by the Company without cause or termination but for a pre-defined good reason as detailed above, then the portion of any award which vests will be determined solely by the Supervisory Board based on several factors including performance against targets.

In cases of resignation or dismissal for cause, variable remuneration elements (including annual bonus and LTI) will generally lapse and the sole member of our Managing Board, President and Chief Executive Officer will not be eligible for compensation for loss of office.

Vesting of stock awards in the event of termination in connection with a change-in-control

In the event of a change in control of the Company, any award will be rolled over into an award in the new entity, subject to performance, with the balance rolled over.

In the case that employment is terminated by the Company without cause, or termination by the sole member of our Managing Board, President and Chief Executive Officer for a pre-defined good reason detailed above in connection with a change in control, then outstanding awards will vest immediately without time proration.

C. Senior Management

i. Definition of Senior Management

For the purposes of the Form 20-F, the Senior Management of the Company refers to:

- The Executive Committee (including the sole member of the Managing Board: our President and Chief Executive Officer)
- The Executive Vice Presidents

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.

ii. Role of the Executive Committee

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 eight members as of December 31, 2021 as set forth in the table below:

Name ⁽¹⁾	Position	Years with Company	Years in Semi-Conductor Industry	Age
Jean-Marc Chery	President and Chief Executive Officer	37	37	61
Orio Bellezza	President, Technology, Manufacturing and Quality	38	38	62
Marco Cassis	President, Sales, Marketing, Communications & Strategy Development	34	34	58
Claude Dardanne	President, Microcontrollers and Digital ICs Group	39	42	69
Lorenzo Grandi	President, Finance, Infrastructure and Services, and Chief Financial Officer	34	34	60
Marco Monti	President, Automotive & Discrete Group	35	35	60
Steven Rose	President, Legal Counsel	30	30	59
Rajita D'Souza	President, Human Resources, Corporate Social Responsibility	1	1	49

- (1) Remi El-Ouazzane and Jerome Roux joined the Executive Committee as President, Microcontrollers & Digital ICs Group and President, Sales & Marketing respectively on January 1, 2022. Benedetto Vigna left the Company and the Executive Committee in 2021.

iii. Biographies of our Senior Management

a. Effective and announced appointments to the Executive Committee in FY 2021

On January 11, 2021, we announced the appointment of Rajita D'Souza as President, Human Resources and Corporate Social Responsibility (CHRO) and member of the Executive Committee.

On November 18, 2021, we announced the following changes, effective as of January 1, 2022:

- (i) Marco Cassis was appointed President, Analog, MEMS and Sensors Group. In addition to his Product Group role, Cassis retains a number of corporate responsibilities, namely Strategy Development, System Research and Applications and the Innovation Office.
- (ii) Remi El-Ouazzane was appointed President, Microcontroller and Digital ICs Group, following Claude Dardanne's decision to retire at the end of the year from this position. El-Ouazzane joins from ST from Intel, where he has been Chief Operating Officer of Intel's Artificial Intelligence Products Group and, more recently, Chief Strategy Officer of the Datacenter Platform Group.
- (iii) Lorenzo Grandi was confirmed in his Chief Financial Officer role and was appointed President, Finance, Purchasing, ERM and Resilience.
- (iv) Jerome Roux was appointed President, Sales & Marketing and member of the Executive Committee. The new Sales & Marketing parameter will include the Regions, the Global Key Account and the Demand Planning Organizations.

b. Biographies of our Executive Committee Members (including the President and Chief Executive Officer)

Jean-Marc Chery

Jean-Marc Chery is STMicroelectronics' President and Chief Executive Officer and has held this position since May 31st, 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 a member of the Board of Directors at Legrand and Chairman of the France – Malaysia Business Council at Medef International. Previously, he was President of the European microelectronics R&D program AENEAS and served as President of the European Semiconductor Industry Association (ESIA) in 2019-2021. Mr. Chery was promoted Knight of the Legion of Honor by the French Ministry of Economy and Finance in July 2019. Jean-Marc 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

Orio Bellezza is STMicroelectronics' President, Technology, Manufacturing, Quality, and Supply Chain and has held this position since May 31st, 2018. He has been responsible for Front-End Manufacturing since 2008 and his mandate was expanded in 2018 to cover ST's technology, manufacturing operations, supply chain, and quality. Mr. Bellezza is a member of ST's Executive Committee..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 Manufacturing. Mr. Bellezza also serves as Managing Director of the ST Italy legal entity. He has published multiple technical papers and earned several patents in non-volatile memories. Orio Bellezza was born in Bergamo, Italy, in 1959, and graduated cum laude with a degree in Chemistry from the University of Milan, Italy.

Marco Cassis

Marco Cassis was President, Sales, Marketing, Communications & Strategy Development until December 31, 2021 and as of January 1, 2022 is STMicroelectronics' President, Analog, MEMS and Sensors Group. He also heads the corporate functions of Strategy Development, System Research and Applications, and Innovation Office, and is a member of ST's Executive Committee. Mr. Cassis joined SGS-Thomson Microelectronics (now STMicroelectronics) as a car-radio chip designer in 1987. He later moved to Japan to help expand ST's audio business with major local players including ST's strategic alliance with Pioneer. In the early 2000s, Mr. Cassis managed 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. In 2005, he advanced to Vice President of the Automotive Segment Group and was promoted to lead ST's operations in Japan. 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 added Communications and Strategy Development in 2018. Marco Cassis was born in Treviso, Italy, in 1963, and graduated with a degree in Electronic Engineering from the Polytechnic of Milan, Italy.

Claude Dardanne

Claude Dardanne was STMicroelectronics' President, Microcontrollers and Digital ICs Group, and held this position since January 2016. He was a member of ST's Executive Committee since May 31, 2018. 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 (MMS) activities in 2007 and appointed Mr. Dardanne as

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

Lorenzo Grandi was President, Finance, Infrastructure and Services, and Chief Financial Officer ("CFO") until December 31, 2021 and as of January 1, 2022 is STMicroelectronics' CFO, and President, Finance, Purchasing, Enterprise Risk Management (ERM) & Resilience. He is a member of ST's Executive Committee. 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 as Financial Analyst and later was appointed Group Controller contributing to the expansion of ST's flash memory business. In 2005, Mr. Grandi joined ST's Corporate Finance organization responsible for Budgeting and Reporting. In 2012, he was promoted to Corporate Vice President in charge of Corporate Control. Mr. Grandi was appointed ST's Chief Financial Officer in 2018 and his overall responsibilities include Finance and Business Control, Treasury, Capital investment Control and Planning, Global Procurement, Information and Communication Technology, and Investor Relations. In December 2020, Mr. Grandi received a special award for his long-standing professional achievements from the French Association of Financial Directors and Management Controllers (DFCG). Lorenzo Grandi was born in Sondrio, Italy, in 1961. He graduated cum laude in Physics from the University of Modena, Italy, and holds an MBA from SDA Bocconi School of Management in Milan, Italy.

Marco Monti

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. 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. He earned 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. Marco 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

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.

Rajita D'Souza

Rajita D'Souza is President of STMicroelectronics' Human Resources and Corporate Social Responsibility (CHRO) and has held this role since January 2021. Her mandate also entails the Company's directions on environment, health, and safety. D'Souza is a member of ST's Executive Committee. Ms. D'Souza started her career in 1993 as Manager Operations with Reliance Consultancy Services in Mumbai, India. In 1997 she joined General Electric, where she held various HR leadership positions with increasing responsibility and scope. In 2007, Ms. D'Souza moved to SABIC to become Director Human Resources in Europe. In 2011,

she was appointed Vice President Human Resources for the EMEA region of The Goodyear Tire & Rubber Company. In 2017, Ms. D'Souza joined Bekaert as Chief Human Resources Officer. Rajita D'Souza was born in Mumbai, India, in 1973. She holds a master's degree in Law from the University of Mumbai and a bachelor's degree in Business Management. She is also a certified Master Black-Belt in Six Sigma quality.

c. *Biographies of our Executive Vice Presidents*

The group of Executive Vice Presidents consisted of the following people as at December 31, 2021:

Name ⁽¹⁾	Position	Years with Company	Years in Semi-Conductor Industry	Age
Michael Anfang	Executive Vice President Sales & Marketing, Europe, Middle East and Africa Region	23	31	53
Eric Aussedat	Executive Vice President Imaging Sub-Group General Manager Analog, MEMS and Sensors Group	41	41	67
Stefano Cantù	Executive Vice President Automotive Discrete Group Smart Power Solutions Macro-Division General Manager Automotive Business Deputy	27	27	53
Alberto Della Chiesa	Executive Vice President Supply Chain	33	33	57
Paul Cihak	Executive Vice President, General Manager, Sales & Marketing, Americas Region	23	28	50
Fabio Gualandris	Executive Vice President, Head of Back-End Manufacturing & Technology	33	37	62
Joël Hartmann	Executive Vice President, Digital & Smart Power Technology and Digital Front-End Manufacturing	21	43	66
Michael Hummel	Executive Vice President, Analog and Power, Front-End Manufacturing	3	31	62
Frédérique Le Grevès	Executive Vice President, France Public Affairs, President, STMicroelectronics France	1	1	54
Claudia Levo	Executive Vice President, Integrated Marketing & Communications	10	12	56
Matteo Lo Presti	Executive Vice President, Analog, Sub-Group General Manager, Analog MEMS and Sensors Group	28	31	57
Giuseppe Notarnicola	Executive Vice President, Corporate, Treasury, Insurance, M&A, IP BU, Real Estate and Italy Public Affairs	16	16	60
Jerome Roux	Executive Vice President, Sales & Marketing, Asia Pacific Region	30	34	56
Thierry Tingaud	Executive Vice President Europe Public Affairs and Special Projects	37	37	62
Nicolas Yackowlew	Executive Vice President, Product Quality & Reliability	26	27	52

(1) Joël Hartmann and Thierry Tingaud retired from their positions at the end of 2021. Jerome Roux was promoted from Executive Vice President, Sales & Marketing to President, Sales & Marketing from January 1, 2022.

As of January 1, 2022, the following Executive Vice Presidents were appointed:

- Henry Cao, Executive Vice President, Sales & Marketing, China Region

- Alessandro Cremonesi, Executive Vice President, Chief Innovation Officer, General Manager, System Research and Applications
- Ricardo De-Sa-Earp, Executive Vice President, General-Purpose Microcontroller Sub-Group, Microcontrollers and Digital ICs Group
- Franck Freymond, Executive Vice President, Chief Audit & Risk Executive
- Laurent Malier, Executive Vice President, Digital Front-End Manufacturing & Technology
- Edoardo Merli, Executive Vice President, Power Transistor Sub-Group, Automotive and Discrete Group
- Hiroshi Noguchi, Executive Vice President, Asia Pacific Region Excluding China (APeC)
- Andrea Onetti, Executive Vice President, MEMS Sensors Sub-Group, Analog, MEMS and Sensors Group
- Rino Peruzzi, Executive Vice President, Sales & Marketing, Global Key Account Organization
- Chouaib-Mohamed Rokbi, Executive Vice President, Digital Transformation and Information Technology

Michael Anfang

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. Mr. 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, Mr. 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 STMicroelectronics. In 2013, Mr. Anfang joined the EMEA regional organization of STMicroelectronics as Automotive Marketing & Applications Vice President. Mr. 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 Aussebat

Eric Aussebat is Executive Vice President and General Manager of the Imaging sub-group of the Company's Analog, MEMS and Sensors Group and has held this position since October 2014. Mr. Aussebat 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. Aussebat 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. Aussebat was appointed ST's Executive Vice President in charge of the Imaging, Bi-CMOS ASIC and Silicon Photonics Group. Mr. Aussebat was born in Montmorency near Paris, France, in 1954. He 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.

Stefano Cantù

Stefano Cantù is Executive Vice President, Smart Power Solutions Sub-Group within STMicroelectronics' Automotive and Discrete Group (ADG) and has held this position since September 2020. He has also been Automotive Business Deputy across all ADG organizations since April 2019. After experiences at Italtel and the Italian Ministry of Defense, Mr. 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, Mr. 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. Mr. Cantù was promoted to Automotive Product Group Vice President responsible for Supply Chain in 2009 with Group Operations added to his mandate in 2012, before becoming Supply Chain General Manager in 2016. 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

Paul Cihak is Executive Vice President, Sales & Marketing for STMicroelectronics' Americas Region, and has held this position since November 2018. Mr. 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, Mr. Cihak managed an industry-leading e-Business supply chain project cited as one of the first successful B2B RosettaNet programs in the world. Mr. 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, Mr. Cihak was appointed Executive President, General Manager, Sales & Marketing for STMicroelectronics' Europe, Middle East and Africa Region. Mr. 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.

Alberto Della Chiesa

Alberto Della Chiesa is Executive Vice President in charge of Supply Chain and has held this role since May 2012. Mr. 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, Mr. 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, Mr. 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. 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.

Fabio Gualandris

Fabio Gualandris is Executive Vice President, Head of ST's Back-End Manufacturing & Technology organization and has held this position since January 2016. In October 2021, he confirmed his role as corporate test council chairman and extended his leadership into new manufacturing partnerships in Asia in the field of wafer fabs, assembly technology partitioning between silicon and assembly technology for system-in-package. Mr. 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, Mr. 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, Mr. Gualandris was appointed ST's Executive Vice President in charge of Product Quality Excellence. Mr. 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. Mr. Gualandris was born in Bergamo, Italy, in 1959. He holds a Master's degree in Physics from the University of Milan.

Joël Hartmann

Joël Hartmann was Executive Vice President of STMicroelectronics, Digital & Smart Power Technology and Digital Front-End Manufacturing, and had held this position since February 2012. He managed ST's manufacturing operations in Crolles and Rousset, France, Technology and Design Platforms for the Company's digital products. In December 2018, Mr. Hartmann's mandate was expanded with ST's Smart Power Technology R&D operations in Agrate, Italy. From 1979 to 2000, Mr. 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, Mr. 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. Mr. Hartmann was a Member of the IEEE Electron Device Society. In 2017, he became a member of the French “Académie des Technologies” and received the European SEMI Award in 2019. Mr. Hartmann has filed 15 patents on semiconductor technology and devices and authored 10 publications in this field to date. Mr. Hartmann was born in Toulon, France, in 1955. He graduated from the Ecole Nationale Supérieure de Physique de Grenoble with a degree in Physics.

Michael Hummel

Michael Hummel is Executive Vice President of STMicroelectronics, Analog and Power Front-End Manufacturing, and has held this position since March 2019. In 1991, Mr. Hummel started his professional career with IBM Microelectronics as a Process Engineer at Europe’s first 200 mm wafer fab in Böblingen, Germany. He held several managerial positions in Manufacturing and Engineering and became Director of Marketing & Supply Chain Management for the Philips-IBM JV in 1996. In the early 2000s, Mr. Hummel served as VP of Philips’ Display Driver business – first in Zürich and later in Taipei. In 2005, he was promoted to VP and General Manager of Philips Semiconductors Germany and Head of the Wafer Fab Operation in Böblingen. In 2007, Mr. Hummel joined Texas Instruments as Operations Manager in Dallas and two years later became Fab Manager at the Freising, Germany wafer plant. Upon TI’s acquisition of National Semiconductors in 2011, Mr. Hummel assumed additional responsibility for the Greenock, UK wafer fab and its integration into TI’s Front-End Fab structure. Mr. Hummel sat on SEMI European Advisory Board in 2005-2017. Mr. Hummel was born in Heilbronn, Germany, in 1959. He studied Chemistry at the University of Tübingen and received his PhD degree in Organic & Physical Chemistry in 1991.

Frédérique Le Grevès

Frédérique Le Grevès is STMicroelectronics’ Executive Vice President, Europe and France Public Affairs. She has also held the position of President and CEO of STMicroelectronics France since March 2021. In 1990, Mrs. Le Grevès started her career in marketing and communication for various international companies in Europe and in the US. From 1995 to 2003, she worked at Aptiv (ex-Delphi Automotive) as EMEA Communication Director. In 2003, Mrs. Le Grevès joined Nissan Motors as VP Communication for Europe and in 2004, she moved to Los Angeles as VP Communications for Nissan Americas. Mrs. Le Grevès returned to France in 2008 and joined the Renault Group as Global VP for Corporate Communication. Two years later, she expanded her role to Global VP of Communications and Deputy to the Chief Marketing and Communication officer. In 2011, Mrs. Le Grevès was appointed Chief of Staff for the Renault Nissan Mitsubishi Alliance Chairman and CEO. More recently, she worked as senior advisor for several companies helping on corporate effectiveness, operations efficiency, and brand reputation. Mrs. Le Grevès has sat at the Supervisory Board of TRIGO Holding as an independent board member since May 2021 and a member of the Strategic Committee of Clinatex since October 2021. She is part of the Business Angels network, WeLikeAngels. Born in Suresnes, France, in 1967, Frédérique Le Grevès graduated with a master’s degree in business management from the Paris School of Business (1991) and graduated from the Senior Executive Program at the London Business School (2019).

Claudia Levo

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. Mrs. Levo was born in Genoa, Italy, in 1965, and holds a language school diploma (Liceo Linguistico) in English and Russian.

Matteo Lo Presti

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 started his career in the semiconductor industry in 1991 and 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, Mr. 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. Mr. Lo Presti was born in Misterbianco, Italy, in 1965, and graduated with a degree in Electronic Engineering from the University of Catania.

Giuseppe Notarnicola

Giuseppe Notarnicola is STMicroelectronics' Executive Vice President responsible for managing Corporate Treasury, a position he has held since January 2006. 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 Head of Large Corporate clients. Mr. Notarnicola joined ST in 2006, when 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 and a board member of several other ST affiliates. In 2021, he was appointed Vice President for Economic Research Department and FDI Attraction at Assolombarda, an industrial organization that associates nearly 7,000 companies in the Lombardy Region of Italy. Mr. 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

Jerome Roux was STMicroelectronics' Executive Vice President, Sales & Marketing, Asia Pacific Region until December 31, 2021 and as of January 1, 2022 is STMicroelectronics' President, Sales & Marketing. He is a member of ST's Executive Committee. Mr. Roux began his career in the Planning department of SGS-THOMSON Microelectronics (now 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 manage an ST supplier company and returned to ST in 2006 as Group Vice President, Assembly & Testing Outsourcing Operations. Global Purchasing responsibilities were added to his mandate in 2008. Mr. Roux was promoted to Corporate Vice President in 2012 and managed ST's sales in the Greater China & South Asia Region and later the whole Asia Pacific Region. In 2017, Mr. Roux was appointed Executive Vice President, Sales & Marketing, for the Company's Asia Pacific region. Mr. Roux serves as Advisor to the French Government (CCEF) on Foreign Trade. Jerome Roux was born in Antibes, France, in 1965, and graduated from ISG Business School in Paris with a master's degree in Commerce (Management & Marketing).

Thierry Tingaud

Thierry Tingaud was Executive Vice President of Europe and France Public Affairs from July 2018. He also held the position of President of STMicroelectronics France from 2012. In 1985, Mr. Tingaud joined Thomson Semiconductors, a predecessor company to STMicroelectronics in a telecom marketing role. Following several promotions, Mr. 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, 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. He was appointed President of the "filiale électronique" in France in May 2018 and to the High Level Group of Experts on AI by the European Commission in June 2018. Born in Paris in 1959, Mr. Tingaud graduated with a degree in Electronic Engineering from INSA Lyon (1982) and with a Master of Business Administration from ESSEC (1985).

Nicolas Yackowlew

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, Mr. Yackowlew took the responsibility of Quality & Reliability for the Microcontroller and Digital ICs Group (MDG). Mr. Yackowlew was born in Mulhouse (France) in 1969 and graduated with a degree in Chemistry from the University of Nice Sophia Antipolis, France.

iv. Senior Management Compensation

a. Remuneration structure for Senior Management

Our Senior Management, including the sole member of our Managing Board, our President and Chief Executive Officer, received a combination of fixed, short-term and long-term compensation, based on performance.

Specific details regarding the sole member of our Managing Board, our President and Chief Executive Officer are provided in the section "Managing Board Compensation". See "Item 6. Managing Board — Managing Board Compensation". The below remuneration structure, in particular in regards to the STI and LTI, are not applicable to the sole member of our Managing Board, President and Chief Executive Officer.

Base Salary

The purpose of the base salary is to provide a fixed level of earnings and to attract and retain talent. It is a key component of overall remuneration, particularly as the STI is expressed as a percentage of base salary.

Short Term Incentives (STI)

The STI, which we call Corporate Executive Incentive Program ("EIP"), entitles selected executives including the members of Senior Management detailed in the section "Biographies of our Senior Management" to a yearly STI based upon the assessment of the achievement of individual, organizational and company objectives that are set on an annual basis and focused, *inter alia*, on return on net assets, customer service, profit, cash flow and market share. The maximum amount awarded under the STI is based upon a percentage of the executive's salary and the overall achievement of the above objectives on an annual basis.

The 2021 STI includes a sustainability index for Senior Management, as part of our effort to include corporate social responsibility into the performance framework of our Senior Management. For Executive Committee members and EVPs, the weight for the sustainability index ranges between 5% and 10%. The sustainability index is divided into four criteria related to health and safety, environment, diversity & inclusion, and people engagement.

For the 2021 STI, the Sustainability Index was comprised of the following KPIs:

- Health & Safety: measured against, amongst others, the employee safety performance
- Environment/Climate: measured against, amongst others, direct emissions (kCO₂ equivalent)

- Diversity & Inclusion: measured against, amongst others, gender ratio among management levels
- People Management: measured against, amongst others, the employee survey (engagement index)

The weight of the Sustainability Index is designed to remain stable over time, however the individual sub-components used to form the Sustainability Index may evolve in the future to address sustainability priorities facing the Company and the wider society.

Long Term Incentives (LTI)

The purpose of stock awards is to motivate the Senior Management to deliver sustainable long-term shareholder value through long-term profitability and share price growth.

Stock awards vest over a three year horizon from the date of the grant, with 32% vesting after one year, a further 32% after two years and the remaining 36%, subject to performance criteria and provided that the eligible employee is still an employee at such time.

The Supervisory Board determines whether the performance criteria will be met and conclude whether and to which extent all eligible employees are entitled to any stock awards under the stock award plan.

From 2021, a new corporate social responsibility condition has been introduced among performance conditions for the LTI, which includes Health & Safety, CO2 Neutrality, Diversity, Inclusion & People Engagement.

For the 2021 grant, the Sustainability Index was comprised of the following KPIs which include two external criteria:

- Environment/Climate: measured against, amongst others, the direct emissions (kCO₂ equivalent)
- Diversity & Inclusion: measured against, amongst others, gender ratio among management levels
- ESG Investor Index: measured against, amongst others, the Dow Jones Sustainability Indices
- Carbon Rating Agency: measured against, amongst others, the CDP Carbon Rating

The weight of the Sustainability Index is designed to remain stable for future grants, however the individual sub-components used to form the Sustainability Index may evolve in the future to address sustainability priorities facing the Company and the wider society.

Pension plan, life and medical insurance

Our Supervisory Board has approved the establishment of a complementary pension plan for certain 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 2021, 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 of \$0.3 million to the plan for all beneficiaries other than the sole member of our Managing Board, President and Chief Executive Officer. The amount of pension plan payments made for other beneficiaries, such as former employees retired in 2021 and/or no longer salaried in 2021, was \$ 1.1 million.

The members of our Senior Management, including the sole member of our Managing Board, President and Chief Executive Officer, were covered in 2021 under certain group life and medical insurance programs provided by us. The aggregate additional amount set aside by us in 2021 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 \$ 6.4 million, which includes statutory employer contributions for state run retirement, similar benefit programs and other miscellaneous allowances.

b. *Compensation paid to Senior Management in 2021, 2020 and 2019*

The following table sets forth the total cash amount paid as compensation in 2021, 2020 and 2019 to our Senior Management (including the sole member of our Managing Board, our President and Chief Executive Officer) as of December 31st of each year, before applicable withholding taxes and social contributions (amounts in millions):

	2021(2)	2020(3)	2019(4)
Total cash amount paid as compensation(1)	\$ 26.2	\$ 21.4	\$ 21.3
(1) Total cash amount paid as compensation comprises fixed salary, annual cash short-term incentive and other cash benefits. In addition, non-cash amounts paid as compensation, including vested stock awards and other non-cash benefits, as well as all applicable withholding taxes, pension contributions and social contributions, were approximately \$ 54.8 million in 2021, \$36.9 million in 2020 and \$22.3 million in 2019.			
(2) Including amounts paid in 2021 to our former President, Analog, MEMS and Sensors Group, Benedetto Vigna and former Executive Vice President Europe and France Public Affairs, Thierry Tingaud.			
(3) Takes into consideration the voluntary decrease in base salary over a period of six months agreed by the Senior Management. Despite this temporary decrease of the base salary voluntarily agreed by the Senior Management, the non-cash amounts paid as compensation were significantly increased in 2020, mainly due an increase in the long-term compensation paid to the members of the Senior Management, which was in turn a result of an increase in the share price of the Unvested Stock Awards ("USAs").			
(4) Including amounts paid in 2019 to our former President, Human Resources and Corporate Social Responsibility, Mr. Philippe Brun. In 2019, we changed the classification of pension contributions and we determined that pension contributions are attributable to non-cash amounts paid as compensation. In addition, in 2019, we classified housing and meal allowances (as applicable) as other cash benefits.			

The amounts paid in 2021 to our Senior Management (including the sole member of our Managing Board, our President and Chief Executive Officer) pursuant to the STI represented approximately 47.43% of the total compensation paid to our Senior Management.

	Bonus paid in 2021 (2020 performance)(1)	Bonus paid in 2020 (2019 performance)	Bonus paid in 2019 (2018 performance)(2)
STI (cash) amount	\$ 11,476,929	\$ 8,708,142	\$ 8,239,417
Ratio STI / (base salary + STI)	47.43 %	43.15 %	41.12 %

- (1) Including amounts paid in 2021 to our former President, Analog, MEMS and Sensors Group, Benedetto Vigna and former Executive Vice President Europe and France Public Affairs, Thierry Tingaud.
(2) Including amounts paid in 2019 to our former President, Human Resources and Corporate Social Responsibility, Mr. Philippe Brun.

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.

c. *Senior Management Pay Ratio*

For the year 2021, the Senior Management pay ratio was 31.6, and in 2020, the pay ratio was 27.5. The increase of the 2021 pay ratio compared to the 2020 pay ratio was primarily due to an increase in non-cash amounts paid as compensation, resulting from an increase in the share price of the USAs. This ratio is based on:

- (i) the average remuneration of our Senior Management (including the compensation of Mr. Benedetto Vigna and Mr. Thierry Tingaud for 2021);
- 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 the sole member of our Managing Board, President and Chief Executive Officer. See "—Managing Board Compensation".

A. Share Ownership, Stock Awards and Options

i. 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.

ii. Overview of 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 18 to our Consolidated Financial Statements, which is incorporated herein by reference.

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 2019 unvested stock award allocation under the 2017 Unvested Stock Award Plan, including restriction criteria linked to our performance (for selected employees);
- approved conditions relating to our 2020 unvested stock award allocation under the 2017 Unvested Stock Award Plan, including restriction criteria linked to our performance (for selected employees); and
- approved conditions relating to our 2021 unvested stock award allocation under the 2021 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, 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 geographic area and main category of activity for the past three years.

	At December 31,		
	2021	2020	2019
France	11,312	10,840	10,131
Italy	11,334	10,765	10,551
Rest of Europe	1,044	991	970
Americas	759	766	761
Mediterranean (Malta, Morocco, Tunisia, Egypt)	4,854	4,378	4,743
Asia	18,951	18,276	18,398
Total	48,254	46,016	45,554

	At December 31,		
	2021	2020	2019
Research and Development	8,355	8,145	7,796
Marketing and Sales	2,379	2,311	2,261
Manufacturing	31,780	30,134	30,351
Administration and General Services	2,582	2,464	2,290
Divisional Functions	3,158	2,962	2,856
Total	48,254	46,016	45,554

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.

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 at December 31, 2021 based on information available to us:

Shareholders	Common Shares Owned	
	Number	%
STMicroelectronics Holding N.V. ("ST Holding")	250,704,754	27.51
Public ⁽¹⁾	655,813,303	71.97
Treasury shares	4,758,863	0.52
Total	911,276,920	100

(1) According to the report available on Schedule 13G filed with the SEC on February 7, 2022, we understand that as of December 31, 2021 BlackRock, Inc. is the beneficial owner of 69,309,935 of our common shares (representing approximately 10.6% of our outstanding common shares).

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 with the SEC on February 11, 2020, by ST Holding, the Italian Ministry of the Economy and Finance (the "MEF"), Bpifrance Participations S.A., a successor to its former wholly-owned subsidiary FT1CI, ("Bpifrance" and together with the MEF, the "STH Shareholders") and the Italian Government and the French Government, each indirectly through the MEF and Bpifrance, respectively, held 14.1% of our share capital as at December 31, 2019. The ownership percentages of each the MEF and Bpifrance are based on 891,434,489 shares outstanding as at December 31, 2019. As of the date of this Form 20-F, no report on 13G in respect of the STH Shareholders was filed subsequent to the ST Holding 13G. On November 17, 2016, *Commissariat à l'Energie Atomique et aux Énergies Alternatives* ("CEA") and Bpifrance, which were, at the time, the shareholders of FT1CI, entered into a share purchase agreement pursuant to which CEA transferred 721,513 shares of FT1CI to Bpifrance. As a result of the transaction, Bpifrance increased its shareholding in FT1CI from 79.2% to 95.1%, with CEA retaining the remaining 4.9% in FT1CI. 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 FT1CI, to Bpifrance. As a result of this transaction, Bpifrance became the sole shareholder of FT1CI. On June 21, 2019, FT1CI merged with and into Bpifrance and ceased to exist. 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, Bpifrance, on the one hand, and the MEF, 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 Bpifrance 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 Bpifrance, 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 Bpifrance, 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 Continuïteit 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 29 to our Consolidated Financial Statements, incorporated herein by reference, for transactions with significant 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 27 “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 27, 2021, 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 2021 and will also be distributed in the first quarter of 2022. 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 18 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 traded on the Borsa Italiana. In 2017, ST issued a \$1.5 billion dual-tranche offering of 2017 Senior Unsecured Convertible Bonds due 2022 and 2024 that trade on the Frankfurt Stock Exchange. On August 4, 2020, ST issued a \$1.5 billion dual-tranche offering of new 2020 Senior Unsecured Convertible Bonds due 2025 and 2027 that trade on the Frankfurt Stock Exchange.

Effective September 18, 2017 our common shares were re-admitted by the independent Conseil Scientifique to the CAC 40, a free float market capitalization weighted index that reflects the performance of the 40 most capitalized and traded shares listed on Euronext Paris, and is the most widely used indicator of the Paris stock market. Our common shares are included in the FTSE MIB Index, which measures the performance of the 40 most liquid and capitalized shares listed on the Borsa Italiana 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 906,518,057 common shares outstanding as at December 31, 2021, 65,320,929, or 7.2%, were registered in the common share registry maintained on our behalf in New York and 841,197,128 or 92.8%, 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 objects 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; to take financial interests in such enterprises 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 owned 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.

We have balanced participation by men and women on our Supervisory Board and currently, our Supervisory Board comprises nine members of which 4 are female and 5 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 18 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"; (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". 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 of certain material 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 of common shares. In view of its general nature, this general summary should be treated with corresponding caution.

The tax consequences as described herein may not apply to all holders 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.

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 including holders of common shares which shares qualify or qualified as a participation (*deelneming*) for purposes of the Dutch corporation tax;
- (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 in us 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

Dutch Resident Entities

Generally, if you are an entity that is a resident or deemed to be a resident of The Netherlands for Dutch corporation tax purposes (a 'Dutch Resident Entity'), any income derived or deemed to be derived from the common shares or any capital gain or loss realized on the disposal or deemed disposal of the common shares is subject to Dutch corporation tax at a rate of 15% with respect to taxable profits up to €395,000 and 25.8% with respect to taxable profits in excess of that amount (rates and brackets for 2022).

Dutch Resident Individuals

If you are an individual resident or deemed to be resident of The Netherlands for Dutch income tax purposes (a 'Dutch Resident Individual'), any income derived or deemed to be derived from the common shares or any capital gain or loss realized on the disposal or deemed disposal of the common shares is taxable at the progressive Dutch income tax rates (with a maximum of 49.50% in 2022), if:

- (i) the common shares are attributable to an enterprise from which you derive a share of the profit, whether as an entrepreneur (*ondernemer*) or pursuant to a co-entitlement to the net value (*medegerechtigd tot het vermogen*) of such enterprise other than as a shareholder (as defined in the Dutch Income Tax Act 2001); or
- (ii) you are considered to perform activities with respect to the common shares that go beyond ordinary asset management (*normaal, actief vermogensbeheer*) or you derive benefits from the common shares that are otherwise taxable as benefits from other activities (*resultaat uit overige werkzaamheden*).

If the above-mentioned conditions (i) and (ii) do not apply to you, you will be taxed annually on a deemed return (with a maximum of 5.53% in 2022) under the regime for savings and investments (*inkomen uit sparen en beleggen*) for the year, insofar your net investment assets for the year exceed a statutory threshold (*heffingvrij vermogen*).

The deemed return on your net investment assets for the year is taxed at a flat rate of 31% (rate for 2022). Actual income, gains or losses in respect of the common shares are as such not subject to Dutch income tax.

The net investment assets for the year are the fair market value of the investment assets less the allowable liabilities on January 1 of the relevant calendar year. The common shares are included as investment assets. For the net investment assets on January 1, 2022, the deemed return ranges from 1.82% up to 5.53% (depending on the aggregate amount of your net investment assets on January 1, 2022). The deemed return will be adjusted annually on the basis of historic market yields.

Non-resident Individuals

If you are not a Dutch Resident Individual, 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 a share of the profit 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.

Non-resident Entities

If you are not a Dutch Resident Entity, 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 your 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 a Dutch Resident Individual nor a Dutch Resident Entity, 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 acquisition or ownership of the common shares.

Dividend withholding tax

General

Dividends distributed by us are generally subject to Dutch dividend withholding tax at a rate of 15%. Generally, we are responsible for the withholding of such dividend withholding tax at source. The Dutch dividend withholding tax is for the account of the holder of common shares.

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 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.

Dutch Resident Entities and Dutch Resident Individuals generally are entitled to a credit of any Dutch dividend withholding tax against their Dutch (corporate) income tax liability and a refund of any residual Dutch dividend withholding tax. The same generally applies to holders of our common shares that are neither a Dutch Resident Entity nor a Dutch Resident Individual if the common shares are attributable to a Dutch permanent establishment of such non-resident holder.

A holder of common shares resident in a country other than the Netherlands may, depending on such holder's specific circumstances, be entitled to exemptions from, reductions of, or full or partial refund of, Dutch dividend withholding tax under Dutch domestic law, EU law, or treaties for the avoidance of double taxation in effect between The Netherlands and such other country.

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).

Although this reduction reduces the amount of Dutch dividend withholding tax that we are required to remit to the Dutch tax authorities, it does not reduce the amount of tax that we are required to withhold on distributed dividends.

Dividend stripping

Pursuant to legislation to counteract "dividend stripping", a reduction, exemption, credit or refund of Dutch dividend withholding tax is denied if the recipient of the dividend is not the beneficial owner as described in the Dutch Dividend Withholding Tax Act 1965 (*Wet op de dividendbelasting 1965*). This legislation generally targets situations in which a shareholder retains its economic interest in shares but reduces the withholding tax costs on dividends by a transaction with another party. It is not required for these rules to apply that the recipient of the dividends is aware that a dividend stripping transaction took place. The Dutch State Secretary for Finance takes the position that the definition of beneficial ownership introduced by this legislation will also be applied in the context of a double taxation convention.

Conditional withholding tax on dividends (as per January 1, 2024)

As of January 1, 2024, a Dutch conditional withholding tax will be imposed on dividends distributed by us to entities related (*gelieerd*) to the us (within the meaning of the Dutch Withholding Tax Act 2021; *Wet bronbelasting 2021*), if such related entity:

- (i) is considered to be resident (*gevestigd*) in a jurisdiction that is listed in the yearly updated Dutch Regulation on low-taxing states and non-cooperative jurisdictions for tax purposes (*Regeling laagbelastende staten en niet-coöperatieve rechtsgebieden voor belastingdoeleinden*) (a "Listed Jurisdiction"); or
- (ii) has a permanent establishment located in a Listed Jurisdiction to which the common shares are attributable; or

- (iii) holds the common shares for the main purpose or one of the main purposes to avoid taxation for another person or entity and there is an artificial arrangement or transaction or a series of artificial arrangements or transactions; or
- (iv) is not considered to be the beneficial owner of the common shares in its jurisdiction of residence because such jurisdiction treats another entity as the beneficial owner of the common shares (a hybrid mismatch); or
- (v) is not resident in any jurisdiction (also a hybrid mismatch); or
- (vi) is a reverse hybrid (within the meaning of Article 2(12) of the Dutch Corporate Income Tax Act 1969), if and to the extent (x) there is a participant in the reverse hybrid which is related (*gelieerd*) to the reverse hybrid, (y) the jurisdiction of residence of such participant treats the reverse hybrid as transparent for tax purposes and (z) such participant would have been subject to the Dutch conditional withholding tax in respect of dividends distributed by us without the interposition of the reverse hybrid,

all within the meaning of the Dutch Withholding Tax Act 2021.

The conditional withholding tax on dividends will be imposed at the highest Dutch corporate tax rate in effect at the time of the distribution (currently 25.8%). The conditional withholding tax on dividends will be reduced, but not below zero, by any regular Dutch dividend withholding tax withheld in respect of the same dividend payment. As such, based on the currently applicable rates, the overall effective tax rate of withholding the regular Dutch dividend withholding tax (as described above) and the Dutch conditional withholding tax on dividends will not exceed the highest corporate income tax rate in effect at the time of the distribution (currently 25.8%).

Gift and inheritance taxes

Dutch Resident Individuals

Gift or inheritance taxes will arise in The Netherlands with respect to a transfer of common shares by way of a gift by, or on the death of, a holder of common shares who is a resident or deemed a resident of The Netherlands at the time of the gift or the holder's death.

Non-resident Individuals

No Dutch gift tax or Dutch inheritance tax will arise with respect to a transfer of common shares by way of gift by, or upon the death of, a holder of common shares who is neither a resident nor deemed to be a resident of 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 of The Netherlands for purposes of Dutch gift tax or Dutch inheritance tax, the holder of common shares becomes a resident or a deemed resident of 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.

Value added tax (VAT)

No Dutch VAT will be payable by a holder of common shares in respect of any payment in consideration for the ownership or disposal of the common shares.

Other taxes and duties

No Dutch registration tax, stamp duty or any other similar documentary tax or duty will be payable by a holder of common shares in respect of any payment in consideration for the ownership or disposal of the common shares.

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 United States – The Netherlands Income Tax Treaty (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 or arrangement treated 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 TAX” 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, 2021 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 Cr dit Agricole-Indosuez, 9, Quai du Pr sident 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 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, short-term deposits and marketable securities and interest expense on our financial liabilities, including non-cash interest expense on the senior unsecured 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 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 short-term deposits and Government debt securities and, as such, we are exposed to the fluctuations in the market interest rates on our placement and our cash, which can have an impact on our consolidated financial statements. 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.

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 and debt obligations as at December 31, 2021. The information below should be read in conjunction with Note 28 to our Consolidated Financial Statements.

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	2022	2023	2024	2025	2026	Thereafter	Fair Value at December 31, 2021
Assets:								
Cash and cash equivalents	\$ 3,225							\$ 3,225
of which Cash at bank and on hand	\$ 342							\$ 342
of which Deposits at call with banks	\$ 2,883							\$ 2,883
Short-term deposits	\$ 291							\$ 291
Long-term debt(1):	\$ 2,652	\$ 143	\$ 143	\$ 143	\$ 893	\$ 142	\$ 1,188	\$ 3,127
Average interest rate(2)	0.90%							

(1) Long-term debt is presented at nominal values

(2) The average coupon interest rate on our total debt is 0.04%.

	Amounts in millions of U.S. dollars
Long-term debt by currency as at December 31, 2021:	
U.S. dollar	1,500
Euro	1,152
Total in U.S. dollars	2,652

	Amounts in millions of U.S. dollars
Long-term debt by currency as at December 31, 2020:	
U.S. dollar	2,310
Euro	524
Total in U.S. dollars	2,834

The following table provides information about our FX forward contracts and FX currency options not designated as a hedge at December 31, 2021 (in millions of U.S. dollars):

FORWARD CONTRACTS AND CURRENCY OPTIONS AT DECEMBER 31, 2021

				Notional Amount	Average Rate	Fair Value
Buy	AUD	Sell	USD	1	0.72	—
Buy	EUR	Sell	USD	5	1.13	—
Buy	USD	Sell	SEK	2	8.83	—
Buy	USD	Sell	PHP	1	50.04	—
Buy	EUR	Sell	MAD	13	10.46	—
Buy	CHF	Sell	USD	29	0.91	—
Buy	HKD	Sell	USD	2	7.80	—
Buy	JPY	Sell	EUR	36	129.87	—
Buy	JPY	Sell	USD	29	114.41	—
Buy	MYR	Sell	USD	23	4.21	—
Buy	SEK	Sell	USD	46	8.91	(1)
Buy	SGD	Sell	USD	131	1.35	1
Buy	TWD	Sell	USD	15	27.79	—
Buy	CNY	Sell	USD	94	6.46	2
Buy	PHP	Sell	USD	17	50.75	—
Buy	INR	Sell	USD	39	75.29	—
Buy	KRW	Sell	USD	18	1,188.06	—
Buy	SEK	Sell	EUR	3	10.23	—
Buy	CNH	Sell	USD	1	6.39	—

The following table provides information about our FX forward contracts and FX currency options not designated as a hedge at December 31, 2020 (in millions of U.S. dollars):

FORWARD CONTRACTS AND CURRENCY OPTIONS AT DECEMBER 31, 2020

				Notional Amount	Average Rate	Fair Value
Buy	AUD	Sell	USD	1	0.74	—
Buy	EUR	Sell	USD	6	1.22	—
Buy	USD	Sell	JPY	1	104.17	—
Buy	USD	Sell	MYR	1	4.06	—
Buy	USD	Sell	SGD	3	1.33	—
Buy	USD	Sell	CNY	2	6.86	—
Buy	USD	Sell	PHP	1	48.27	—
Buy	EUR	Sell	MAD	40	10.91	—
Buy	CHF	Sell	USD	45	0.88	—
Buy	USD	Sell	EUR	379	1.22	(2)
Buy	HKD	Sell	USD	1	7.75	—
Buy	JPY	Sell	EUR	24	126.58	—
Buy	JPY	Sell	USD	11	103.08	—
Buy	MYR	Sell	USD	27	4.04	—
Buy	SEK	Sell	USD	92	8.40	3
Buy	SGD	Sell	USD	124	1.36	4
Buy	TWD	Sell	USD	11	28.43	—
Buy	CNY	Sell	USD	67	6.71	2
Buy	PHP	Sell	USD	17	48.23	—
Buy	INR	Sell	USD	26	74.63	—
Buy	KRW	Sell	USD	17	1,128.26	1
Buy	CNH	Sell	USD	1	6.51	—

Our FX forward contracts and FX currency options, including collars, designated as a hedge, are further described in Note 28 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;
- 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

Under the New York Share program agreement with J.P. Morgan the annual amount (contribution) of USD 330,421.50 in respect of 2021 will be paid in 2022.

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. In 2021, we migrated our accounting system to S/4HANA. This migration did not require significant changes to our system of internal controls.

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, 2021, 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, 2021 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, 2021 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, 2021, 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, 2021, 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, 2021 and 2020, the related consolidated statements of income, comprehensive income, equity and cash flows for each of the three years in the period ended December 31, 2021, and the related notes and financial statements schedule on page S-1, and our report dated February 24, 2022 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

Lancy - Geneva, Switzerland
February 24, 2022

Item 16A. Audit Committee Financial Expert

Our Supervisory Board has concluded that Ana de Pro Gonzalo, 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 first appointed as our independent external auditor for the 2016-2019 fiscal years. At our AGM held on June 17, 2020, our shareholders re-appointed Ernst & Young as our independent external auditor for the 2020-2023 fiscal years. The following table presents the aggregate fees for professional audit services and other services rendered to us by Ernst & Young in 2021 and 2020.

	2021	Percentage of Total Fees	2020	Percentage of Total Fees
Audit Fees				
Audits of consolidated and statutory financial statements	\$ 5,134,390	95.50%	4,980,123	96.8%
Audit-Related Fees	\$ 135,778	2.50%	164,578	3.2%
Non-audit Fees				
Tax Fees	\$ 104,843	—	—	—
All Other Fees	—	—	—	—
Total	5,375,011	100.0%	5,144,701	100.0%

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 2021, 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

In 2021, we completed our three-years buy-back program announced on November 5, 2018 by the repurchase in 2021 of approximately 8.3 million shares of our common stock for a total of \$313 million.

On July 1, 2021, we announced the launch of a share buy-back program of up to \$1,040 million to be executed within a 3-year period. We intend to carry out the buy-back program, and hold the shares bought back as treasury stock for the purpose of meeting our obligations in relation to our employee stock award plans and to support the potential settlement of our outstanding convertible debt.

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 be Purchased Under the Programs
2021-01-01 to 2021-01-31	1,453,174	32.88	24,463,297	47,000,000
2021-02-01 to 2021-02-28	1,255,965	33.90	25,719,262	47,000,000
2021-03-01 to 2021-03-31	1,306,038	30.03	27,025,300	47,000,000
2021-04-01 to 2021-04-30	1,481,490	32.44	28,506,790	47,000,000
2021-05-01 to 2021-05-31	2,112,654	29.81	30,619,444	47,000,000
2021-06-01 to 2021-06-30	642,137	30.45	31,261,581	47,000,000
2021-07-01 to 2021-07-31	1,028,434	32.53	1,028,434	28,500,000
2021-08-01 to 2021-08-31	898,959	36.11	1,927,393	28,500,000
2021-09-01 to 2021-09-30	151,587	38.15	2,078,980	28,500,000
2021-10-01 to 2021-10-31	863,152	37.16	2,942,132	28,500,000
2021-11-01 to 2021-11-30	841,237	43.79	3,783,369	28,500,000
2021-12-01 to 2021-12-31	161,663	41.61	3,945,032	28,500,000

As at December 31, 2021, we held 4,758,863 of our common shares in treasury stock pursuant to repurchases made in prior years, and as of January 31, 2022 we held 5,434,641 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 2019 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, anticorruption 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, 2021;

- Our implementation of a non-compliance reporting channel (managed by an independent third party). We encourage everyone, including external business partners, to express, in good faith, any concerns they might have regarding possible violations of our Code of Conduct, the Company's policies, or the law through, amongst other things, our Code of Conduct, dedicated intranet web pages and our ST Integrity App. Our misconduct reporting process is communicated to all employees and includes, in addition to internal local and corporate reporting channels, an independent multilingual misconduct reporting hotline;
- 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 Executive Vice President, Chief Audit and Risk Executive, who reports directly to our Audit Committee for Internal Audit and directly to the CFO for Enterprise Risk Management and Resilience (business continuity and crisis management) 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.

PART III

Item 17. Financial Statements

Not applicable.

Item 18. Financial Statements**Financial Statements:**[Report of Independent Registered Public Accounting Firm for Years Ended December 31, 2021 and 2020 \(PCAOB ID:1460\)](#)[Consolidated Statements of Income for the Years Ended December 31, 2021, 2020 and 2019](#)[Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2021, 2020 and 2019](#)[Consolidated Balance Sheets as at December 31, 2021 and 2020](#)[Consolidated Statements of Equity for the Years Ended December 31, 2021, 2020 and 2019](#)[Consolidated Statements of Cash Flows for the Years Ended December 31, 2021, 2020 and 2019](#)[Notes to the Consolidated Financial Statements](#)**Financial Statement Schedule:**[For each of the three years in the period ended December 31, 2021, 2020 and 2019 Schedule II Valuation and Qualifying Accounts](#)

Page

F-1

F-3

F-4

F-5

F-6

F-7

F-8

S-1

Item 19. Exhibits2.3 [Description of Securities Registered under Section 12 of the Securities Exchange Act of 1934 \(the "Exchange Act"\)](#)8.1 [Subsidiaries 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 [Inline Interactive Data File](#)104 [Cover Page Interactive Data File \(embedded within the Inline XBRL document\)](#)

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
EMS	electronics manufacturing services
EWS	electrical wafer sorting
FD-SOI	fully depleted silicon-on-insulator
GaN	gallium nitride
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
LoRa	long range low-power wide-area network modulation technique
LPWANs	low-power wide-area networks
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
SiGe	silicon germanium
SiC	silicon carbide
SOI	silicon on insulator
SOIC	small-outline integrated circuit
TAM	total available market
VIPpower™	vertical integration power

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 24, 2022

By: /s/ Jean-Marc Chery
Jean-Marc Chery
President and Chief Executive Officer and Sole Member of our Managing Board

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, 2021 and 2020, 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, 2021, and the related notes and financial statements schedule 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, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, 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, 2021, 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 24, 2022 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.

Critical Audit Matter

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

Recoverability of deferred tax assets

Description of the Matter:

At December 31, 2021 the Company reports deferred tax assets of \$652 million. As explained in note 2.7 to the consolidated financial statements, the Company performs an evaluation of the likelihood that future taxable income will be generated in an amount sufficient to utilize such deferred tax assets prior to their expiration, and, after having considered positive and negative available evidence, records a valuation allowance for any deferred tax assets when it is more likely than not they will not be realized.

Assessing the recoverability of deferred tax assets involves significant judgement and estimates in relation to the prospective financial information used by management in order to assess future taxable income, which are dependent on the outcome of future events.

How We Addressed the Matter

In Our Audit:

We obtained an understanding, evaluated the design and tested the operating effectiveness of management's controls around, among others: the calculation of the gross amount of deferred tax assets recorded, the preparation of the prospective financial information used to determine the Company's future taxable income and the assessment of valuation allowance needed for deferred tax assets not deemed recoverable.

We involved tax professionals to assist with our procedures in evaluating management's weighting of available positive and negative evidence used in their assessment of the realizability of deferred tax assets. Among other procedures, we evaluated the timing of the reversal of the temporary differences and management's prospective financial information used to determine future taxable income and its consistency with current transfer pricing policies. We compared management's projections with the actual results of prior periods, as well as management's consideration of current and expected industry and economic trends.

/s/ Ernst & Young AG

We have served as the Company's auditor since 2016.

Lancy - Geneva, Switzerland

February 24, 2022

STMicroelectronics N.V.

CONSOLIDATED STATEMENTS OF INCOME

	Twelve months ended		
	December 31, 2021	December 31, 2020	December 31, 2019
In million of U.S. dollars except per share amounts			
Net sales	12,729	10,181	9,529
Other revenues	32	38	27
Net revenues	12,761	10,219	9,556
Cost of sales	(7,435)	(6,430)	(5,860)
Gross profit	5,326	3,789	3,696
Selling, general and administrative	(1,323)	(1,109)	(1,093)
Research and development	(1,723)	(1,548)	(1,498)
Other income and expenses, net	141	202	103
Impairment, restructuring charges and other related closure costs	(2)	(11)	(5)
Operating income	2,419	1,323	1,203
Interest income (expense), net	(29)	(20)	1
Other components of pension benefit costs	(10)	(12)	(16)
Income (loss) on equity-method investments	—	2	1
Loss on financial instruments, net	(43)	(26)	—
Income before income taxes and noncontrolling interest	2,337	1,267	1,189
Income tax expense	(331)	(159)	(156)
Net income	2,006	1,108	1,033
Net income attributable to noncontrolling interest	(6)	(2)	(1)
Net income attributable to parent company stockholders	2,000	1,106	1,032
Earnings per share (Basic) attributable to parent company stockholders	2.21	1.24	1.15
Earnings per share (Diluted) attributable to parent company stockholders	2.16	1.20	1.14

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

STMicroelectronics N.V.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

In million of U.S. dollars	Twelve months ended		
	December 31, 2021	December 31, 2020	December 31, 2019
Net income	2,006	1,108	1,033
Other comprehensive income (loss), net of tax:			
Currency translation adjustments arising during the period	(189)	203	(35)
Foreign currency translation adjustments	(189)	203	(35)
Net unrealized gains (losses) arising during the period	(1)	—	3
Net unrealized gains (losses) on securities	(1)	—	3
Net unrealized gains (losses) arising during the period	(79)	56	(37)
Reclassification adjustment for (gains) losses included in net income	(16)	—	69
Net unrealized gains (losses) on derivatives	(95)	56	32
Net gains (losses) arising during the period	57	(12)	(35)
Amortization of prior service cost included in net periodic pension cost	1	1	1
Defined benefit pension plans	58	(11)	(34)
Other comprehensive income (loss), net of tax	(227)	248	(34)
Comprehensive income (loss)	1,779	1,356	999
Less: comprehensive income (loss) attributable to noncontrolling interest	6	2	1
Comprehensive income (loss) attributable to the Company's stockholders	1,773	1,354	998

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

STMicroelectronics N.V.
CONSOLIDATED BALANCE SHEETS

In million of U.S. dollars	As at	
	December 31, 2021	December 31, 2020
Assets		
Current assets:		
Cash and cash equivalents	3,225	3,006
Short-term deposits	291	581
Marketable securities	—	133
Trade accounts receivable, net	1,759	1,465
Inventories	1,972	1,841
Other current assets	581	584
Total current assets	7,828	7,610
Goodwill	313	330
Other intangible assets, net	438	445
Property, plant and equipment, net	5,660	4,596
Non-current deferred tax assets	652	739
Long-term investments	10	10
Other non-current assets	639	724
	7,712	6,844
Total assets	15,540	14,454
Liabilities and equity		
Current liabilities:		
Short-term debt	143	795
Trade accounts payable	1,582	1,166
Other payables and accrued liabilities	1,101	966
Dividends payable to stockholders	55	42
Accrued income tax	68	84
Total current liabilities	2,949	3,053
Long-term debt	2,396	1,826
Post-employment benefit obligations	442	506
Long-term deferred tax liabilities	64	75
Other long-term liabilities	416	488
	3,318	2,895
Total liabilities	6,267	5,948
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, 911,276,920 shares issued, 906,518,057 shares outstanding)	1,157	1,157
Additional paid-in capital	2,533	3,062
Retained earnings	5,223	3,599
Accumulated other comprehensive income	496	723
Treasury stock	(200)	(93)
Total parent company stockholders' equity	9,209	8,448
Noncontrolling interest	64	58
Total equity	9,273	8,506
Total liabilities and equity	15,540	14,454

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

STMicroelectronics N.V.
CONSOLIDATED STATEMENTS OF EQUITY

In million of U.S. dollars, except per share amounts	Common Stock	Additional Paid- In Capital	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Noncontrolling Interest	Total Equity
Balance as of December 31, 2018	1,157	2,843	(141)	1,991	509	65	6,424
Contribution of noncontrolling interest						8	8
Business combination						61	61
Repurchase of noncontrolling interest		4				(65)	(61)
Repurchase of common stock			(250)				(250)
Stock-based compensation expense		145	63	(63)			145
Comprehensive income (loss):							
Net income				1,032		1	1,033
Other comprehensive income (loss), net of tax					(34)		(34)
Comprehensive income (loss)							999
Dividends to noncontrolling interest						(2)	(2)
Dividends, \$0.24 per share				(213)			(213)
Balance as of December 31, 2019	1,157	2,992	(328)	2,747	475	68	7,111
Repurchase of common stock			(125)				(125)
Issuance of senior convertible bonds		184					184
Settlement of senior convertible bonds		(269)	258				(11)
Stock-based compensation expense		155	102	(102)			155
Comprehensive income (loss):							
Net income				1,106		2	1,108
Other comprehensive income (loss), net of tax					248		248
Comprehensive income (loss)							1,356
Dividends to noncontrolling interest						(12)	(12)
Dividends, \$0.168 per share				(152)			(152)
Balance as of December 31, 2020	1,157	3,062	(93)	3,599	723	58	8,506
Repurchase of common stock			(485)				(485)
Settlement of senior convertible bonds		(750)	220				(530)
Stock-based compensation expense		221	158	(158)			221
Comprehensive income (loss):							
Net income				2,000		6	2,006
Other comprehensive income (loss), net of tax					(227)		(227)
Comprehensive income (loss)							1,779
Dividends, \$0.24 per share				(218)			(218)
Balance as of December 31, 2021	1,157	2,533	(200)	5,223	496	64	9,273

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

STMicroelectronics N.V.
CONSOLIDATED STATEMENTS OF CASH FLOWS

In million of U.S. dollars	Twelve Months Ended		
	December 31, 2021	December 31, 2020	December 31, 2019
Cash flows from operating activities:			
Net income	2,006	1,108	1,033
Items to reconcile net income and cash flows from operating activities:			
Depreciation and amortization	1,045	923	854
Interest and amortization of issuance costs on convertible bonds	36	44	38
Interest on settled convertible bonds	(40)	(41)	—
Loss on financial instruments, net	43	26	—
Non-cash stock-based compensation	221	155	145
Other non-cash items	(153)	(130)	(110)
Deferred income tax	45	(8)	25
(Income) loss on equity-method investments	—	(2)	(1)
Impairment, restructuring charges and other related closure costs, net of cash payments	2	(3)	(16)
Changes in assets and liabilities:			
Trade receivables, net	(307)	(72)	(103)
Inventories	(188)	(84)	(142)
Trade payables	95	161	(14)
Other assets and liabilities, net	255	16	160
Net cash from operating activities	3,060	2,093	1,869
Cash flows used in investing activities:			
Payment for purchase of tangible assets	(1,830)	(1,283)	(1,181)
Proceeds from sale of tangible assets	2	4	7
Proceeds from matured marketable securities	132	—	200
Net proceeds from (investment in) short-term deposits	290	(577)	—
Payment for purchase of intangible assets	(97)	(75)	(69)
Net payment for financial assets	(17)	—	(3)
Proceeds from sale of financial assets	2	—	—
Proceeds from sale of equity investments	—	1	1
Payment for business acquisitions, net of cash acquired	—	(113)	(127)
Net cash used in investing activities	(1,518)	(2,043)	(1,172)
Cash flows from (used in) financing activities:			
Proceeds from long-term debt	788	4	281
Net proceeds from issuance of convertible bonds	—	1,567	—
Repayment of issued convertible bonds	(1,223)	(709)	—
Repayment of long-term debt	(134)	(184)	(144)
Repurchase of common stock	(485)	(125)	(250)
Dividends paid to stockholders	(205)	(168)	(214)
Dividends paid to noncontrolling interest	(6)	(6)	(2)
Proceeds from noncontrolling interest	—	—	3
Payment of withholding tax on vested shares	(49)	(31)	(17)
Net cash from (used in) financing activities	(1,314)	348	(343)
Effect of changes in exchange rates	(9)	1	(13)
Net cash increase	219	399	341
Cash, cash equivalents and restricted cash at beginning of the period	3,006	2,607	2,266
Cash, cash equivalents and restricted cash at end of the period	3,225	3,006	2,607
Supplemental cash information:			
Interest paid	2	7	13
Income tax paid	279	138	130

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

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 Basis of presentation and consolidation

The Company's consolidated financial statements include the assets, liabilities, results of operations and cash flows of its wholly-owned and majority-owned subsidiaries, after elimination of intercompany transactions and balances. Subsidiaries are fully consolidated from the date on which control is transferred to the Company. They are deconsolidated from the date that control ceases.

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's shareholders is reported in the line "Noncontrolling interest" of the consolidated financial statements.

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's shareholders 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 allowances and returns,

- 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 and liabilities assumed on business acquisitions, and measurement of any contingent consideration,
- annual and trigger-based impairment review of goodwill and intangible assets, as well as the assessment of events which could trigger impairment testing on long-lived assets,
- assessment of the Company's long-lived assets economic useful lives,
- assumptions used in measuring expected credit losses and impairment charges on financial assets,
- 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 settled, hybrid instrument and measurement at fair value of the liability component based on the income approach, and
- determination of the amount of tax 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. COVID-19 pandemic did not result in significant impacts on these 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 incurred in the countries of the Eurozone 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 currencies other than the functional currency are recognized in the line "Other income and expenses, net" of the consolidated statements of income.

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 into U.S. dollars using exchange rates at the balance sheet dates;
- (b) income and expenses for each consolidated statement of income presented are translated into U.S. dollars using the average monthly exchange rates;
- (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 include cash on hand, deposits held at call with external financial institutions and other short-term highly liquid investments with original maturities 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.

Short-term deposits representing cash equivalent with original maturity beyond three months are reported as current assets in the line "Short-term deposits" of 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. The Company uses a lifetime expected losses allowance for all trade receivables. The allowance includes reasonable assumptions about future credit trends. The historical loss rates are adjusted to reflect current and forward-looking information on macroeconomic factors affecting the ability of the Company's customers to settle the receivables. Adjustments to the expected credit losses allowance are reported on the line "Selling, general and administrative" in the consolidated statements of income and write-offs, if any, are recorded against the expected credit losses allowance, consistent with prior guidance.

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 of inventory, by adjusting standard cost to approximate actual manufacturing costs; the cost is therefore dependent on the Company's manufacturing performance. In the case of underutilization of manufacturing facilities, the costs associated with unused capacity are not included in the valuation of inventories but charged directly to cost of sales. Net realizable value is based upon the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation.

The Company performs, on a continuous basis, write-offs of finished products, which have the characteristics of slow-moving, old production dates and technical obsolescence. The Company evaluates its 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 quarters 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. Deferred tax liabilities are not recognized on the initial recognition of goodwill as a result of a business combination. 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 taxable 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 result in any adjustments to the deferred tax asset prior to vesting.

At each reporting date, the Company assesses all significant 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 assessing whether the tax benefit must be recognized. The second step consists in measuring the amount of tax benefit to be recognized on each uncertain tax position. In step 1 (recognition), the Company assesses whether a tax position, based solely on its technical merits, is more likely than not to be sustained upon examination. Only tax positions with a sustainability threshold higher than 50% are recognized. In Step 2 (measurement), the Company determines the amount of recognizable tax benefit. The measurement methodology 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 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 Business combinations and goodwill

The acquisition method of accounting is applied to all business combinations. The identifiable assets acquired, liabilities assumed, and equity instruments issued are measured at acquisition date fair value. Any contingent consideration is recorded at acquisition date fair value and remeasured at each reporting date. Acquisition-related transaction costs and restructuring costs related to the acquired business are expensed as incurred. Acquired in-process research and development (“IPR&D”) is capitalized and recorded as an intangible asset at acquisition date, subject to impairment testing until the research or development is completed. The excess of the consideration transferred over the acquisition-date fair value of the identifiable assets acquired and liabilities assumed, net of related deferred tax impacts, 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 attributable to parent company stockholders. 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, assuming there is no change in control of the subsidiary. In the case of a sale of subsidiary shares, whereby the Company no longer maintains control of the subsidiary, the Company recognizes a gain or loss in earnings.

Goodwill is carried at cost less accumulated impairment losses, if any. Goodwill is not amortized but is tested for impairment at least annually, and more frequently whenever events or changes in circumstances indicate that the carrying amount of goodwill may not be recoverable. Goodwill subject to potential impairment is tested at the reporting unit level. The impairment test determines whether the fair value of each reporting unit under which goodwill is allocated is lower than the total carrying amount of relevant net assets allocated to such reporting unit, including its allocated goodwill. The Company records an impairment loss on goodwill when a reporting unit’s carrying value exceeds its fair value. 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.

2.9 Intangible assets with definite useful lives

Intangible assets subject to amortization include intangible assets purchased from third parties recorded at cost and intangible assets acquired in business combinations initially recorded at fair value. Amortization begins when the intangible asset is available for its intended use. Amortization reflects the pattern in which the asset’s economic benefits are consumed, which usually consists in applying the straight-line method to allocate the cost of the intangible assets over their estimated useful lives.

The carrying value of intangible assets with definite useful lives is evaluated whenever changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized in the line “Impairment, restructuring charges and other related closure costs” of the consolidated statements of income, 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.

Technologies and licenses

Separately acquired technologies and licenses are recorded at historical cost. Technologies and licenses acquired in a business combination are initially recognized at acquisition date fair value. Technologies and licenses have a useful life which usually ranges from 3 to 8 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 of computer software begins when the software is available for its intended use and is calculated using the straight-line method over the estimated useful life, which does not exceed 4 years.

2.10 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 initially recognized at acquisition date fair value. 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

Property, plant and equipment are periodically reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset or a group of assets may 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. At each reporting date or when impairment indicators are identified, the Company also evaluates, and adjusts if appropriate, the assets’ useful lives.

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.

The Company did not hold any significant assets held for sale as of December 31, 2021 and December 31, 2020.

2.11 Leases

A lease contract is a contract, or part of a contract, that conveys the right to control the use of an identified asset for a period of time in exchange for consideration. If a lease is identified, classification between finance or operating is determined at lease commencement. Most leases entered into by the Company are operating leases. Operating lease liabilities are recognized at the present value of the future lease payments at the lease commencement date. The rate implicit in the lease should be used as a discount rate whenever that rate is readily determinable. In most cases, this rate is not readily determinable and therefore, the Company uses its incremental borrowing rate, which is derived from information available at the lease commencement date. The Company considers its recent debt issuances as well as publicly available data for instruments with similar characteristics when calculating its incremental borrowing rates. Operating lease right-of-use assets are based on the corresponding lease liability adjusted for any lease payments made at or before commencement, initial direct costs, and lease incentives.

Right-of-use assets are included in the line "Property, plant and equipment, net" of the consolidated balance sheet. Operating lease liabilities due within one year are included in the line "Other payables and accrued liabilities", while noncurrent operating lease liabilities are included in the line "Other long-term liabilities" of the Company's consolidated balance sheets. Operating lease expenses are recognized in the consolidated statements of income, on a straight-line basis over the lease period and reported as "Cost of sales", "Selling, general and administrative", or "Research and development", according to the intended use of the leased asset.

Certain lease contracts contain options to extend the lease. On these contracts, the Company estimates the lease term by including the extended duration when it is reasonably certain for the Company to exercise that option. In addition, for short term leases, defined as leases with a term of twelve months or less, the Company elected the practical expedient to not recognize an associated lease liability and right-of-use asset. The short-term lease election is made at the commencement date only. Additionally, lease contracts with a sum of lease payments not exceeding \$5,000 are excluded from recognition on the consolidated balance sheet.

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

The Company does not separate lease and non-lease components and instead accounts for each separate lease component and the non-lease components associated with that lease component as a single lease component.

Variable lease payments that depend on an index or a rate are included in the lease payments and are measured using the prevailing index or rate at the measurement date. Changes to index and rate-based variable lease payments are recognized in earnings in the period of the change.

2.12 Loss contingencies

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 has been incurred at the date of the consolidated financial statements and when the amount of the loss can be reasonably estimated.

2.13 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 non-convertible debt, which results in the recognition of a debt discount. In subsequent periods, the Company amortizes the debt discount through earnings in the line "Interest income (expense), net" of the consolidated statements of income, using the effective interest method, based on the contractual maturity

of the debt. The equity component, reported on the line “Additional paid-in capital” of the consolidated statement of equity, is not remeasured. Deferred taxes are recognized on the difference between the carrying amount of the liability component and its tax basis.

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 in 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 non-convertible debt prior to settlement. The reacquired equity component is recorded in equity and reported on the line “Additional paid-in capital” of the consolidated statement of equity.

(b) Bank loans

Bank loans and non-convertible senior bonds are recognized at the amount of cash proceeds received, 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 principal amount 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 method.

2.14 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. 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 changes in actuarial assumptions are recognized in “Accumulated other comprehensive income (loss)” in the consolidated statements of equity and are charged or credited to earnings over the employees’ expected average remaining working lives. 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. Past service costs are recognized in earnings on the line “Other components of pension benefit costs” of the consolidated statements of income if the changes to the pension scheme are not conditional on the employees remaining in service for a specified period (the vesting period).

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.

The service cost component of net periodic benefit costs is presented in the same income statement line as other employee compensation costs arising from services rendered during the period. The other components of the net periodic benefit cost are presented separately, outside operating income, on the line “Other components of pension benefit costs” of the consolidated statements of income. These elements include: interest cost; expected return on plan assets; amortization of transition (asset) obligation; amortization of prior service cost; amortization of net (gain) loss; (gain) loss recognized due to curtailment or settlement and; cost of special termination benefits.

(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 on 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 changes in actuarial assumptions are charged or credited to earnings 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 changes in actuarial assumptions are charged or credited to earnings in the period of the revised estimate. These obligations are valued annually with the assistance of independent qualified actuaries.

(f) Share-based compensation

The Company accounts for stock-based compensation for all stock-based awards granted to senior executives and selected employees, including awards that vest upon the satisfaction of a service condition and awards that vest upon the satisfaction of both a service condition and a performance condition. Both equity awards vest over a three-year service period while performance-based awards also require the Company's attainment of 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. The compensation cost is recorded through earnings with the corresponding amount reported in equity, under "Additional paid-in capital" of the consolidated statements of equity. The compensation cost is calculated based on the number of awards expected to vest, net of an estimated number of awards to be forfeited due to the employees failing to satisfy the service condition or one or more performance conditions. Compensation is recognized only for the awards that ultimately vest.

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.

2.15 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 received.

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 parent company stockholders' equity until the shares are cancelled, reissued, or disposed of.

2.16 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 and distributions to stockholders. In the consolidated financial statements, "Other comprehensive income (loss)" and "Accumulated other comprehensive income" primarily consists of foreign currency translation adjustments, unrealized gains (losses) on debt securities classified as available-for-sale, unrealized gains (losses) on derivatives designated as cash flow hedge and the accounting for defined benefit plans as described in Note 2.14, net of tax.

2.17 Revenue recognition

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 changes in market prices. The Company accrues a provision for price protection based on a rolling historical price trend computed monthly 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 to accommodate a significant change in the selling price. The short outstanding inventory time, 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 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 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 historical and current conditions to form a reasonable estimate of future returns.

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. 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.

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.

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 statements of income. Other revenues also include patent royalty income, sale of scrap materials and manufacturing by-products.

2.18 Public 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, development and other innovation activities, industrialization and local economic development. The conditions to receive government funding may include eligibility restrictions, approval by the European Union authorities, annual budget appropriations, compliance with European Commission regulations, as well as specifications regarding objectives and results. Certain specific contracts include obligations to maintain a minimum level of employment and investment during a certain period. 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, development and other innovative activities, capital investment, and loans.

Funding for research, development and innovative activities is the most common form of funding that the Company receives. This public funding is recorded as “Other income and expenses, net” in the consolidated statements of income. The funding 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.

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. French and Italian tax credits are 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 by offsetting 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 tax, 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 when the discounting effect is deemed to be significant.

The Company receives certain loans, mainly related to large capital investment projects, at preferential interest rates. These loans are reported in the line “Long-term debt” of the consolidated balance sheets.

2.19 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 and development activities is reported as "Research and development" in the consolidated statements of income.

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 2021, 2020 and 2019 were \$14 million, \$12 million and \$17 million, respectively.

2.21 Start-up and phase-out costs

Start-up costs represent costs incurred in the ramp-up phase of the Company's newly integrated manufacturing facilities. 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 the line "Other income and expenses, net" of the consolidated statements of income.

2.22 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. Changes in the fair value of these securities are reported in the consolidated statements of income within "Other income and expenses, net" when these instruments are held within the Company's operating activities. Gains and losses arising from changes in the fair value of securities not related to operating activities are presented in the consolidated statements of income as non-operating elements within "Gain (loss) on financial instruments, net" in the period in which they arise.

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. Loss is immediately recorded in the consolidated statements of income on the line "Gain (loss) on financial instruments, net" 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 non-operating element in the line "Gain (loss) on financial instruments, net" of the consolidated statements of income when the transaction is not related to operating activities.

The fair values of quoted 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.

The Company did not hold any material equity securities as of December 31, 2021 and December 31, 2020.

2.23 Investments in debt securities

The Company did not hold any debt securities classified as held-to-maturity or for which the Company would have elected to apply the fair value option. Debt securities 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 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. An unrealized impairment loss exists when the fair value of the instrument declines below its amortized cost basis. An impairment loss is recognized in earnings, through a direct reduction of the value of the asset, when the Company intends to sell the debt security or when it is more likely than not that the Company will be required to sell the instrument before recovery of the amortized cost basis. Moreover, an impairment loss is recognized in earnings through a credit loss allowance for any portion of the unrealized impairment loss resulting from a credit loss. Impairment losses recognized in the consolidated statements of income are not reversed through earnings.

The fair values of quoted debt 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.

The Company held debt securities as at December 31, 2020, which were classified as available-for-sale and reported on the line “Marketable securities” on the consolidated balance sheet. The Company did not hold debt securities as at December 31, 2021.

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 measured at fair value through earnings.

Cash Flow Hedge

As part of its ongoing operating, investing and financing activities, the Company enters 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 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.

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 substantially 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.

Derivative financial instruments not designated as a hedge

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.

Financial instruments not designated as a hedge 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 these instruments are reported in the consolidated statements of income within "Other income and expenses, net" in the period in which they arise, since the transactions for these instruments occur within the Company's operating activities.

2.25 Recent accounting pronouncements

(a) Accounting pronouncements effective in 2021

In March 2020, the FASB provided optional guidance for a limited period to ease the potential burden in accounting for (or recognizing the effects of) reference rate reform on financial reporting. The guidance provides relief through optional exemptions on the transition away from LIBOR to new reference rates. One optional exemption is to account for a modified contract as a continuation of an existing contract without performing a detailed analysis. Other exemptions are permitted on hedge accounting in order to avoid discontinuance of existing hedge accounting transactions due to modification of critical terms in the hedge relationship. The guidance has been effective since March 12, 2020 and will remain effective through December 31, 2022. The Company is not impacted by the reference rate reform as it does not report any hedging relationship (e.g. hedge of debt instruments) that are directly affected by the interest rate benchmark reform, or any significant financial liabilities indexed to LIBOR or other reference rate to be discontinued.

(b) Accounting pronouncements expected to impact the Company's operations that are not yet effective and have not been early adopted by the Company

In August 2020, the FASB issued new guidance on distinguishing liabilities from equity and EPS, to simplify an issuer's accounting for convertible instruments by eliminating the cash conversion and beneficial conversion feature models in ASC 470-20 that require separate accounting for embedded conversion features. The guidance also simplifies the settlement assessment that issuers perform to determine whether a contract in their own equity qualifies for equity classification. Finally, the guidance requires entities to use in the calculation of the diluted EPS the if-converted method for all convertible instruments and to include the effect of share settlement for instruments that may be settled in cash or shares. The new guidance is effective for public companies for annual periods beginning after December 15, 2021, with early adoption permitted in fiscal years beginning after December 15, 2020. The guidance can be adopted either on a full retrospective basis or by applying the modified retrospective approach, with the impact upon transition recorded in retained earnings for existing instruments outstanding as of the adoption date.

The guidance became effective for the Company on January 1, 2022. The Company adopted the new guidance by applying the modified retrospective method on instruments outstanding at transition date. These instruments correspond solely to the dual-tranche senior unsecured convertible bonds issued on August 4, 2020, which are convertible instruments with cash conversion features in the scope of the new guidance. The impact of the new guidance on the Company's consolidated financial statements is expected to result at adoption date in a \$107 million increase in Long-term debt, to reflect the convertible debt at its \$1,500 million nominal value, less \$6 million of unamortized debt issuance costs, and a \$15 million decrease in Long-term deferred tax liabilities, with a corresponding \$92 million decrease in equity (composed of a \$117 million decrease in Additional paid-in capital and a \$25 million increase in Retained earnings). On subsequent periods, the carrying value of the convertible bonds, reported on the line Long-term debt of the consolidated balance sheet, will be incremented up to its nominal value over the amortization pattern of the \$6 million unamortized debt issuance costs. The Company will also determine the dilutive effect of the convertible bonds by applying the if-converted method

which will result in the fully dilutive effect of the convertible bonds for the total 33,823,660 number of underlying shares.

In November 2021, the FASB issued new guidance on disclosures about government assistance, to increase the transparency in reporting government assistance, including the disclosure of (1) the types of assistance, (2) an entity's accounting for the assistance, and (3) the effect of the assistance on an entity's financial statements. The new guidance is effective for public companies for annual periods beginning after December 15, 2021, with early adoption permitted in fiscal years beginning after December 15, 2020. The guidance became effective for the Company on January 1, 2022, with no significant impact expected since the Company's consolidated financial statements already include specific disclosures about public funding, including: the nature of the grants (e.g. investment and research tax credits, R&D and capital grants); a description of the main programs to which the Company participates; the accounting policies applied to these transactions, and the effect of those transactions on the entity's consolidated financial statements.

3. SHORT-TERM DEPOSITS AND MARKETABLE SECURITIES

To optimize the return yield on its short-term investments, the Company invested \$291 million of available cash in short-term deposits as at December 31, 2021, compared to \$581 million as at December 31, 2020. These short-term deposits represent cash equivalents with original maturity beyond three months and no significant risk of changes in fair value.

Changes in the fair value of marketable securities are detailed in the tables below:

	December 31, 2020	Purchase	Proceeds at maturity	Change in fair value included in OCI*	December 31, 2021
U.S. Treasury debt securities	133	—	(132)	(1)	—
Total	133	—	(132)	(1)	—

* Other Comprehensive Income

	December 31, 2019	Purchase	Proceeds at maturity	Change in fair value included in OCI*	December 31, 2020
U.S. Treasury debt securities	133	—	—	—	133
Total	133	—	—	—	133

* Other Comprehensive Income

As at December 31, 2020, the Company held \$133 million of U.S. Treasury bonds, classified as available-for-sale debt securities, all transferred to a financial institution with high credit quality. These transactions were concluded in compliance with the Company's policy to optimize the return on its short-term interest rate investments, always placed with institutions with high credit rating. The U.S. Treasury bonds were reported as current assets in the line "Marketable securities" of the consolidated balance sheet as at December 31, 2020. In 2021, these marketable securities reached maturity and the related proceeds of \$132 million were reported in the line "Proceeds from matured marketable securities" in the consolidated statement of cash flows for the year ended December 31, 2021.

4. TRADE ACCOUNTS RECEIVABLE, NET

Trade accounts receivable, net consisted of the following:

	December 31, 2021	December 31, 2020
Trade accounts receivable	1,778	1,481
Current expected credit losses allowance ("CECLA")	(19)	(16)
Total	1,759	1,465

The Company uses a lifetime expected losses allowance for all trade receivables based on failure rates, as applied to the gross amounts of trade accounts receivable. The allowance also includes reasonable assumptions about future credit trends. The historical loss rates are adjusted to reflect current and forward-looking information on macroeconomic factors affecting the ability of the Company's customers to settle the receivables. In addition to the factors already embedded in the failure rates, as applied on trade accounts receivable, the Company has identified cyclical and uncertainties around continued growth for the semiconductor industry and its serviceable available market to be the most relevant factors. These macroeconomic factors are weighted into different economic scenarios, in line with estimates and methodologies applied by other business entities, including financial institutions.

On that basis, the changes in reported CECLA for the year ended December 31, 2021 are presented below:

CECLA as at December 31, 2020	(16)
Current-period adjustment to CECLA	(3)
CECLA as at December 31, 2021	(19)

Adjustments to the expected credit losses allowance are reported in the line "Selling, general and administrative" in the consolidated statements of income.

There were no significant write-offs in 2021, 2020 and 2019.

5. INVENTORIES

Inventories consisted of the following:

	December 31, 2021	December 31, 2020
Raw materials	223	175
Work-in-process	1,235	1,120
Finished products	514	546
Total	1,972	1,841

Reserve for obsolescence is estimated for excess uncommitted inventories based on history of sales, backlog of orders and production plans.

6. OTHER CURRENT ASSETS

Other current assets consisted of the following:

	December 31, 2021	December 31, 2020
Receivables from government agencies	296	244
Taxes and other government receivables	119	114
Advances	28	39
Prepayments	90	70
Loans and deposits	8	8
Interest receivable	1	3
Derivative instruments	6	65
Other current assets	33	41
Total	581	584

Derivative instruments are further described in Note 28.

The Company applies a current expected credit losses model on all financial assets measured at amortized cost, including deposits, loans and receivables. The major portion of other current assets to which this model applies corresponds to government receivables. Due to the existing history of zero-default on receivables originated by governments, the expected credit losses are assumed to be not significant as at December 31, 2021 and December 31, 2020. Other current assets presented in the table above within the lines "Loans and deposits" and

“Other current assets” are composed of individually insignificant amounts at exposure of default. Consequently, no significant loss allowance was reported on those current assets as at December 31, 2021 and December 31, 2020.

7. BUSINESS COMBINATIONS

In the first half of 2020, the Company closed the acquisition of French Gallium Nitride (GaN) innovator Exagan. Exagan’s expertise in epitaxy, product development and application know-how broaden and accelerate ST’s power GaN roadmap and business for automotive, industrial and consumer applications. The activities of this business are included in the Automotive and Discrete Group (ADG) reportable segment.

In the second half of 2020, the Company closed the acquisitions of the entire share capital of Ultra Wide Band specialist BeSpoon, of the cellular IoT connectivity assets of Riot Micro and of the radio-frequency assets of SOMOS. With these acquisitions, the Company further strengthens its offer for wireless connectivity in the roadmap for STM32 microcontrollers and secure microcontrollers. The activities of these three businesses are included in the Microcontrollers and Digital ICs Group (MDG) reportable segment.

In 2020, the Company also completed another minor acquisition in the Microcontrollers and Digital ICs Group (MDG) reportable segment.

In 2021, the purchase price allocation of the above business acquisitions was finalized and resulted in the recognition of a \$1 million adjustment related to a defined benefit pension obligation, with the corresponding increase in goodwill. The fair value of the identifiable assets acquired and liabilities assumed was as follows:

	Fair value recognized at acquisition date	Measurement period adjustments	Fair value recognized as a result of acquisition
Property, plant and equipment	1	—	1
Technologies & licenses	108	—	108
Technologies in progress	10	—	10
Other intangible assets	2	—	2
Deferred tax assets	5	—	5
Deferred tax liabilities	(18)	—	(18)
Net working capital	(4)	(1)	(5)
Goodwill ⁽¹⁾	135	1	136
Total net assets at fair value	239	—	239
Purchase consideration	239	—	239

(1) The items that generated goodwill are workforce, synergies, future products and access to new markets. The goodwill is allocated to the ADG and MDG reportable segments as described in Note 8.

The total consideration transferred in relation to the business acquisitions concluded in 2020 after finalization of the purchase price allocation consisted of cash paid of \$104 million, before cash acquired of \$1 million, deferred consideration of \$18 million and contingent consideration of \$117 million. The fair value of the consideration transferred was determined by the Company with the assistance of a third party as part of the preliminary purchase price allocation. The contingent consideration comprised variable payment components contingent upon meeting certain financial and/or technical targets by the acquired businesses. The fair value measurement of the acquisition-date contingent consideration was based on the probability that the milestones defining the variable components of the consideration will be achieved and was estimated by calculating the present value of the future expected cash flows.

Deferred and contingent consideration recognized on business combinations amounted to \$19 million and \$77 million as at December 31, 2021 compared to \$20 million and \$123 million as at December 31, 2020. The fair value measurement of the contingent consideration corresponds to a Level 3 fair value hierarchy measurement and is further described in Note 28.

The amount paid of \$103 million for the above-mentioned business combinations was reported in the line “Payment for business acquisitions, net of cash acquired” in the consolidated statement of cash flows for the year ended December 31, 2020.

8. GOODWILL

Goodwill allocated to reportable segments as at December 31, 2021 and 2020 and changes in the carrying amount of goodwill during the years ended December 31, 2021 and 2020 are as follows:

	ADG	AMS	MDG	Total
December 31, 2019	43	2	117	162
Business combination	24	—	111	135
Measurement period adjustment	14	—	—	14
Foreign currency translation	10	—	9	19
December 31, 2020	91	2	237	330
Measurement period adjustment	—	—	1	1
Foreign currency translation	(8)	—	(10)	(18)
December 31, 2021	83	2	228	313

As described in Note 7, changes in the carrying amount of goodwill in 2021 include a \$1 million increase related to the acquisition of Riot Micro following the finalization of the purchase price allocation in 2021.

The acquisition concluded in 2020 resulted in the recognition of goodwill totalling \$135 million, allocated to ADG and MDG reportable segments. In addition, changes in the carrying amount of goodwill in 2020 include a \$14 million increase related to a business acquisition concluded in 2019 following the finalization of the purchase price allocation in 2020.

In 2021, 2020 and 2019, no impairment loss was recorded by the Company.

9. OTHER INTANGIBLE ASSETS, NET

Other intangible assets, net consisted of the following:

	Gross Amount	Accumulated Amortization	Net Amount
December 31, 2021			
Technologies & licenses	978	(675)	303
Purchased & internally developed software	567	(485)	82
Technologies in progress	52	—	52
Other intangible assets	72	(71)	1
Total	1,669	(1,231)	438
December 31, 2020			
Technologies & licenses	934	(623)	311
Purchased & internally developed software	537	(461)	76
Technologies in progress	56	—	56
Other intangible assets	72	(70)	2
Total	1,599	(1,154)	445

The line “Technologies in progress” in the table above also includes internally developed software under construction and software not ready for their intended use.

Amortization expense related to intangible assets subject to amortization was \$93 million, \$79 million and \$69 million for the years ended December 31, 2021, 2020 and 2019, respectively.

Estimated future amortization expense related to intangible assets as at December 31, 2021 is as follows:

Year	
2022	106
2023	92
2024	78
2025	55
2026	34
Thereafter	73
Total	438

In 2021, 2020 and 2019, the Company impaired \$1 million, \$4 million and \$4 million, respectively, of acquired licenses and technologies with no alternative future use.

10. PROPERTY, PLANT AND EQUIPMENT, NET

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

December 31, 2021	Gross Amount	Accumulated Depreciation	Net Amount
Land	84	—	84
Buildings	951	(562)	389
Facilities & leasehold improvements	3,490	(2,936)	554
Machinery and equipment	17,085	(13,786)	3,299
Computer and R&D equipment	395	(333)	62
Operating lease right-of-use assets	314	(114)	200
Other tangible assets	147	(97)	50
Construction in progress	1,022	—	1,022
Total	23,488	(17,828)	5,660

December 31, 2020	Gross Amount	Accumulated Depreciation	Net Amount
Land	86	—	86
Buildings	995	(567)	428
Facilities & leasehold improvements	3,545	(3,038)	507
Machinery and equipment	16,689	(13,859)	2,830
Computer and R&D equipment	402	(347)	55
Operating lease right-of-use assets	290	(99)	191
Other tangible assets	118	(99)	19
Construction in progress	480	—	480
Total	22,605	(18,009)	4,596

The line “Construction in progress” in the table above includes property, plant and equipment under construction and equipment under qualification before operating and not ready for their intended use.

The depreciation charge was \$952 million, \$844 million and \$785 million in 2021, 2020 and 2019, respectively.

Tax incentives and capital investment funding reported as a reduction of capital expenditures totaled \$13 million, \$10 million and \$54 million for the years ended December 31, 2021, 2020 and 2019, respectively. Tax incentives and public funding reduced depreciation charges by \$61 million, \$59 million and \$53 million in 2021, 2020 and 2019, respectively.

For the years ended December 31, 2021, 2020 and 2019 the Company sold property, plant and equipment for cash proceeds of \$2 million, \$4 million and \$7 million, respectively.

There was no impairment recognized for the years ended December 31, 2021 and 2020. For the year ended December 31, 2019, the Company recorded impairment charges of \$3 million on long-lived assets.

11. LEASES

The Company leases land, buildings, cars and certain equipment (including IT equipment) which have remaining lease terms between less than one year and 48 years. As at December 31, 2021 and December 31, 2020, finance lease right-of-use assets were less than \$1 million. The below information is thus presented for operating leases only.

Operating leases consisted of the following:

	December 31, 2021	December 31, 2020
Assets		
Right-of-use assets	200	191
Total right-of-use assets	200	191
Lease liabilities		
Current	55	54
Non-current	148	142
Total lease liabilities	203	196

Maturities of operating lease liabilities are as follows:

	December 31, 2021
2022	59
2023	46
2024	30
2025	18
2026	13
Thereafter	84
Total future undiscounted cash outflows	250
Effect of discounting	(47)
Total operating lease liabilities	203

Operating lease term and discount rate are as follows:

	December 31, 2021	December 31, 2020
Weighted average remaining lease term (in years)	9.38	9.01
Weighted average discount rate	2.69%	2.71%

Operating lease cost and cash paid are as follows:

	2021	2020
Operating lease cost	68	65
Operating lease cash paid	67	65

Right-of-use assets obtained in exchange for new operating lease liabilities are as follows:

	2021	2020
Operating leases	80	40

12. LONG-TERM INVESTMENTS

	December 31, 2021	December 31, 2020
Long-term investments	10	10
Total	10	10

Long-term investments are equity securities with no readily determinable fair value for which the Company has elected to apply the cost method as a measurement alternative. It includes principally the Company's investment in DNP Photomask Europe S.p.A ("DNP"). The Company has identified DNP as a VIE but has determined that it is not the primary beneficiary. The significant activities of DNP revolve around creation of masks and development of high level mask technology. The Company does not have the power to direct these activities. The Company's current maximum exposure to losses as a result of its involvement with DNP is limited to its investment. The Company has not provided additional financial support to DNP in 2021 and 2020 and has no current requirement or intent to provide further financial support to DNP.

13. OTHER NON-CURRENT ASSETS

Other non-current assets consisted of the following:

	December 31, 2021	December 31, 2020
Equity securities	29	25
Long-term State receivables	506	623
Defined benefit plans	15	4
Deposits and other non-current assets	89	72
Total	639	724

Long-term State receivables include receivables related to funding and receivables related to tax refunds. Funding are mainly public grants to be received from governmental agencies in Italy and France as part of long-term research, development, innovation, industrialization and capital investment projects. Long-term receivables related to tax refund correspond to tax benefits claimed by the Company in certain of its local tax jurisdictions, for which collection is expected beyond one year.

In 2021 and 2020, the Company entered into factoring transactions to accelerate the realization in cash of certain long-term receivables. The Company sold without recourse \$118 million and \$96 million of these receivables in the years ended December 31, 2021 and 2020 respectively, with a financial cost of less than \$1 million for both years.

The major portion of other non-current assets to which the expected credit loss model applies are long-term State receivables. Due to the existing history of zero-default on receivables originated by governments, the expected credit losses are assumed to be negligible as at December 31, 2021, and December 31, 2020. Other non-current assets presented in the table above on the line "Deposits and other non-current assets" are composed of individually insignificant amounts not deemed to have exposure of default. Consequently, no significant expected credit loss allowance was reported on other non-current assets at reporting date.

14. OTHER PAYABLES AND ACCRUED LIABILITIES

Other payables and accrued liabilities consisted of the following:

	December 31, 2021	December 31, 2020
Employee related liabilities	536	475
Employee compensated absences	181	164
Taxes other than income taxes	58	58
Advances	59	75
Derivative instruments	43	2
Defined benefit and contribution plans	34	32
Royalties	29	24
Current operating lease liabilities	55	54
Deferred and contingent consideration on business combinations	27	—
Others	79	82
Total	1,101	966

Derivative instruments are further described in Note 28.

Defined benefit and defined contribution plans and other long-term employee benefits are further described in Note 16.

Lease liabilities are described in Note 11.

Deferred and contingent consideration related to business acquisitions are further described in Note 28.

15. LONG-TERM DEBT

Long-term debt consisted of the following:

	December 31, 2021	December 31, 2020
Funding program loans from European Investment Bank ("EIB"):		
0.73% due 2021, floating interest rate at Libor + 0.525%	—	30
0.75% due 2021, floating interest rate at Libor + 0.572%	—	29
0.06% due 2028, floating interest rate at Euribor + 0.589%	202	250
0.05% due 2029, floating interest rate at Euribor + 0.564%	222	270
0.06% due 2031, floating interest rate at Euribor + 0.583%	379	—
0.15% due 2031, floating interest rate at Euribor + 0.660%	187	—
Credit Facility from Cassa Depositi e Prestiti SpA ("CDP")		
0.15% due 2027, floating interest rate at Euribor + 0.690%	156	—
Dual tranche senior unsecured convertible bonds		
0.25% due 2024 (Tranche B)	—	674
Zero-coupon, due 2025 (Tranche A)	713	703
Zero-coupon, due 2027 (Tranche B)	674	661
Other funding program loans:		
0.37% (weighted average), due 2021-2028, fixed interest rate	6	4
Total long-term debt	2,539	2,621
Less current portion	(143)	(795)
Total long-term debt, less current portion	2,396	1,826

Long-term debt is denominated in the following currencies:

	December 31, 2021	December 31, 2020
U.S. dollar	1,387	2,097
Euro	1,152	524
Total	2,539	2,621

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

The call option available to the Company for the early redemption of Tranche A was exercised in July 2020. As a consequence, bondholders exercised their conversion rights on Tranche A. As the Company elected to net share settle the bonds, each conversion exercised by the bondholders followed the process defined in the original terms and conditions of the senior unsecured convertible bonds, which determined the actual number of shares to be transferred upon each conversion. The Company settled the bonds upon conversion, by redeeming through cash the \$750 million principal amount, and by settling the residual consideration through the delivery of 11.4 million treasury shares. The Company 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 0.8%, which approximated current market rates for similar bonds with no conversion rights. The fair value of the liability component as measured prior to extinguishment was \$739 million for Tranche A, which generated a loss amounting to \$25 million reported on the line "Loss on financial instruments, net" in the consolidated statement of income for the year ended December 31, 2020.

The call option available to the Company for the early redemption of Tranche B was exercised in July 2021. As a consequence, bondholders exercised their conversion rights on the full Tranche B. Each conversion exercised by the bondholders followed the process defined in the original terms and conditions of the convertible bonds, which determined the actual consideration to be transferred to bondholders upon each conversion. Out of the 3,750 bonds composing Tranche B, the Company elected to settle 1,238 bonds on a net-share basis for a total consideration of \$479 million, through the payment of the \$248 million nominal value in cash and the delivery of approximately 5.8 million treasury shares. The remaining 2,512 bonds were settled on a full cash basis for a total consideration of \$1,015 million. The Company 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 1.1%, which approximated current market rates for similar bonds that have no conversion rights. The fair value of the liability component as measured prior to extinguishment was \$689 million for the full Tranche B, which generated a loss amounting to \$44 million, in addition to \$1 million write-off of unamortized debt issuance costs, reported on the line "Loss on financial instruments, net" in the consolidated statement of income for the year ended December 31, 2021.

On August 4, 2020, the Company issued a \$1.5 billion principal amount of dual tranche senior unsecured convertible bonds (Tranche A and Tranche B for \$750 million each tranche), due 2025 and 2027, respectively. Tranche A bonds were issued at 105.8% as zero-coupon bonds while Tranche B bonds were issued at 104.5% as zero-coupon bonds. The conversion price at issuance was \$43.62 for Tranche A equivalent to a 47.5% conversion premium and \$45.10 for Tranche B, equivalent to a 52.5% conversion premium. These conversion features correspond to an equivalent of 4,585 shares per each Tranche A bond \$200,000 par value and an equivalent of 4,435 shares per each Tranche B bond \$200,000 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 \$1,567 million, after deducting issuance costs paid by the Company. 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 \$1,362 million before allocation of issuance costs and deferred tax effect and was estimated by calculating the present value of cash flows using a discount rate of 1.30% and 1.85%, 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 \$215 million, before allocation of \$1 million issuance costs and \$30 million deferred tax effect, was recorded in equity as the value of the conversion features of the instruments.

Unamortized debt discount and issuance costs on the issued convertible debt totaled \$113 million as at December 31, 2021. As at December 31, 2021, the Company stock price exceeded the conversion price of both Tranches.

Aggregate future maturities of total long-term debt (including current portion) at principal amount are as follows:

	December 31, 2021
2022	143
2023	143
2024	143
2025	893
2026	142
Thereafter	1,188
Total	2,652

The difference between the total aggregated future maturities in the preceding table and the total carrying amount of long-term debt is due to unamortized debt discount and issuance costs on the dual tranche senior unsecured convertible bonds.

Credit facilities

The Company's long-term debt contained standard conditions but does not impose minimum financial ratios. The Company had unutilized committed medium-term credit facilities with core relationship banks totalling \$910 million as at December 31, 2021.

The EIB Loans were comprised of two long-term amortizing credit facilities as part of R&D funding programs. The first one, signed in August 2017, is a €500 million loan in relation to R&D and capital expenditures in the European Union for the years 2017 and 2018. The entire amount was fully drawn in Euros corresponding to \$424 million outstanding as at December 31, 2021. The second one, signed in 2020, is a €500 million credit facility agreement with EIB to support R&D and capital expenditure programs in Italy and France. It was fully drawn in 2021, representing \$566 million outstanding as at December 31, 2021.

In June 2021, the Company signed a new Facility Agreement with CDP for an amount of €150 million, fully drawn in Euros, of which \$156 million was outstanding as at December 31, 2021.

16. POST-EMPLOYMENT AND OTHER LONG-TERM EMPLOYEES BENEFITS

The Company and its subsidiaries have a number of defined benefit pension plans, mainly unfunded, and other long-term employees' benefits covering employees in various countries. The defined benefit plans provide pension benefits based on years of service and employee compensation levels. The other long-term employees' plans provide benefits due during the employees' period of service after certain seniority levels. The Company uses December 31 as measurement date for its plans. Eligibility is generally determined in accordance with local statutory requirements. For Italian termination indemnity plan ("TFR"), generated before July 1, 2007, the Company measures the vested benefits to which Italian employees are entitled as if the amounts were immediately due as at December 31, 2021, in compliance with U.S. GAAP guidance on determining vested benefit obligations for defined benefit pension plans.

The changes in benefit obligation and plan assets were as follows:

	Pension Benefits		Other Long-Term Benefits	
	December 31, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Change in benefit obligation:				
Benefit obligation at beginning of year	1,216	1,036	101	88
Service cost	36	31	13	11
Interest cost	21	21	1	1
Employee contributions	4	4	—	—
Plan amendments	—	1	—	—
Benefits paid	(25)	(13)	(5)	(11)
Effect of settlement	(8)	(2)	—	—
Business combination	3	—	—	—
Actuarial (gain) loss	(48)	83	—	3
Foreign currency translation and other adjustments	(34)	55	(16)	9
Benefit obligation at end of year	1,165	1,216	94	101
Change in plan assets:				
Plan assets at fair value at beginning of year	718	597	—	—
Actual return on plan assets	32	84	—	—
Employer contributions	17	17	—	—
Employee contributions	4	4	—	—
Benefits paid	(12)	(3)	—	—
Effect of settlement	(8)	—	—	—
Business combination	2	—	—	—
Foreign currency translation and other adjustments	(10)	19	—	—
Plan assets at fair value at end of year	743	718	—	—
Funded status	(422)	(498)	(94)	(101)

The actuarial gains in 2021 were primarily due to an increase in discount rates applied against future expected benefit payments and resulted in a decrease of the benefit obligation mainly for the plans located in France, in the United Kingdom and in the United States. The actuarial losses incurred during 2020 were primarily due to a decrease in discount rates applied against future expected benefit payments and resulted in an increase of the benefit obligation mainly for the plans located in the United Kingdom and in the United States.

Net amount recognized in the consolidated balance sheets consisted of the following:

	Pension Benefits		Other Long-Term Benefits	
	December 31, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Non-current assets	15	4	—	—
Current liabilities	(11)	(9)	(4)	(4)
Long-term liabilities	(426)	(493)	(90)	(97)
Net amount recognized	(422)	(498)	(94)	(101)

The components of accumulated other comprehensive loss (income) before tax effects were as follows:

	Actuarial (gains)/losses	Prior service cost	Total
Accumulated other comprehensive loss as at December 31, 2019	197	3	200
Net amount generated/arising in current year	21	1	22
Amortization	(13)	(1)	(14)
Foreign currency translation adjustment	11	—	11
Accumulated other comprehensive loss as at December 31, 2020	216	3	219
Net amount generated/arising in current year	(56)	—	(56)
Amortization	(12)	(1)	(13)
Foreign currency translation adjustment	(6)	—	(6)
Accumulated other comprehensive loss as at December 31, 2021	142	2	144

The accumulated benefit obligations were as follows:

	Pension Benefits		Other Long-Term Benefits	
	December 31, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Accumulated benefit obligations	1,004	1,053	79	83

For pension plans and other long-term benefits with accumulated benefit obligations in excess of plan assets, the accumulated benefit obligation and fair value of plan assets were \$528 million and \$134 million, respectively, as at December 31, 2021 and \$773 million and \$327 million, respectively, as at December 31, 2020.

For pension plans with projected benefit obligations in excess of plan assets, the benefit obligation and fair value of plan assets were \$1,030 million and \$499 million, respectively, as at December 31, 2021 and \$1,177 million and \$675 million, respectively, as at December 31, 2020.

The components of the net periodic benefit cost included the following:

	Pension Benefits			Other Long-term Benefits		
	Year ended December 31, 2021	Year ended December 31, 2020	Year ended December 31, 2019	Year ended December 31, 2021	Year ended December 31, 2020	Year ended December 31, 2019
Service cost	36	31	27	13	11	5
Interest cost	21	21	24	1	1	1
Expected return on plan assets	(24)	(23)	(22)	—	—	—
Amortization of actuarial net loss (gain)	12	12	10	—	3	7
Amortization of prior service cost	1	1	1	—	—	—
Effect of settlement	—	1	3	—	—	—
Net periodic benefit cost	46	43	43	14	15	13

Pension benefits components other than service cost, recognized outside of Operating income in "Other components of pension benefit costs" in the Company's consolidated statements of income, were \$10 million, \$12 million and \$16 million in the years ended December 31, 2021, 2020 and 2019, respectively.

The weighted average assumptions used in the determination of the benefit obligation and the plan assets for the pension plans and the other long-term benefits were as follows:

Assumptions	2021	2020
Discount rate	1.84%	1.45%
Salary increase rate	2.27%	2.43%
Expected long-term rate of return on funds for the pension expense of the following year	3.19%	3.44%

The weighted average assumptions used in the determination of the net periodic benefit cost for the pension plans and the other long-term benefits were as follows:

Assumptions	2021	2020	2019
Discount rate	1.45%	1.95%	2.75%
Salary increase rate	2.43%	2.48%	2.32%
Expected long-term rate of return on funds for the pension expense of the year	3.44%	4.04%	4.16%

The discount rate was determined by reference to market yields on high quality long-term corporate bonds applicable to the respective country of each plan, with terms consistent with the terms of the benefit obligations. In developing the expected long-term rate of return on assets, the Company modelled the expected long-term rates of return for broad categories of investments held by the plan against a number of various potential economic scenarios.

The Company's pension plan asset allocation as at December 31, 2021 and December 31, 2020 is as follows:

Asset Category	Percentage of Plan Assets at December	
	2021	2020
Cash and cash equivalents	1%	1%
Equity securities	17%	23%
Government debt securities	12%	12%
Corporate debt securities	22%	15%
Investments in funds ^(a)	21%	21%
Real estate	1%	2%
Other (mainly insurance assets – contracts and reserves)	26%	26%
Total	100%	100%

(a) As at December 31, 2021, investments in funds were composed of commingled and multi-strategy funds invested in diversified portfolios of fixed income (73%) - mainly corporate bonds, equity (15%) and other instruments (12%). As at December 31, 2020, investments in funds were composed of commingled and multi-strategy funds invested in diversified portfolios of fixed income (72%) - mainly corporate bonds, equity (13%) and other instruments (15%).

As at December 31, 2021, the Company's plan asset allocation was in line with the targets set for each plan.

The Company's detailed pension plan asset allocation including the fair-value measurements of those plan assets as at December 31, 2021 is as follows:

	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash and cash equivalents	5	5	—	—
Equity securities	130	2	128	—
Government debt securities	87	—	87	—
Corporate debt securities	164	—	139	25
Investment funds	156	1	155	—
Real estate	10	—	10	—
Other (mainly insurance assets – contracts and reserves)	191	—	49	142
TOTAL	743	8	568	167

The Company's detailed pension plan asset allocation including the fair-value measurements of those plan assets as at December 31, 2020 is as follows:

	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash and cash equivalents	4	4	—	—
Equity securities	167	2	165	—
Government debt securities	86	—	86	—
Corporate debt securities	105	—	81	24
Investment funds	153	3	150	—
Real estate	11	—	11	—
Other (mainly insurance assets – contracts and reserves)	192	—	54	138
TOTAL	718	9	547	162

The fair value of insurance contracts is based on the value of the assets held by the provider. The approach is consistent with prior years.

For plan assets measured at fair value using significant unobservable inputs (Level 3), the reconciliation between January 1, 2021 and December 31, 2021 is presented as follows:

	Fair Value Measurements using Significant Unobservable Inputs (Level 3)
January 1, 2021	162
Contributions (employer and employee)	15
Actual return on plan assets	2
Net benefit payments (a)	1
Settlements	(8)
Foreign currency translation adjustment	(5)
December 31, 2021	167

(a) Net cash flows between benefits paid from the insurance contracts and benefits transferred into the insurance contracts by employees.

For plan assets measured at fair value using significant unobservable inputs (Level 3), the reconciliation between January 1, 2020 and December 31, 2020 is presented as follows:

	Fair Value Measurements using Significant Unobservable Inputs (Level 3)
January 1, 2020	113
Contributions (employer and employee)	14
Actual return on plan assets	2
Net benefit payments (a)	11
Settlements	—
Transfer in Level 3	10
Foreign currency translation adjustment	12
December 31, 2020	162

(a) Net cash flows between benefits paid from the insurance contracts and benefits transferred into the insurance contracts by employees.

The Company's investment strategy for its pension plans is to optimize the long-term investment return on plan assets in relation to the liability structure to maintain an acceptable level of risk while minimizing the cost of providing pension benefits and maintaining adequate funding levels in accordance with applicable rules in each jurisdiction. The Company's practice is to periodically conduct a review of its asset allocation strategy, in such a way that the asset allocation is in line with the targeted asset allocation within reasonable boundaries. The Company's asset portfolios are managed in such a way as to achieve adapted diversity. The Company does not manage any assets internally.

After considering the funded status of the Company's defined benefit plans, movements in the discount rate, investment performance and related tax consequences, the Company may choose to make contributions to its pension plans in any given year in excess of required amounts. The Company's contributions to plan assets were \$17 million in 2021 and \$17 million in 2020 and the Company expects to contribute \$26 million to plan assets in 2022.

The Company's estimated future benefit payments as at December 31, 2021 are as follows:

Years	Pension Benefits	Other Long-term Benefits
2022	38	5
2023	39	4
2024	48	7
2025	57	9
2026	67	8
From 2027 to 2031	299	41

The Company has certain defined contribution plans, which accrue benefits for employees on a pro-rata basis during their employment period based on their individual salaries. The Company's accrued benefits related to defined contribution pension plans for \$23 million as at December 31, 2021 and \$23 million as at December 31, 2020. The annual cost of these plans amounted to approximately \$101 million in 2021, \$91 million in 2020 and \$86 million in 2019.

17. OTHER LONG-TERM LIABILITIES

Other long-term liabilities consisted of the following:

	December 31, 2021	December 31, 2020
Non-current operating lease liabilities	148	142
Contingent consideration on business combinations	70	123
Deferred consideration	—	20
Other long-term employee benefits	90	97
Long-term liability related to public funding	44	42
Others	64	64
Total	416	488

Lease liabilities are described in Note 11.

Deferred and contingent consideration related to business acquisitions are further described in Note 7 and Note 28.

Other long-term employee benefits are described in Note 16.

Long-term liability related to public funding corresponded to grants received mainly as part of the Nano2017 program with the French government, which is subject to a financial return and depends on future cumulative sales. Public funding is further described in Note 21.

Other long-term liabilities also include individually insignificant amounts as at December 31, 2021 and December 31, 2020, presented cumulatively in the line “Others”.

18. SHAREHOLDERS’ EQUITY**18.1 Outstanding shares**

The authorized share capital of the Company is Euro 1,810 million consisting of 1,200,000,000 common shares and 540,000,000 preference shares, each with a nominal value of €1.04. As at December 31, 2021 the number of shares of common stock issued was 911,276,920 shares (911,239,420 at December 31, 2020).

As at December 31, 2021, the number of shares of common stock outstanding was 906,518,057 (905,415,002 at December 31, 2020).

18.2 Preference shares

The 540,000,000 preference shares, when issued, will entitle a holder to full voting rights and to a preferential right to dividends and distributions upon liquidation.

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

There were no preference shares issued as at December 31, 2021 and December 31, 2020 respectively.

18.3 Treasury stock

As at December 31, 2021, the Company owned 4,758,863 shares classified as treasury stock in the consolidated statement of equity compared to 5,824,418 shares as at December 31, 2020.

The treasury shares have been originally designated for allocation under the Company's share-based remuneration programs. As at December 31, 2021, 67,933,213 of these treasury shares were transferred to employees under the Company's share-based remuneration programs, of which 7,448,615 in the year ended December 31, 2021.

In 2021, the Company completed its buy-back program announced on November 5, 2018 by the repurchase of approximately 8.3 million shares of its common stock for a total of \$313 million, reflected at cost, as a reduction of the parent company stockholders' equity.

On July 1, 2021, the Company announced the launch of a share buy-back program of up to \$1,040 million to be executed within a three-year period. The Company intends to carry out the buy-back program, and hold the shares bought back as treasury stock for the purpose of meeting the Company's obligations in relation to its employee stock award plans and to support the potential settlement of its outstanding convertible debt. In 2021, as part of the share buy-back program announced on July 1, 2021, the Company repurchased approximately 3.9 million shares of its common stock for a total amount of \$172 million.

As described in Note 15, bondholders exercised in 2021 their conversion rights on full Tranche B of the senior unsecured convertible bonds issued on July 3, 2017. Out of the 3,750 bonds composing Tranche B, the Company elected to settle 1,238 bonds on a net-share basis through the delivery of approximately 5.8 million treasury shares. In 2020, bondholders exercised their conversion rights on Tranche A of the senior unsecured convertible bonds issued on July 3, 2017, which the Company elected to net-share settle. The full settlement of Tranche A resulted in 11.4 million shares delivered to bondholders.

18.4 Unvested share awards for the Supervisory Board

On an annual basis and until the year 2012, the Compensation Committee (on behalf of the Supervisory Board and with its approval) used to grant stock-based awards (options to acquire common shares of the Company) to the members and professionals of the Supervisory Board ("The Supervisory Board Plan"). The awards were granted at the nominal value of the share of €1.04 (exercise price of the option). The options granted under the Supervisory Board Plan vest and become exercisable immediately, while the shares resulting from these awards vest and therefore become available for trade evenly over three years (one third every year), with no market, performance or service conditions.

At the Company's Annual General Meeting of Shareholders held on June 21, 2013, it was resolved to abolish and terminate the stock-based compensation for the Supervisory Board members and professionals.

The table below summarizes grants under the outstanding stock award plans, as authorized by the Compensation Committee:

<u>Year of grant</u>	<u>Options granted</u>	<u>Options waived at grant</u>
2011	172,500	(30,000)
2012	180,000	(22,500)
Since 2013	No options granted	

A summary of the options' activity by plan for the years ended December 31, 2021 and December 31, 2020 is presented below:

Year of grant	Outstanding as of December 31, 2019	Exercised	Expired / Cancelled	Outstanding as of December 31, 2020	Exercised	Expired / Cancelled	Outstanding as of December 31, 2021
2011	45,000	(37,500)	—	7,500	(7,500)	—	—
2012	65,000	(15,000)	—	50,000	(30,000)	—	20,000

The total intrinsic value of options exercised during the year 2021 amounted to \$2 million, compared to \$2 million in 2020 and \$1 million in 2019. The total intrinsic value of options outstanding as at December 31, 2021 and December 31, 2020 amounted to \$1 million and \$2 million, respectively.

18.5 Unvested share awards for the employees

On an annual basis, the Compensation Committee (on behalf of the Supervisory Board and with its approval) grants stock-based awards to the senior executives along with selected employees (the "Employee Plan"). The awards are granted for services under the Employee Plan. There are two types of unvested shares: (1) shares granted to employees, which are subject only to service conditions and vest over the requisite service period, and (2) shares granted to senior executives, whose vesting is subject to performance conditions. For the plans 2018, 2019 and 2020, the performance conditions consisted of two external targets (sales evolution and operating income compared to a basket of competitors) weighting for two thirds of the total number of awards granted and of one internal target (return on net assets compared to the previous period), weighting for one third of the total number of awards granted. For the plan 2021, the performance conditions consisted of two external targets (sales evolution and operating income compared to a basket of competitors) weighting for two thirds of the total number of awards granted and of one internal target (Company's sustainability and diversity performance), weighting for one third of the total number of awards granted. All the awards vest over a three-year service period (32% as of the first anniversary of the grant, 32% as of the second anniversary of the grant and 36% as of the third anniversary of the grant). In addition, for each of the years 2019 and 2020, a Special Bonus was granted to the Company's CEO.

The table below summarizes grants under the outstanding stock award plans in 2021, as authorized by the Compensation Committee:

Date of grant	Plan name	Number of shares granted	Number of shares waived	Number of shares lost on performance conditions
July 24, 2018	2018 Employee Plan	7,552,410	—	—
December 20, 2018	2018 Employee Plan	443,200	—	—
May 23, 2019	2019 CEO Special Bonus	34,960	—	—
July 24, 2019	2019 Employee Plan	7,752,940	—	(1,161,966)
December 26, 2019	2019 Employee Plan	246,750	—	(17,013)
June 17, 2020	2020 CEO Special Bonus	16,000	—	—
July 23, 2020	2020 Employee Plan	7,437,580	—	—
December 24, 2020	2020 Employee Plan	562,350	—	—
July 28, 2021	2021 Employee Plan	6,327,205	—	(*)
December 21, 2021	2021 Employee Plan	213,270	—	(*)

(*) As at December 31, 2021, a final determination by the Compensation Committee of the Supervisory Board of the achievement of the performance conditions had not been made yet.

A summary of the unvested share activity by plan for the year ended December 31, 2021 is presented below:

Unvested Shares	Unvested as at December 31, 2020	Granted	Forfeited / waived	Vested	Unvested as at December 31, 2021
2018 Employee Plan	2,718,685	—	(8,235)	(2,710,450)	—
2019 CEO Special Bonus	23,306	—	—	(11,654)	11,652
2019 Employee Plan	4,575,120	—	(46,062)	(2,172,659)	2,356,399
2020 CEO Special Bonus	—	16,000	—	(5,333)	10,667
2020 Employee Plan	7,970,945	—	(97,860)	(2,547,419)	5,325,666
2021 Employee Plan	—	6,540,475	(41,870)	(1,100)	6,497,505
Total	15,288,056	6,556,475	(194,027)	(7,448,615)	14,201,889

The grant date weighted average fair value of unvested shares granted to employees under the 2018 Employee Plan was \$22.78. On March 27, 2019, the Compensation Committee approved the statement that with respect to the shares subject to performance conditions, all three performance conditions were fully met. Consequently, the compensation expense recorded on the 2018 Employee Plan reflects the statement that – for the portion of shares subject to performance conditions – 100% of the awards granted will fully vest, as far as the service condition is met.

The grant date fair value of unvested shares granted to the CEO under the 2019 CEO Special Bonus Plan was \$14.97. On the 2019 CEO Special Bonus Plan, the fair value of the unvested shares granted reflected the market price of the shares at the date of the grant.

The grant date weighted average fair value of unvested shares granted to employees under the 2019 Employee Plan was \$19.28. On March 25, 2020, the Compensation Committee approved the statement that with respect to the shares subject to performance conditions, two performance conditions were fully met. Consequently, the compensation expense recorded on the 2019 Employee Plan reflects the statement that – for the portion of shares subject to performance conditions – two thirds of the awards granted will fully vest, as far as the service condition is met.

The grant date fair value of unvested shares granted to the CEO under the 2020 CEO Special Bonus Plan was \$26.64. On the 2020 CEO Special Bonus Plan, the fair value of the unvested shares granted reflected the market price of the shares at the date of the grant.

The grant date weighted average fair value of unvested shares granted to employees under the 2020 Employee Plan was \$30.17. On March 24, 2021, the Compensation Committee approved the statement that with respect to the shares subject to performance conditions, all three performance conditions were fully met. Consequently, the compensation expense recorded on the 2020 Employee Plan reflects the statement that – for the portion of shares subject to performance conditions – 100% of the awards granted will fully vest, as far as the service condition is met.

The grant date weighted average fair value of unvested shares granted to employees under the 2021 Employee Plan was \$39.20. Moreover, for the portion of the shares subject to performance conditions (3,063,585 shares) the Company estimated the number of awards expected to vest by assessing the probability of achieving the performance conditions. As at December 31, 2021, a final determination by the Compensation Committee of the Supervisory Board of the achievement of the performance conditions had not been made yet by the Compensation Committee of the Supervisory Board. The Company estimated that two thirds of the awards subject to performance conditions were expected to vest. Consequently, the compensation expense recorded for the 2021 Employee Plan reflects the vesting of the two thirds of the awards granted with performance conditions, subject to the service condition being met. The assumption of the expected number of awards to be vested upon achievement of the performance conditions is subject to changes based on the final measurement of the conditions, which is expected to occur in the first half of 2022.

The following table illustrates the classification of pre-payroll tax and social contribution stock-based compensation expense included in the consolidated statements of income for the years ended December 31, 2021, 2020 and 2019:

	December 31, 2021	December 31, 2020	December 31, 2019
Cost of sales	34	25	22
R&D	70	51	46
SG&A	117	79	77
Total pre-payroll tax and social contribution compensation	221	155	145

The fair value of the shares that vested in 2021 was \$181 million compared to \$141 million in 2020 and \$114 million in 2019.

Compensation cost, excluding payroll tax and social contribution, capitalized as part of inventory was \$9 million as at December 31, 2021, compared to \$6 million as at December 31, 2020 and \$6 million as at December 31, 2019. As at December 31, 2021, there was \$214 million of total unrecognized compensation cost related to the grant of unvested shares, which is expected to be recognized over a weighted average period of approximately 9 months.

The total deferred income tax benefit recognized in the consolidated statements of income related to unvested share-based compensation expense amounted to \$14 million, \$10 million and \$9 million for the years ended December 31, 2021, 2020 and 2019, respectively.

18.6 Accumulated other comprehensive income (loss) attributable to parent company stockholders

The table below details the changes in AOCI attributable to the company's stockholders by component, net of tax, for the years ended December 31, 2021, 2020 and 2019:

	Gains (Losses) on Cash Flow Hedges	Gains (Losses) on Available- For-Sale Securities	Defined Benefit Pension Plan Items	Foreign Currency Translation Adjustments ("CTA")	Total
December 31, 2018	(39)	(2)	(179)	681	461
Cumulative tax impact	4	—	44	—	48
December 31, 2018, net of tax	(35)	(2)	(135)	681	509
OCI before reclassifications	(43)	3	(58)	(35)	(133)
Amounts reclassified from AOCI	79	—	14	—	93
OCI for the year ended December 31, 2019	36	3	(44)	(35)	(40)
Cumulative tax impact	(4)	—	10	—	6
OCI for the year ended December 31, 2019, net of tax	32	3	(34)	(35)	(34)
December 31, 2019	(3)	1	(223)	646	421
Cumulative tax impact	—	—	54	—	54
December 31, 2019, net of tax	(3)	1	(169)	646	475
OCI before reclassifications	64	—	(22)	203	245
Amounts reclassified from AOCI	—	—	14	—	14
OCI for the year ended December 31, 2020	64	—	(8)	203	259
Cumulative tax impact	(8)	—	(3)	—	(11)
OCI for the year ended December 31, 2020, net of tax	56	—	(11)	203	248
December 31, 2020	61	1	(231)	849	680
Cumulative tax impact	(8)	—	51	—	43
December 31, 2020, net of tax	53	1	(180)	849	723
OCI before reclassifications	(90)	(1)	56	(189)	(224)
Amounts reclassified from AOCI	(19)	—	13	—	(6)
OCI for the year ended December 31, 2021	(109)	(1)	69	(189)	(230)
Cumulative tax impact	14	—	(11)	—	3
OCI for the year ended December 31, 2021, net of tax	(95)	(1)	58	(189)	(227)
December 31, 2021	(48)	—	(162)	660	450
Cumulative tax impact	6	—	40	—	46
December 31, 2021, net of tax	(42)	—	(122)	660	496

Items reclassified out of Accumulated Other Comprehensive Income for the years ended December 31, 2021, 2020 and 2019 are listed in the table below:

Details about AOCI components	Amounts reclassified from AOCI in the year ended December 31, 2021	Amounts reclassified from AOCI in the year ended December 31, 2020	Amounts reclassified from AOCI in the year ended December 31, 2019	Affected line item in the statement where net income (loss) is presented
Gains (Losses) on Cash Flow				
Hedges				
Foreign exchange derivative contracts	15	(3)	(51)	Cost of sales
Foreign exchange derivative contracts	1	1	(6)	Selling, general and administrative
Foreign exchange derivative contracts	3	2	(22)	Research and development
	(3)	—	10	Income tax benefit (expense)
	16	—	(69)	Net of tax
Defined Benefit Pension Plan Items				
Amortization of actuarial gains (losses)	(12)	(13)	(13)	Other components of pension benefit costs
Amortization of prior service cost	(1)	(1)	(1)	Other components of pension benefit costs
	2	3	3	Income tax benefit (expense)
	(11)	(11)	(11)	Net of tax
Total reclassifications for the year	5	(11)	(80)	
Attributable to noncontrolling interest	—	—	—	
Attributable to the parent company stockholders	5	(11)	(80)	

18.7 Dividends

The Annual General Meeting of Shareholders held on May 27, 2021 authorized the distribution of a cash dividend of \$0.24 per outstanding share of the Company's common stock, to be distributed in quarterly installments of \$0.06 in each of the second, third and fourth quarters of 2021 and first quarter of 2022. The amounts of \$54 million corresponding to the first installment, \$55 million corresponding to the second installment and \$54 million corresponding to the third installment were paid as at December 31, 2021. The remaining portion of \$55 million related to the last installment is presented in the line "Dividends payable to stockholders" in the consolidated balance sheet as at December 31, 2021.

The Annual General Meeting of Shareholders held on June 17, 2020 authorized the distribution of a cash dividend of \$0.168 per outstanding share of the Company's common stock, to be distributed in quarterly installments of \$0.042 in each of the second, third and fourth quarters of 2020 and first quarter of 2021. The amounts of \$37 million corresponding to the first installment, \$38 million corresponding to the second installment and \$34 million corresponding to the third installment were paid as at December 31, 2020. The remaining portion of \$4 million related to the third installment and the last installment of \$38 million were paid in 2021.

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

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

19. REVENUES

19.1 Nature of goods and services

The Company 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.

The principal activities – separated by reportable segments – from which the Company generates its revenues are described in Note 20.

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

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

19.2 Revenue recognition and disaggregation

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

The payment terms typically range between 30 and 90 days.

The Company's consolidated net revenues disaggregated by reportable segment are presented in Note 20. The following tables present the Company's consolidated net revenues disaggregated by geographical region of shipment, nature and market channel:

	Year ended		
	December 31, 2021	December 31, 2020	December 31, 2019
Net revenues by geographical region of shipment⁽¹⁾			
EMEA	2,557	1,966	2,265
Americas	1,525	1,165	1,351
Asia Pacific	8,679	7,088	5,940
Total net revenues	12,761	10,219	9,556
Net revenues by nature			
Revenues from sale of products	12,560	10,049	9,381
Revenues from sale of services	169	132	148
Other revenues	32	38	27
Total net revenues	12,761	10,219	9,556
Net revenues by market channel⁽²⁾			
Original Equipment Manufacturers ("OEM")	8,486	7,411	6,720
Distribution	4,275	2,808	2,836
Total net revenues	12,761	10,219	9,556

- (1) Net revenues by geographical region of shipment are classified by location of customer invoiced or reclassified by shipment destination in line with customer demand. For example, products ordered by U.S.-based companies to be invoiced to Asia Pacific affiliates are classified as Asia Pacific revenues.
- (2) Original Equipment Manufacturers ("OEM") are the end-customers to which the Company provides direct marketing application engineering support, while Distribution refers to the distributors and representatives that the Company engages to distribute its products around the world.

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

In 2021, 2020 and 2019, the Company's largest customer, Apple represented 20.5%, 23.9% and 17.6% of consolidated net revenues, respectively, reported in the ADG, AMS and MDG segments.

20. SEGMENT INFORMATION

The Company designs, develops, manufactures and markets a broad range of products, including discrete and standard commodity components ASICs, full custom devices and semi-custom devices and ASSPs" for analog, digital, and mixed-signal applications. In addition, the Company further participates in the manufacturing value chain of smartcard products, which includes the production and sale of both silicon chips and smartcards.

The Company's reportable segments are as follows:

- *Automotive and Discrete Group (ADG)*, comprised of dedicated automotive ICs, and discrete and power transistor products.
- *Analog, MEMS and Sensors Group (AMS)*, comprised of analog, smart power, low power RF, MEMS sensors and actuators, and optical sensing solutions.
- *Microcontrollers and Digital ICs Group (MDG)*, comprised of microcontrollers (general purpose and secure), memories (RF and EEPROM), and RF communications.

For the computation of the segments' internal financial measurements, the Company uses certain internal rules of allocation for the costs not directly chargeable to the segments, including cost of sales, SG&A expenses and a part of R&D expenses. In compliance with the Company's internal policies, certain costs are not allocated to the segments, but reported in "Others". Those comprise unused capacity charges, including reduced manufacturing activity due to COVID-19, impairment, restructuring charges and other related closure costs, management reorganization expenses, phase-out and start-up costs of certain manufacturing facilities, and other

unallocated expenses such as: strategic or special R&D 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 other products. 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 cost of sales. Finally, public grants are allocated to the Company's segments proportionally to the incurred expenses on the sponsored projects.

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

The following tables present the Company's consolidated net revenues and consolidated operating income by reportable segment.

Net revenues by reportable segment:

	December 31, 2021	December 31, 2020	December 31, 2019
ADG	4,350	3,284	3,606
AMS	4,623	3,892	3,299
MDG	3,766	3,030	2,638
Total net revenues of product segments	12,739	10,206	9,543
Others	22	13	13
Total consolidated net revenues	12,761	10,219	9,556

Operating income by reportable segment:

	December 31, 2021	December 31, 2020	December 31, 2019
ADG	512	182	357
AMS	1,015	810	596
MDG	915	504	354
Total operating income of product segments	2,442	1,496	1,307
Others ⁽¹⁾	(23)	(173)	(104)
Total consolidated operating income	2,419	1,323	1,203

(1) Operating income (loss) of "Others" includes items such as unused capacity charges, including reduced manufacturing activity due to COVID-19, impairment, restructuring charges and other related closure costs, management reorganization costs, phase out and start-up costs of certain manufacturing facilities, and other unallocated expenses such as: strategic or special R&D 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 other products.

The reconciliation of operating income of reportable segments to the total consolidated operating income is presented in the below table:

	December 31, 2021	December 31, 2020	December 31, 2019
Total operating income of reportable segments	2,442	1,496	1,307
Impairment, restructuring charges and other related closure costs	(2)	(11)	(5)
Unused capacity charges	(16)	(153)	(65)
Other unallocated manufacturing results	1	(8)	(25)
Gain on sale of non-current assets	3	11	6
Strategic and other research and development programs and other non-allocated provisions ⁽¹⁾	(9)	(12)	(15)
Total operating loss Others	(23)	(173)	(104)
Total consolidated operating income	2,419	1,323	1,203

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

The following is a summary of operations by entities located within the indicated geographic areas for 2021, 2020 and 2019. Net revenues represent sales to third parties from the country in which each legal entity is incorporated. Long-lived assets consist of property, plant and equipment, net. A significant portion of property, plant and equipment expenditures is attributable to front-end and back-end facilities, located in the different countries in which the Company operates as reported on the consolidated balance sheets. As such, the Company mainly allocates capital spending resources according to geographic areas rather than along product segment areas.

Net revenues

	December 31, 2021	December 31, 2020	December 31, 2019
Netherlands	3,282	2,795	2,842
France	126	89	108
Italy	56	52	59
USA	1,253	976	1,157
Singapore	7,442	5,817	4,857
Japan	586	479	520
Other countries	16	11	13
Total net revenues	12,761	10,219	9,556

Property, plant and equipment, net

	December 31, 2021	December 31, 2020
Netherlands	1,498	1,046
France	1,154	905
Italy	1,469	1,213
Other European countries	114	118
USA	36	24
Singapore	671	604
Malaysia	221	186
Other countries	497	500
Total property, plant and equipment, net	5,660	4,596

21. OTHER INCOME AND EXPENSES, NET

Other income and expenses, net consisted of the following:

	Year ended December 31, 2021	Year ended December 31, 2020	Year ended December 31, 2019
Public funding	162	231	132
Phase-out and start-up costs	—	(8)	(38)
Exchange gains and losses, net	7	8	—
Patent costs	(10)	(11)	(1)
Gain on sale of non-current assets	5	14	7
COVID-19 incremental costs	(19)	(32)	—
Other, net	(4)	—	3
Total	141	202	103

The Company receives significant public funding from governmental agencies in several jurisdictions. Public funding for research, development and other innovation programs is recognized ratably as the related costs are incurred once the agreement with the respective governmental agency has been signed and all applicable conditions have been met. Public 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 and depends on the future cumulative sales of a certain product group over a five-year period. As such, the criteria for recognizing the grant income are not met. As at December 31, 2021, an amount of \$44 million, corresponding primarily to the Nano2017 program, was reported as a liability in the consolidated balance sheet, compared to an amount of \$42

million as at December 31, 2020. The Company also participates in the European Commission's Important Projects of Common Interests (IPCEI), until 2022 in France and until 2024 in Italy. For the latter, the Company reported \$195 million receivables, of which \$111 million reported on the line "Other current assets" in the consolidated balance sheet for the year ended December 31, 2021, compared to \$206 million receivables, of which \$105 million reported on the line "Other current assets" in the consolidated balance sheet for the year ended December 31, 2020.

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 certification. Phase-out costs are costs incurred during the closing stage of a Company's manufacturing facility. They are treated in the same manner as start-up costs.

Exchange gains and losses, net represent the portion of exchange rate changes on transactions denominated in currencies other than an entity's functional currency and the changes in fair value of derivative instruments which are not designated as hedges and which have a cash flow effect related to operating transactions, as described in Note 28.

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

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

22. IMPAIRMENT, RESTRUCTURING CHARGES AND OTHER RELATED CLOSURE COSTS

In 2021, the Company recorded \$2 million of impairment, restructuring charges and other related closure costs composed of \$3 million restructuring charges in association with the restructuring plan in Bouskoura, Morocco, \$2 million reversal as an adjustment to accrued restructuring charges when compared to actual amounts paid and a \$1 million impairment charge on licenses with no alternative future use.

In 2020, the Company recorded \$11 million of impairment, restructuring charges and other related closure costs, composed of \$8 million restructuring charges in association with the restructuring plan in Bouskoura, Morocco, \$4 million impairment charge, primarily on licenses dedicated exclusively to certain development projects that were cancelled, while no alternative future use was identified internally, and \$1 million reversal as an adjustment to accrued restructuring charges when compared to actual amounts paid.

In 2019, the Company recorded \$5 million of impairment, restructuring charges and other related closure costs, composed of \$7 million impairment charge, primarily on equipment and licenses dedicated exclusively to certain development projects that were cancelled, while no alternative future use was identified internally, and \$2 million reversal as an adjustment to accrued restructuring charges when compared to actual amounts paid.

The Company did not report any significant restructuring provisions on the consolidated balance sheets as at December 31, 2021 and December 31, 2020.

The Company's annual impairment test performed in 2021, 2020 and 2019 did not result in any significant impairment loss.

23. INTEREST INCOME (EXPENSE), NET

Interest income (expense), net consisted of the following:

	Year ended December 31, 2021	Year ended December 31, 2020	Year ended December 31, 2019
Income	13	34	55
Expense	(42)	(54)	(54)
Total	(29)	(20)	1

Interest income is related to cash and cash equivalents, short-term deposits and marketable securities held by the Company.

Interest expense recorded in 2021 included a charge of \$14 million on the senior unsecured convertible bonds issued on July 3, 2017 and a charge of \$23 million on the senior unsecured convertible bonds issued on August 4, 2020, of which \$34 million was a non-cash interest expense resulting from the accretion of the discount on the liability component.

Interest expense recorded in 2020 included a charge of \$36 million on the senior unsecured convertible bonds issued on July 3, 2017 and a charge of \$9 million on the senior unsecured convertible bonds issued on August 4, 2020, of which \$42 million was a non-cash interest expense resulting from the accretion of the discount on the liability component.

Interest expense recorded in 2019 included a charge of \$39 million on the senior unsecured convertible bonds issued on July 3, 2017, of which \$37 million was a non-cash interest expense resulting from the accretion of the discount on the liability component.

Interest expense also included charges related to the banking fees and the sale of receivables, if any.

No borrowing cost was capitalized in 2021, 2020 and 2019. Interest income on U.S. Treasury Bonds classified as available-for-sale marketable securities amounted to \$1 million for the year ended December 31, 2021, \$3 million for the year ended December 31, 2020 and \$6 million for the year ended December 31, 2019.

24. INCOME TAX

Income (loss) before income tax is comprised of the following:

	Year ended December 31, 2021	Year ended December 31, 2020	Year ended December 31, 2019
Income (loss) recorded in the Netherlands	(20)	(19)	(9)
Income (loss) from foreign operations	2,357	1,286	1,198
Income (loss) before income tax benefit (expense)	2,337	1,267	1,189

STMicroelectronics N.V. and its subsidiaries are individually liable for income taxes in their jurisdictions.

Income tax benefit (expense) is comprised of the following:

	Year ended December 31, 2021	Year ended December 31, 2020	Year ended December 31, 2019
The Netherlands taxes - current	—	—	—
Foreign taxes - current	(285)	(171)	(131)
Total current taxes	(285)	(171)	(131)
The Netherlands taxes - deferred	—	—	—
Foreign taxes - deferred	(46)	12	(25)
Total deferred taxes	(46)	12	(25)
Income tax expense	(331)	(159)	(156)
Effective tax rate	14%	13%	13%

The principal items comprising the differences in income taxes computed at the Netherlands statutory rate of 25.0% in 2021, 2020 and 2019, and the effective income tax rate are the following:

	Year ended December 31, 2021	Year ended December 31, 2020	Year ended December 31, 2019
Income tax benefit (expense) computed at statutory rate	(584)	(316)	(297)
Non-deductible and non-taxable permanent differences, net	4	(1)	4
Valuation allowance adjustments	(2)	11	2
Effect on deferred taxes of changes in enacted tax rates	6	(5)	14
Current year credits	39	40	50
Other tax and credits	(22)	(40)	(51)
Benefits from tax holidays	49	37	129
Net impact of changes to uncertain tax positions	(8)	(1)	(5)
Earnings of subsidiaries taxed at different rates	187	116	(2)
Income tax benefit (expense)	(331)	(159)	(156)

The increase in the benefit from tax holidays between 2020 and 2021 is the result of the increase in profit in the countries where tax holidays are applicable.

The tax holidays represent a tax exemption period aimed to attract foreign technological investment in certain tax jurisdictions. The effect of the tax benefits, from tax holidays for countries which are profitable, on basic earnings per share was \$0.05, \$0.04 and \$0.14 for the years ended December 31, 2021, 2020, and 2019, respectively. These agreements are present in various countries and include programs that reduce up to and including 100% of taxes in years affected by the agreements. The Company's tax holidays expire at various dates through the year ending December 31, 2029. In certain countries, tax holidays can be renewed depending on the Company still meeting certain conditions at the date of expiration of the current tax holidays.

Component of the Net Deferred Tax Asset and Liability

Deferred tax assets and liabilities consisted of the following:

	December 31, 2021	December 31, 2020
Tax loss carryforwards and investment credits	707	702
Less unrecognized tax benefit	(81)	(19)
Tax loss carryforwards net of unrecognized tax benefit	626	683
Inventory valuation	28	34
Impairment and restructuring charges	4	3
Fixed asset depreciation in arrears	52	82
Increased depreciation incentives	128	182
Capitalized development costs	121	107
Receivables for government funding	64	40
Tax credits granted on past capital investments	213	215
Pension service costs	82	104
Stock awards	14	11
Operating lease liabilities	39	36
Commercial accruals	12	13
Other temporary differences	25	26
Total deferred tax assets	1,408	1,536
Valuation allowances	(576)	(638)
Deferred tax assets, net	832	898
Accelerated fixed asset depreciation	(32)	(21)
Acquired intangible assets	(22)	(40)
Advances of government funding	(115)	(94)
Operating lease right-of-use assets	(39)	(36)
Other temporary differences	(36)	(43)
Deferred tax liabilities	(244)	(234)
Net deferred income tax asset	588	664

For a particular tax-paying component of the Company and within a particular tax jurisdiction, all deferred tax liabilities and assets are offset and presented as a single amount. The Company does not offset deferred tax liabilities and assets attributable to different tax-paying components or to different tax jurisdictions.

A valuation allowance is provided for deferred tax assets when management considers it is more likely than not that they will not be realized.

Deferred tax asset expiration

As at December 31, 2021, the Company and its subsidiaries have gross deferred tax assets on tax loss carryforwards and investment credits that expire starting from 2022, as follows:

Year	
2022	11
2023	11
2024	10
2025	11
2026	8
Thereafter	656
Total	707

The “Tax credits granted on past capital investments” is mainly related to a 2003 agreement granting the Company certain tax credits for capital investments purchased through the year ending December 31, 2006. Any unused tax credits granted under the agreement will be impacted yearly by a legal inflationary index (currently -0.45% per annum). The credits may be utilized depending on the Company meeting certain program criteria and have no expiration date. In addition to this agreement, starting from 2007 the Company continues to receive tax credits on the yearly capital investments, which may be used to offset that year’s tax liabilities and increases by the legal inflationary rate. However, pursuant to the inability to utilize these credits currently and in future years, the Company did not recognize any deferred tax asset on such tax allowance. As a result, there is no financial impact to the net deferred tax assets of the Company.

Deferred Tax expense recognised through Other Comprehensive Income

In 2021, we recognized a deferred tax expense of \$3 million as a component of other comprehensive income (loss), compared to a deferred tax expense of \$11 million in 2020. They were related primarily to the tax effects of the recognized unfunded status on defined benefits plan.

Deferred tax on undistributed Earnings from foreign subsidiaries

The cumulative amount of distributable earnings related to the Company’s investments in foreign subsidiaries and corporate joint ventures was \$4,148 million and \$3,783 million as at December 31, 2021 and December 31, 2020, respectively. Due to the Company’s legal and tax structure, with the parent company established in the Netherlands, there is no significant tax impact from the distribution of earnings for \$3,701 million from investments in foreign subsidiaries and corporate joint ventures. This is because there is no tax impact on dividends paid up to a Dutch holding company by qualifying investments. The amount of distributable earnings becoming taxable upon repatriation amount to \$447 million. An amount of \$377 million is indefinitely reinvested by the foreign subsidiaries. As of December 31, 2021, a deferred tax liability is recognised for \$7 million on the amount of earnings expected to be repatriated in a foreseeable future.

Unrecognised Tax Benefits

A reconciliation of 2021, 2020 and 2019 beginning and ending amounts of unrecognized tax benefits is as follows:

	December 31, 2021	December 31, 2020	December 31, 2019
Balance at beginning of year	48	48	38
Additions based on tax positions related to the current year	72	1	7
Additions based on acquisitions related to the current year	—	—	5
Additions for tax positions of prior years	1	1	1
Reduction for tax positions of prior years	(1)	(2)	(1)
Settlements	—	(1)	(2)
Foreign currency translation	(2)	1	—
Balance at end of year	118	48	48

In addition, at December 31, 2021, \$81 million of unrecognized tax benefits were classified as a reduction of deferred tax assets (at December 31, 2020, the amount was \$19 million). It is reasonably possible that certain of the uncertain tax positions disclosed in the table above could increase or decrease within the next 12 months due to ongoing tax audits. The Company is not able to make an estimate of the range of the reasonably possible change impacting the annual effective tax rate.

Additionally, the Company elected to classify accrued interest and penalties related to uncertain tax positions as components of income tax expense in the consolidated statements of income. They were less than \$1 million in 2021, less than \$1 million in 2020 and \$1 million in 2019. Accrued interest and penalties amounted to \$7 million as at December 31, 2021 and \$7 million as at December 31, 2020.

The tax years that remain open for review in the Company’s major tax jurisdictions, including France, Italy, United States and India, are from 1997 to 2021.

25. EARNINGS PER SHARE

For the years ended December 31, 2021, 2020 and 2019, earnings per share ("EPS") was calculated as follows:

	Year ended December 31, 2021	Year ended December 31, 2020	Year ended December 31, 2019
Basic EPS			
Net income attributable to parent company	2,000	1,106	1,032
Weighted average number of shares outstanding	904,332,429	894,578,477	894,297,697
Basic EPS	2.21	1.24	1.15
Diluted EPS			
Net income attributable to parent company	2,000	1,106	1,032
Weighted average shares outstanding	904,332,429	894,578,477	894,297,697
Dilutive effect of stock awards	9,107,124	8,860,216	7,014,595
Dilutive effect of convertible bonds	11,402,645	16,291,279	2,333,493
Number of shares used in calculating diluted EPS	924,842,198	919,729,972	903,645,785
Diluted EPS	2.16	1.20	1.14

The Company applies the treasury method to determine the dilutive effect of convertible bonds as past experience, existing stated policies and the contractual terms of the bonds provide a reasonable basis to expect that the settlement will include cash, shares or a mix of both. According to the treasury method, the dilutive effect of the convertible bonds is included in the denominator of diluted EPS for the amount of shares transferred assuming a net-share settlement.

With a stock price at \$48.88 when measured as at December 31, 2021, the bondholders' conversion option of the senior unsecured convertible bonds issued on August 4, 2020 was in-the-money, resulting in case of conversion at that price, in an equity spread of \$153 million.

26. COMMITMENTS

The Company's commitments as at December 31, 2021 were as follows:

In millions of U.S. dollars	Total	2022	2023	2024	2025	2026	Thereafter
Purchase obligations	4,064	3,272	405	186	163	38	—
of which:							
<i>Equipment purchase</i>	2,412	2,406	6	—	—	—	—
<i>Foundry purchase</i>	1,488	768	358	167	157	38	—
<i>Software, design, technologies and licenses</i>	164	98	41	19	6	—	—
Other obligations	1,059	621	172	107	63	30	66
Total	5,123	3,893	577	293	226	68	66

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 and other service agreements.

27. CONTINGENCIES, CLAIMS AND LEGAL PROCEEDINGS

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

that an asset has been impaired or a liability has been incurred at the date of the consolidated financial statements and when the amount of loss can be reasonably estimated. The Company regularly re-evaluates claims to determine whether provisions need to be readjusted based on the most current information available to the Company. Changes in these evaluations could result in an adverse material impact on the Company's results of operations, cash flows or its financial position for the period in which they occur.

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

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

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

As at December 31, 2021 and 2020, respectively, provisions for estimated probable losses with respect to claims and legal proceedings were not considered material.

28. FINANCIAL INSTRUMENTS AND RISK MANAGEMENT

28.1 Financial risk factors

The Company is exposed to changes in financial market conditions in the normal course of business due to its operations in different foreign currencies and its ongoing investing and financing activities. The Company's activities expose it to a variety of financial risks: market risk (including foreign exchange risk, fair value interest rate risk, cash flow interest rate risk and price risk), credit risk and liquidity risk. The Company's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the Company's financial performance. The Company uses derivative financial instruments to hedge certain risk exposures.

Financial risk management is carried out by a central treasury department (Corporate Treasury). Additionally, a Treasury Committee, chaired by the Chief Financial Officer, steers treasury activities and ensures compliance with corporate policies. Treasury activities are thus regulated by the Company's policies, which define procedures, objectives and controls. The policies focus on the management of financial risk in terms of exposure to market risk, credit risk and liquidity risk. Treasury controls are subject to internal audits. Most treasury activities are centralized, with any local treasury activities subject to oversight from Corporate Treasury. Corporate Treasury identifies, evaluates and hedges financial risks in close cooperation with the Company's subsidiaries. It provides written principles for overall risk management, as well as written policies covering specific areas, such as foreign exchange risk, interest rate risk, price risk, credit risk, use of derivative financial instruments, and investments of excess liquidity. The majority of cash and cash equivalents is held in U.S. dollars and Euros and is placed with financial institutions rated at least a single "A" long-term rating from

two of the major rating agencies, meaning at least A3 from Moody's and A- from S&P and Fitch, or better. These ratings are closely and continuously monitored in order to manage exposure to the counterparty's risk. Hedging transactions are performed only to hedge exposures deriving from operating, investing and financing activities conducted in the normal course of business.

Market risk

Foreign exchange risk

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, primarily with respect to the Euro. Foreign exchange risk mainly arises from recognized assets and liabilities at the Company's subsidiaries and future commercial transactions.

Management has set up a policy to require the Company's subsidiaries to hedge their entire foreign exchange risk exposure with the Company through financial instruments transacted or overseen by Corporate Treasury. To manage their foreign exchange risk arising from foreign-currency-denominated assets and liabilities, subsidiaries use forward contracts and purchased currency options. Foreign exchange risk arises when recognized assets and liabilities are denominated in a currency that is not the entity's functional currency. These instruments do not qualify as hedging instruments for accounting purposes. Forward contracts and currency options, including collars, are also used by the Company to reduce its exposure to U.S. dollar fluctuations in Euro-denominated forecasted intercompany transactions that cover a large part of its R&D, SG&A expenses as well as a portion of its front-end manufacturing costs of semi-finished goods. The Company also hedges through the use of currency forward contracts certain Singapore dollar-denominated manufacturing forecasted transactions. The derivative instruments used to hedge these forecasted transactions meet the criteria for designation as cash flow hedge. The hedged forecasted transactions have a high probability of occurring for hedge accounting purposes.

It is the Company's policy to have the foreign exchange exposures in all the currencies hedged month by month against the monthly standard rate. At each month end, the forecasted flows for the coming month are hedged together with the fixing of the new standard rate. For this reason, the hedging transactions will have an exchange rate very close to the standard rate at which the forecasted flows will be recorded on the following month. As such, the foreign exchange exposure of the Company, which consists in the balance sheet positions and other contractually agreed transactions, is always close to zero and any movement in the foreign exchange rates will not therefore influence the exchange effect on items of the consolidated statement of income. Any discrepancy from the forecasted values and the actual results is constantly monitored and prompt actions are taken, if needed.

Derivative Instruments Not Designated as a Hedge

The Company enters into foreign currency forward contracts to reduce its exposure to changes in exchange rates and the associated risk arising from the denomination of certain assets and liabilities in foreign currencies at the Company's subsidiaries. These include receivables from international sales by various subsidiaries, payables for foreign currency-denominated purchases and certain other assets and liabilities arising from intercompany transactions.

The notional amount of these financial instruments totaled \$505 million, \$897 million and \$575 million at December 31, 2021, 2020 and 2019, respectively. The principal currencies covered at the end of the year 2021 are the Singapore dollar, the China Yuan Renminbi, the Swedish krona, the Japanese yen, the Indian rupee, the Swiss franc, the Malaysian ringgit, the South Korean won, the Philippines peso, the Taiwan dollar, the Moroccan dirham and the Euro.

The risk of loss associated with forward contracts is equal to the exchange rate differential from the time the contract is entered into until the time it is settled. The risk of loss associated with purchased currency options is equal to the premium paid when the option is not exercised.

Foreign currency forward contracts not designated as cash flow hedge outstanding as at December 31, 2021 have remaining terms of 4 days to 335 days, maturing on average after 47 days.

Derivative Instruments Designated as a Hedge

To further reduce its exposure to U.S. dollar exchange rate fluctuations, the Company hedges through the use of currency forward contracts and currency options, including collars, certain Euro-denominated forecasted intercompany transactions that cover at year-end a large part of its R&D and SG&A expenses, as well as a portion of its front-end manufacturing costs of semi-finished goods within cost of sales. The Company also hedges through the use of currency forward contracts certain manufacturing transactions within cost of sales denominated in Singapore dollars.

The principles regulating the hedging strategy for derivatives designated as cash flow hedge are established as follows: (i) for R&D and corporate costs, up to 80% of the total forecasted transactions; (ii) for manufacturing costs, up to 70% of the total forecasted transactions. In order to follow a dynamic hedge strategy, the Company may change the percentage of the designated hedged item within the limit of 100% of the forecasted transaction. The maximum length of time over which the Company could hedge its exposure to the variability of cash flows for forecasted transactions is 24 months.

For the year ended December 31, 2021, the Company recorded a decrease in cost of sales of \$15 million and a decrease in operating expenses of \$4 million, related to the realized gains incurred on such hedged transactions. For the year ended December 31, 2020, the Company recorded an increase in cost of sales of \$3 million and a decrease in operating expenses of \$3 million, related to the realized losses and gains incurred on such hedged transactions. For the year ended December 31, 2019, the Company recorded an increase in cost of sales of \$51 million and an increase in operating expenses of \$28 million, related to the realized losses incurred on such hedged transactions.

The notional amount of foreign currency forward contracts and currency options, including collars, designated as cash flow hedge totaled \$2,165 million, \$1,502 million and \$1,328 million at December 31, 2021, 2020 and 2019, respectively. The forecasted transactions hedged at December 31, 2021 were determined to have a high probability of occurring.

As at December 31, 2021, \$48 million of deferred losses on derivative instruments included in "Accumulated other comprehensive income (loss)" in the consolidated statements of equity were expected to be reclassified as earnings during the next 12 months based on the monthly forecasted R&D expenses, corporate costs and semi-finished manufacturing costs. Foreign currency forward contracts and collars designated as cash flow hedge outstanding as at December 31, 2021 have remaining terms of 5 days to 13 months, maturing on average after 142 days.

As at December 31, 2021, the Company had the following outstanding derivative instruments that were entered into to hedge Euro-denominated and Singapore dollar-denominated forecasted transactions:

In millions of Euros	Notional amount for hedge on forecasted R&D and other operating expenses	Notional amount for hedge on forecasted manufacturing costs
Forward contracts	343	604
Currency collars	310	514
In millions of Singapore dollars		
	Notional amount for hedge on forecasted R&D and other operating expenses	Notional amount for hedge on forecasted manufacturing costs
Forward contracts	—	214

Cash flow and fair value interest rate risk

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

The Company analyses its interest rate exposure on a dynamic basis. Various scenarios are simulated taking into consideration refinancing, renewal of existing positions, alternative financing and hedging. The Company invests primarily on a short-term basis and as such the Company's liquidity is invested in floating interest rate instruments. As a consequence, the Company is exposed to interest rate risk due to potential mismatch between

the return on its short-term floating interest rate investments and the portion of its long-term debt issued at fixed rate.

Price risk

As part of its ongoing investing activities, the Company may be exposed to equity security price risk for investments in public entities. In order to hedge the exposure to this market risk, the Company may enter into certain derivative hedging transactions.

Information on fair value of derivative instruments and their location in the consolidated balance sheets as at December 31, 2021 and December 31, 2020 is presented in the table below:

Asset Derivatives	As at December 31, 2021		As at December 31, 2020	
	Balance sheet location	Fair value	Balance sheet location	Fair value
Derivatives designated as a hedge:				
Foreign exchange forward contracts	Other current assets	2	Other current assets	40
Currency collars	Other current assets	1	Other current assets	15
Total derivatives designated as a hedge		3		55
Derivatives not designated as a hedge:				
Foreign exchange forward contracts	Other current assets	3	Other current assets	10
Total derivatives not designated as a hedge:		3		10
Total Derivatives		6		65
Liability Derivatives	As at December 31, 2021		As at December 31, 2020	
	Balance sheet location	Fair value	Balance sheet location	Fair value
Derivatives designated as a hedge:				
Foreign exchange forward contracts	Other payables and accrued liabilities	(29)	Other payables and accrued liabilities	—
Currency collars	Other payables and accrued liabilities	(13)	Other payables and accrued liabilities	—
Total derivatives designated as a hedge		(42)		—
Derivatives not designated as a hedge:				
Foreign exchange forward contracts	Other payables and accrued liabilities	(1)	Other payables and accrued liabilities	(2)
Total derivatives not designated as a hedge:		(1)		(2)
Total Derivatives		(43)		(2)

The Company entered into currency collars as combinations of two options, which are reported, for accounting purposes, on a net basis. As at December 31, 2021, the fair value of these collars represented assets for a net amount of \$1 million (composed of \$2 million assets offset with a \$1 million liability) and liabilities for a net amount of \$13 million (composed of \$14 million liabilities offset with a \$1 million asset). In addition, the Company entered into other derivative instruments, primarily forward contracts, which are governed by standard International Swaps and Derivatives Association (“ISDA”) agreements and are compliant with Protocols of the European Market Infrastructure Regulation (“EMIR”), which are not offset in the statement of financial position and representing total assets of \$5 million and liabilities of \$30 million as at December 31, 2021.

The effect of derivative instruments designated as cashflow hedge on the consolidated statements of income for the year ended December 31, 2021 and December 31, 2020 and on the “Accumulated other comprehensive

income (loss)” (“AOCI”) as reported in the consolidated statements of equity as at December 31, 2021 and December 31, 2020 is presented in the table below:

	Gain (loss) deferred in OCI on derivative		Location of gain (loss) reclassified from OCI into earnings	Gain (loss) reclassified from OCI into earnings	
	December 31, 2021	December 31, 2020		December 31, 2021	December 31, 2020
Foreign exchange forward contracts	(20)	29	Cost of sales	11	(2)
Foreign exchange forward contracts	(2)	3	Selling, general and administrative	—	1
Foreign exchange forward contracts	(9)	11	Research and development	1	2
Currency collars	(11)	11	Cost of sales	4	(1)
Currency collars	(1)	1	Selling, general and administrative	1	—
Currency collars	(5)	6	Research and development	2	—
Total	(48)	61		19	—

No significant ineffective portion of the cash flow hedge relationships was recorded in earnings for the years ended December 31, 2021 and December 31, 2020. No amount was excluded from effectiveness measurement on foreign exchange forward contracts and collars.

The effect on the consolidated statements of income for the year ended December 31, 2021 and December 31, 2020 of derivative instruments not designated as a hedge is presented in the table below:

	Location of gain (loss) recognized in earnings	Gain (loss) recognized in earnings	
		December 31, 2021	December 31, 2020
Foreign exchange forward contracts	Other income and expenses, net	9	(13)
Total		9	(13)

The Company did not enter into any derivative containing significant credit-risk-related contingent features.

Credit risk

The expected credit loss and impairment methodology applied on each category of financial assets is further described in each respective note. While cash and cash equivalents are also subject to the expected credit loss model, the identified expected credit loss is deemed to be immaterial. The maximum credit risk exposure for all financial assets is their carrying amount.

Credit risk is the risk that a counterparty will not meet its obligations under a financial instrument or customer contract, leading to a financial loss. Credit risk typically arises from cash and cash equivalents, contractual cash flows of debt investments carried at amortized cost, the counterparty of derivative financial instruments and deposits with banks and financial institutions, as well as credit exposure to customers, including outstanding receivables.

The Company is exposed to credit risk from its operating activities (primarily for trade receivables) and from its financing activities, including deposits with banks and financial institutions, foreign exchange transactions and other financial instruments. Credit risk is managed at the Group level. The Company selects banks and/or financial institutions that operate with the group based on the criteria of long-term rating from at least two major Rating Agencies and keeping a maximum outstanding amount per instrument with each bank not to exceed 20% of the total. For derivative financial instruments, management has established limits so that, at any time, the fair value of contracts outstanding is not concentrated with any individual counterparty.

The Company monitors the creditworthiness of its customers to which it grants credit terms in the normal course of business. If certain customers are independently rated, these ratings are used. Otherwise, if there is no independent rating, risk control assesses the credit quality of the customer, considering its financial position,

past experience and other factors. The utilization of credit limits is regularly monitored. Sales to customers are primarily settled in cash, which mitigates credit risk. As at December 31, 2021 and 2020, no customer represented more than 10% of trade accounts receivable, net. Any remaining concentrations of credit risk with respect to trade receivables are limited due to the large number of customers and their dispersion across many geographic areas.

The Company's investments in instruments carried at amortized cost primarily include receivables towards government bodies. As such, they are investments with immaterial expected credit loss. Any remaining receivable is of low credit risk and is individually not significant. The credit ratings of the investments are monitored for credit deterioration.

Liquidity risk

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

Management monitors rolling forecasts of the Company's liquidity reserve based on expected cash flows.

28.2 Capital risk management

The Company's objectives when managing capital are to safeguard the Company's ability to continue as a going concern in order to create value for shareholders and benefits and returns for its stakeholders, as to maintain an optimal capital structure. In order to maintain or adjust its capital structure, the Company may review the amount of dividends paid to shareholders, return capital to shareholders, or issue new shares.

Consistent with others in the industry, the Company monitors capital on the basis of the net debt-to-equity ratio. This ratio is calculated as the net financial position of the Company, defined as the difference between total cash position (cash and cash equivalents, short-term deposits, marketable securities and restricted cash, if any) and total financial debt (short term and long-term debt), divided by total parent company stockholders' equity.

28.3 Fair value measurement

The fair value of financial instruments traded in active markets is based on quoted market prices at the balance sheet date. The quoted market price used for financial assets held by the Company is the bid price. 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 significant assumptions and estimates. When measuring fair value, the Company makes maximum use of market inputs and minimizes the use of unobservable inputs.

The table below details financial assets (liabilities) measured at fair value on a recurring basis as at December 31, 2021:

	Fair Value Measurements using			
	December 31, 2021	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Short-term deposits	291	291	—	—
Equity securities measured at fair value through earnings	29	29	—	—
Derivative assets designated as cash flow hedge	3	—	3	—
Derivative assets not designated as cash flow hedge	3	—	3	—
Derivative liabilities designated as cash flow hedge	(42)	—	(42)	—
Derivative liabilities not designated as cash flow hedge	(1)	—	(1)	—
Contingent consideration on business acquisitions	(77)	—	—	(77)
Total	206	320	(37)	(77)

The table below details financial assets (liabilities) measured at fair value on a recurring basis as at December 31, 2020:

	Fair Value Measurements using			
	December 31, 2020	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Marketable securities – U.S. Treasury debt securities	133	133	—	—
Short-term deposits	581	581	—	—
Equity securities measured at fair value through earnings	25	25	—	—
Derivative assets designated as cash flow hedge	55	—	55	—
Derivative assets not designated as cash flow hedge	10	—	10	—
Derivative liabilities not designated as cash flow hedge	(2)	—	(2)	—
Contingent consideration on business acquisitions	(123)	—	—	(123)
Total	679	739	63	(123)

For liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3), the reconciliation between January 1, 2021 and December 31, 2021 is presented as follows:

	Fair Value Measurements using Significant Unobservable Inputs (Level 3)
January 1, 2021	123
Changes in fair value measurement	(38)
Currency translation adjustment	(8)
December 31, 2021	77
Amount of total losses for the period included in earnings attributable to liabilities still held at the reporting date	(2)

Contingent consideration reported as liabilities on the consolidated balance sheet as at December 31, 2021 and December 31, 2020 is based on the probability that the milestones defining the variable components of the consideration will be achieved. In 2021, the probability of achievement of these variable components was reassessed, resulting in a reduction of \$40 million of the fair value of the contingent consideration related to the 2020 acquisitions. The Company reported this change in fair value in the lines “Research and development” and “Cost of sales” of the consolidated statement of income, for \$34 million and \$6 million, respectively.

Contingent consideration is composed of \$7 million reported in the line “Other payables and accrued liabilities” and \$70 million reported in the line “Other long-term liabilities” in the consolidated balance sheet as at December 31, 2021, compared to \$123 million entirely reported in the line “Other long-term liabilities” in the consolidated balance sheet as at December 31, 2020.

For liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3), the reconciliation between January 1, 2020 and December 31, 2020 is presented as follows:

	Fair Value Measurements using Significant Unobservable Inputs (Level 3)
January 1, 2020	—
Contingent consideration on business combinations	117
Changes in fair value measurement	1
Currency translation adjustment	5
December 31, 2020	123
Amount of total losses for the period included in earnings attributable to liabilities still held at the reporting date	—

No asset (liability) was measured at fair value on a non-recurring basis using significant unobservable inputs (Level 3) as at December 31, 2021 and December 31, 2020 respectively.

In July 2021, the Company exercised its call option for the early redemption of Tranche B of the senior unsecured convertible bonds issued on July 3, 2017. As a consequence, bondholders exercised their conversion rights on Tranche B. The Company 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 1.1%, which approximated current market rates for similar bonds that have no conversion rights.

Further description on the senior unsecured convertible bonds issued by the Company is provided in Note 15.

The Company evaluated in 2021, 2020 and 2019 for impairment the aggregate carrying amount of long-term investments for which the Company applies the cost method as a measurement alternative, as described in Note 2.22. No significant impairment charge was recorded on these investments in 2021, 2020 and 2019.

The following table includes additional fair value information on financial assets and liabilities as at December 31, 2021 and 2020:

	Level	2021		2020	
		Carrying Amount	Estimated Fair Value	Carrying Amount	Estimated Fair Value
Cash equivalents (1)	1	2,883	2,883	2,637	2,637
Short-term, deposits	1	291	291	581	581
Long-term debt					
– Bank loans (including current portion)	2	1,152	1,152	583	583
– Senior unsecured convertible bonds issued on July 3, 2017 (Tranche B) (2)	1	—	—	674	1,359
– Senior unsecured convertible bonds issued on August 4, 2020 (3)	1	1,387	1,975	1,364	1,835

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

(2) The carrying amount of Tranche B senior unsecured convertible bonds issued on July 3, 2017 as reported above corresponds to the liability component only, since, at initial recognition, the value of the equity instrument embedded in the issued convertible bonds was recorded directly in equity. The initial recognition and subsequent measurements of the convertible bonds are further described in Note 15. The fair value represented the market price of the bonds trading on the Frankfurt Stock Exchange.

(3) The carrying amount of the senior unsecured convertible bonds issued on August 4, 2020 as reported above corresponds to the liability component only, since, at initial recognition, an amount of \$215 million before allocation of issuance costs and deferred tax effect was recorded directly in equity as the value of the equity instrument embedded in the issued convertible bonds. The initial recognition of the convertible bonds is further

described in Note 15. The fair value represented the market price of the bonds trading on the Frankfurt Stock Exchange.

The Company did not report any debt securities that were in an unrealized loss position as at December 31, 2021 and December 31, 2020.

The methodologies used to estimate fair value are as follows:

Components	Methodology used to estimate fair value
Debt securities classified as available-for-sale	Quoted market prices for identical instruments
Foreign exchange forward contracts, currency options and collars	Quoted market prices for similar instruments
Equity securities measured at fair value through earnings	Quoted market prices for identical instruments
Equity securities carried at cost as a measurement alternative	Valuation of the underlying investments on a new round of third-party financing or upon liquidation
Long-term debt and current portion of long-term debt	Future cash flows on a borrowing-by-borrowing basis and discounting these future cash flows using the Company's incremental borrowing rates for similar types of borrowing arrangements
Cash and cash equivalents, short-term deposits, accounts receivable, short-term borrowings, and accounts payable	The carrying amounts reflected in the consolidated financial statements are considered as reasonable estimates of fair value due to the relatively short period of time between the origination of the instruments and their expected realization.

29. RELATED PARTY TRANSACTIONS

Transactions with related parties were as follows:

	December 31, 2021	December 31, 2020	December 31, 2019
Sales & other services	8	5	2
Other purchases	19	21	18
Accounts receivable	2	1	—

For the years ended December 31, 2021, 2020 and 2019, the related party transactions were primarily with companies for which certain members of the Company's management perform similar policymaking functions. These include, but are not limited to: Orange, Telecom Italia and Idemia France.

For the years ended December 31, 2021, 2020 and 2019, the Company did not report any material transaction with its equity-method investments.

The Company made a contribution of \$0.5 million for the year ended December 31, 2021, \$0.5 million for the year ended December 31, 2020 and \$0.4 million for the year ended December 31, 2019 to the ST Foundation, a non-profit organization established to deliver and coordinate independent programs in line with its mission. Certain members of the Foundation's Board are senior members of the Company's management.

STMICROELECTRONICS N.V.

VALUATION AND QUALIFYING ACCOUNTS

Valuation and qualifying accounts deducted from the related asset accounts	Balance at beginning of period	Translation adjustment	Charged to costs and expenses	Additions/ (Deductions)	Balance at end of period
(Currency—millions of U.S. dollars)					
2021					
Accounts Receivable	16	—	—	3	19
Deferred Tax Assets	638	(24)	(2)	(36)	576
2020					
Accounts Receivable	16	—	—	—	16
Deferred Tax Assets	1,534	28	(11)	(913)	638
2019					
Accounts Receivable	15	—	—	1	16
Deferred Tax Assets	1,548	(4)	—	(10)	1,534

Description of Securities Registered under Section 12 of the Securities Exchange Act of 1934 (the “Exchange Act”)

As of December 31, 2021, STMicroelectronics N.V. (the “Company”, “we”, “us” and “our”) had the following series of securities registered pursuant to Section 12(b) of the Exchange Act:

<u>Title of Each Class:</u>	<u>Trading Symbol(s)</u>	<u>Name of Each Exchange on Which Registered:</u>
Common shares, nominal value €1.04 per share	STM	New York Stock Exchange

Our common shares have a nominal value of €1.04. As of December 31, 2021 our common shares are the only class of securities of the company that are registered under Section 12 of the Exchange Act.

Capital terms used but not defined herein have the meanings given to them in Company’s annual report on Form 20-F for the fiscal year ended December 31, 2021 (the “2021 Form 20-F”).

Type and Class of Securities (Item 9.A.5 of Form 20-F)

Each common share has a nominal value of €1.04 per share. As at December 31, 2021, the number of shares of common stock issued was 911,276,920 shares and the number of shares of common stock outstanding was 906,518,057.

Of the 906,518,057 common shares outstanding as of December 31, 2021, 65,320,929, or 7.2%, were registered in the common share registry maintained on our behalf in New York.

Pre-emptive Rights (Item 9.A.3 of Form 20-F)

See “Item 10. Additional information — Memorandum and Articles of Association — Share Capital (Articles 4, 5 and 6)” of the 2021 Form 20-F.

Limitations or Qualifications (Item 9.A.6 of Form 20-F)

Not applicable.

Other Rights (Item 9.A.7 of Form 20-F)

Not applicable.

Rights of the Common Shares (Item 10.B.3 of Form 20-F)

See “Item 10. Additional information — Memorandum and Articles of Association” of the 2021 Form 20-F.

Requirements for Amendments (Item 10.B.4 of Form 20-F)

See “Item 10. Additional information — Memorandum and Articles of Association” of the 2021 Form 20-F.

Limitations on the Rights to Own Shares (Item 10.B.6 of Form 20-F)

Not applicable.

Provisions Affecting Any Change of Control (Item 10.B.7 of Form 20-F)

Not applicable.

Ownership Threshold (Item 10.B.8 of Form 20-F)

Not applicable.

Differences Between the Law of Different Jurisdictions (Item 10.B.9 of Form 20-F)

See the references to Dutch law throughout “Item 10. Additional information — Memorandum and Articles of Association” of the form 2021 20-F.

Changes in Capital (Item 10.B.10 of Form 20-F)

Not applicable.

Debt Securities (Item 12.A of Form 20-F)

Not applicable.

Warrants and Rights (Item 12.B of Form 20-F)

Not applicable.

Other Securities (Item 12.C of Form 20-F)

Not applicable.

American Depositary Shares (Items 12.D.1 and 12.D.2 of Form 20-F)

Not applicable.

Subsidiaries and Equity Investments of the Company

The following table lists our consolidated subsidiaries and our percentage ownership as of December 31, 2021:

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
Egypt, Cairo	STMicroelectronics Egypt SSC	100
Finland, Nummela	STMicroelectronics Finland OY	100
France, Crolles	STMicroelectronics (Crolles 2) SAS	100
France, Grenoble	STMicroelectronics (Alps) SAS	100
France, Grenoble	Exagan SAS	80
France, Grenoble	STMicroelectronics (Grenoble 2) SAS	100
France, Le Mans	STMicroelectronics (Grand Ouest) SAS	100
France, Montrouge	STMicroelectronics S.A.	100
France, Le Bourget-du-Lac	BeSpoon SAS	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, New Delhi	ST-Ericsson India Pvt Ltd	100
India, Noida	STMicroelectronics Pvt Ltd	100
Israel, Netanya	STMicroelectronics Limited	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 A.B.	100
Sweden, Kista	STMicroelectronics A.B.	100

Legal Seat	Name	Percentage Ownership (Direct or Indirect)
Sweden, Norrköping	STMicroelectronics Silicon Carbide A.B.	100
Switzerland, Geneva	STMicroelectronics S.A.	100
Switzerland, Geneva	INCARD S.A., en liquidation	100
Taiwan, Taipei City	Exagan Taiwan Ltd.	80
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, Coppel	STMicroelectronics Software Inc.	100
United States, Coppel	STMicroelectronics Inc.	100
United States, Coppel	Faroudja Laboratories Inc.	100
United States, Coppel	STMicroelectronics (North America) Holding, Inc.	100

CERTIFICATION

I, Jean-Marc Chery, certify that:

1. I have reviewed this annual report on Form 20-F of STMicroelectronics N.V.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: February 24, 2022

By: /s/ Jean-Marc Chery
Jean-Marc Chery
President and Chief Executive Officer and
Sole Member of our Managing Board

CERTIFICATION

I, Lorenzo Grandi, certify that:

1. I have reviewed this annual report on Form 20-F of STMicroelectronics N.V.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: February 24, 2022

By: /s/ Lorenzo Grandi
Lorenzo Grandi
Chief Financial Officer
President, Finance, Infrastructure and
Services

CERTIFICATION OF JEAN-MARC CHERY, PRESIDENT AND CHIEF EXECUTIVE OFFICER AND SOLE MEMBER OF THE MANAGING BOARD OF STMICROELECTRONICS N.V. AND LORENZO GRANDI, CHIEF FINANCIAL OFFICER AND PRESIDENT, FINANCE, INFRASTRUCTURE AND SERVICES OF STMICROELECTRONICS N.V., PURSUANT TO SECTION 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the annual report of STMicroelectronics N.V. (the "Company") on Form 20-F for the period ending December 31, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned hereby certify that to the best of our knowledge:

1. The Report fully complies with the requirements of Section 13(a) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 24, 2022

By: /s/ Jean-Marc Chery
Jean-Marc Chery
President and Chief Executive Officer and
Sole Member of our Managing Board

Date: February 24, 2022

By: /s/ Lorenzo Grandi
Lorenzo Grandi
Chief Financial Officer
President, Finance, Infrastructure and
Services

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8 No. 333-109572) pertaining to the 2001 Stock Option Plan of STMicroelectronics N.V. of our reports dated February 23, 2022, with respect to the consolidated financial statements and financial statements schedule on page S-1 of STMicroelectronics N.V., and the effectiveness of internal control over financial reporting of STMicroelectronics, N.V., included in this Annual Report (Form 20-F) for the year ended December 31, 2021.

/s/ Ernst & Young AG

Lancy – Geneva, Switzerland

February 24, 2022