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REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934

Report on Form 6-K dated March 21, 2024

Commission File Number: 1-13546

STMicroelectronics N.V.
(Name of Registrant)

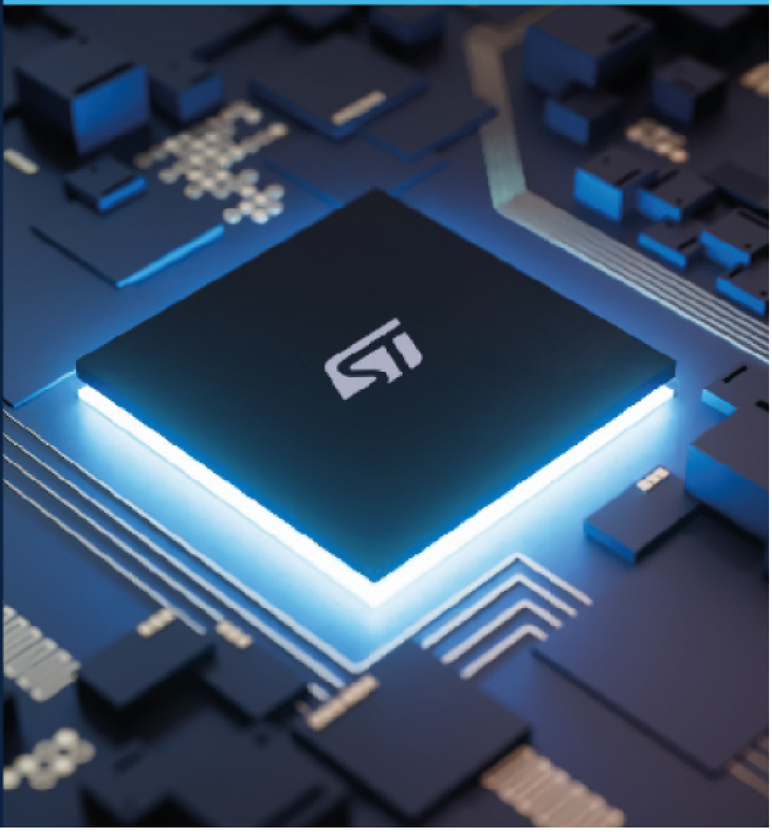
WTC Schiphol Airport
Schiphol Boulevard 265
1118 BH Schiphol Airport
The Netherlands
(Address of Principal Executive Office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F ☒ Form 40-F ☐

Enclosure: STMicroelectronics’ 2023 Dutch Statutory Annual Report, including the 2023 IFRS Statutory Accounts.

STMicroelectronics N.V.
Annual Report
2023



This document is the version of the 2023 Annual Report of STMicroelectronics N.V. and has been prepared for ease of use. The 2023 Annual Report was made publicly available as specified in the Regulatory Technical Standards on European single electronic reporting format (the ESEF package) (Delegated Regulation (EU) 2019/815). The ESEF package is available on the company's website at https://investors.st.com/financial-information/annual-and-semi-annual-reports and includes a human-readable XHTML version of the 2023 Annual Report. In any case of discrepancies between this version and the ESEF package, the latter prevails.

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CERTAIN TERMS

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
DRAM	dynamic random access memory
EEPROM	electrically erasable programmable read-only 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
FD-SOI	fully depleted silicon-on-insulator
GaN	gallium nitride
IC	integrated circuit
IFRS	International Financial Reporting Standards
IP	intellectual property
ISO	International Organization for Standardization
MASK WORK	the two- or three-dimensional layout of an integrated circuit
MEMS	micro-electro-mechanical system
MOSFET	metal-on silicon oxide semiconductor field effect transistor
NFC	near field communication
OEM	original equipment manufacturer
PFC	perfluorinated compounds
RF	radio frequency
RF-SOI	radio frequency silicon-on-insulator
SAM	serviceable available market
SiC	silicon carbide
STi^{2}GaN	intelligent integrated gallium nitride
TAM	total available market
VIPower	vertically integrated power

1. Message from the President and Chief Executive Officer on the financial year 2023

Dear Shareholder,

2023 was another year of growth, driven by strong demand in Automotive and, to a lesser extent, Industrial, partially offset by lower revenues in Personal Electronics. This was reflected in our financial performance, with net revenues increasing 7.2% to $17.29 billion. We continued to strengthen our net financial position while increasing free cash flow and investing in the transformation of our manufacturing base. In this respect, 2023 was another year of steady execution in our manufacturing initiatives as we continued to transform our manufacturing base to enable future growth and drive enhanced profitability, with the expansion of our 300mm capacity and a strong focus on wide bandgap semiconductors.

2023: a year of continued strong demand in automotive

Our strategy is to be a broad-range supplier in the automotive and industrial markets and adopt a selective approach in personal electronics and computer peripherals. This strategy delivered strong results in 2023, with year-over-year revenue growth of 33.5% in automotive and 11.4% in industrial. Communications equipment, computer and peripherals revenue decreased 4.2% and personal electronics was down 25.1%, including the impact of a change in product mix in an engaged customer program. For the year, automotive and industrial combined represented 71% of total revenues, and personal electronics and communications equipment, computers and peripherals represented 29%.

In Automotive, we again saw strong demand across all geographies, driven by increasing semiconductor pervasion and structural transformation. The year was also positively impacted by inventory replenishment and a high level of capacity reservation fees. In 2023 we continued to execute our strategy supporting car electrification, in particular in our silicon carbide business, and car digitalization, supporting the shift to software-defined vehicle architectures and the pervasion of advanced driver assistance systems.

In Industrial, demand was still strong during most of the year, especially in power and energy, factory automation and robotics, and in industrial infrastructure. Toward the end of Q3 we saw a progressive weakening of demand, accelerating during Q4. Electrification and digitalization are the main trends driving semiconductor content increase here as well. During the year we had a strong focus on Edge AI, with updates on multiple hardware products including microcontrollers, microprocessors, and smart sensors as well as related software tools to empower developers.

In Personal Electronics and Computer Peripherals, market demand remained weak in 2023, while Communications Equipment demand remained solid in our focus areas.

In this environment, we delivered net revenues of $17.29 billion, up 7.2% from 2022, with a gross margin increasing from 45.5% to 45.9% and an operating margin decreasing from 28.1% to 26.7%. After investing $4.11 billion in net capital expenditures compared to $3.52 billion in 2022, our free cash flow increased to $1.77 billion compared to $1.59 billion in 2022. This was reflected in our net financial position of $3.16 billion compared to $1.80 billion one year earlier.

Long-term trends continue to underpin our strategy

In 2023 we continued to execute on our strategy, which stems from three long-term enablers: smart mobility, power and energy management, and cloud-connected autonomous things. These trends continue to drive our investments and roadmap decisions.

We are transforming our manufacturing base, with a significant expansion of our 300mm capacity and a strong focus on wide bandgap semiconductors. In Silicon Carbide, we continued to ramp our front-end device production in our Catania and Singapore facilities, and we increased back-end manufacturing capacity in our sites in Morocco and China. We also started production in our new integrated silicon carbide substrate manufacturing facility in

Catania as a significant step in our silicon carbide vertical integration strategy. We furthermore announced a Joint Venture with Sanan Optoelectronics for high-volume 200mm SiC device manufacturing in China. These are important moves to further scale our global SiC manufacturing operations. We advanced also with our 300mm capacity expansion plans. In Agrate, Italy, our new 300mm wafer fab was qualified for production and capacity of slightly more than 1,000 wafers per week was installed as planned. In June we announced the conclusion of the three-party agreement for a new 300mm semiconductor manufacturing facility in Crolles among the State of France, GlobalFoundries, and our company, as approved by the European Commission. In 2024, we plan to invest about $2.5 billion in net capital expenditures.

These initiatives are aligned with our sustainability strategy and our sustainable manufacturing commitment in terms of energy consumption and greenhouse gas emissions, air, and water quality. We are on track to achieve our carbon neutrality goal on scope 1 & 2 and partially scope 3, and our 100% renewable energy goal by 2027. To further these goals we announced, in November, the signature of a fifteen-year Power Purchase Agreement for renewable energy for our operations in Italy with ERG, a leading European independent energy producer. We also continued to work closely with external bodies and to maintain our strong presence in the major sustainability indices.

We recently announced a new organization to deliver enhanced product development innovation and efficiency, time-to-market as well as customer focus by end market. ST will be re-organized into two Product Groups, split into four Reportable Segments and the existing sales and marketing organization will be complemented by a new application marketing organization focused by end markets across all Regions.

Focused on sustainable, profitable growth

Our value proposition remains based on sustainable and profitable growth, returning value to our shareholders in line with our objectives, providing differentiating enablers to our customers, and supporting them with an independent, reliable and secure supply chain. And we are committed to sustainability for the benefit of all our stakeholders.

Following several years of revenue growth and increased profitability, we see 2024 as a transition year. We are adapting our plans according to market dynamics while continuing to execute on our established strategy and operating model. We will continue to capture new opportunities, with our 50,000+ engaged employees working alongside our customers on innovations that make a positive impact on people’s lives.

2. Corporate overview

In this annual report, references to "we", "us", "the Company", "our Company" and "ST" are to STMicroelectronics N.V., references to "ST Group Company" are to any of STMicroelectronics N.V.'s direct or indirect subsidiaries, and references to the "Group" are to STMicroelectronics N.V. and its direct and indirect subsidiaries.

Certain terms used in this annual report are defined in "Certain Terms".

2.1. History and development of STMicroelectronics

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

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 ST Group Companies, which are organized and operated according to the laws of their country of incorporation, and consolidated by STMicroelectronics N.V.

2.2. Strategy & objectives

We have over 50,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. As an integrated 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. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of cloud-connected autonomous things. We are committed to achieving our goal to become carbon neutral on scope 1 and scope 2 and partially on scope 3 by 2027.

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 car manufacturers make driving safer, greener and more connected; Power & Energy: our technology and solutions enable industries to increase energy efficiency and support the use of renewable energy and cloud-connected autonomous things; which transform our lives and the objects we use with smart, connected devices for personal, business and industrial applications.

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.

We are a global 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.

2.3. Organizational structure

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

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

2.4. Products and activities

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 fully depleted silicon-on-insulator ("FD-SOI") technology offering superior performance and power efficiency compared to bulk CMOS, bipolar CMOS ("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, vertically integrated power ("VIPower"), and intelligent integrated gallium nitride (STi^2GaN) 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.

As of December 31, 2023, our product groups 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, MEMS sensors and actuators, and optical sensing solutions.
- Microcontrollers and Digital ICs Group ("MDG"), comprised of general-purpose microcontrollers and microprocessors, connected security products (e.g. embedded secured elements and NFC readers), memories (e.g. serial and page EEPROM) and RF and Communications products.

In the first quarter of 2024, we announced that we are re-organizing our product groups and reportable segments to further accelerate our time-to-market and speed of product development innovation and efficiency. Effective as of February 5, 2024, we have moved from three product groups and three reportable segments (ADG, AMS and MDG), to two product groups and four reportable segments (the "Product Group Reorganization"), as follows:

- Analog, Power & Discrete, MEMS and Sensors, led by Marco Cassis, ST President and member of the Executive Committee, including two reportable segments (Analog Products, MEMS and Sensors and Power and Discrete Products); and
- Microcontrollers, Digital ICs and RF products, led by Remi El-Ouazzane, ST President and member of the Executive Committee, including two reportable segments (Microcontrollers, and Digital ICs and RF Products).

2.5. Sales, Marketing and Distribution

Our sales and marketing organization 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 four regional sales organizations reporting to a global head of Sales & Marketing: Americas, APeC (Asia Pacific excluding China), China and EMEA (Europe, Middle-East and Africa). 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, competence centers, field application engineers and quality engineers.

In the first quarter of 2024, we announced that we will complement the existing Sales & Marketing organization by implementing a new application-specific marketing organization by segment, offering customers end-to-end system solutions based on our product and technology portfolio, covering the following four end markets:

- Automotive;
- Industrial Power and Energy;
- Industrial Automation, IoT and AI; and
- Personal Electronics, Communication Equipment and Computer Peripherals.

The current regional Sales & Marketing organization will remain unchanged.

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.

2.6. Research & Development

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 18% of our employees work in R&D on product design/development and technology and, in 2023, we spent approximately 10.1% of our total revenues on R&D expenses.

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 intellectual property (“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 nonvolatile 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 18 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. We also play leadership roles in numerous projects running under the Information Society Technologies programs of the European Union (“EU”). We also participate in certain R&D programs established by the EU, individual countries and local authorities in Europe (primarily in France and Italy).

We currently own approximately 20,000 patents and pending patent applications.

3. Report of the Managing Board

In accordance with Dutch law, our management is entrusted to our Managing Board under the supervision of our Supervisory Board. Under our articles of association (“Articles of Association”), the sole member of our Managing Board is appointed for a three-year term at our annual general meeting of shareholders (“AGM”), by a simple majority of the votes cast, provided quorum conditions are met, upon a non-binding proposal by our Supervisory Board, which term may be renewed one or more times. Mr. Jean-Marc Chery was reappointed on May 27, 2021, as sole member of our Managing Board with the function of President and Chief Executive Officer, for a three-year term expiring at our 2024 AGM. Our Supervisory Board announced on September 19, 2023, that it will propose the reappointment of Mr. Jean-Marc Chery as sole member of the Managing Board, President and Chief Executive Officer for another three-year term for shareholder approval at the 2024 AGM. We continue to review and strengthen the succession planning for the Managing Board to ensure business continuity, taking into account, amongst others, the rapidly changing technological, social, economic and regulatory developments in our industry.

3.1. Statement of the sole member of our Managing Board

The sole member of our Managing Board hereby declares that, to the best of his knowledge, the statutory financial statements as of December 31, 2023, and for the year then ended, prepared under Title 9 of Book 2 of the Dutch Civil Code and in accordance with IFRS as adopted by the EU, provide a true and fair view of the assets, liabilities, financial position and profit or loss of STMicroelectronics N.V. and the undertakings included in the consolidation taken as a whole. Furthermore, the sole member of our Managing Board hereby also declares that the report of the Managing Board includes a true and fair view concerning the statement of financial position as of December 31, 2023. The report of the Managing Board also includes the development and performance of STMicroelectronics N.V. and the undertakings included in the consolidation taken as a whole, together with the principal risk and uncertainties they face.

Jean-Marc Chery,

Sole member of our Managing Board,

President and Chief Executive Officer

3.2. Business overview & performance

3.2.1. Results highlights for the year 2023

Our total available market is defined as “TAM”, while our serviceable available market is defined as “SAM” and represents the market for products sold by us (i.e., TAM excluding major devices such as microprocessors, DRAM and flash-memories, optoelectronics devices other than optical sensors, video processing and wireless application specific market products, such as baseband and application processors).

Based on industry data published by World Semiconductor Trade Statistics (“WSTS”), semiconductor industry revenues in 2023 decreased on a year-over-year basis by approximately 8% for the TAM and increased by approximately 4% for the SAM, to reach approximately $527 billion and $295 billion, respectively.

Full year 2023 total revenues increased 7.2% to $17.29 billion, as a result of an increase in average selling prices, driven by a favorable product mix, partially offset by a decrease in volumes. Gross margin increased 40 basis points, to 45.9%, principally driven by higher revenues, partially offset by higher manufacturing costs and unused capacity charges. Operating margin was 26.7% in 2023.

Our 2023 gross margin increased 40 basis points to 45.9% from 45.5% in 2022, principally driven by the positive impact of the combination of product mix and pricing, partially offset by higher input manufacturing costs and unused capacity charges.

Our operating expenses, comprised of aggregated selling, general & administrative (“SG&A”) and research & development expenses ("R&D"), amounted to $3,388 million in 2023, increasing from $2,913 million in the prior year, mainly due to increased cost of labor and higher levels of activity, primarily in R&D programs, partially offset by positive currency effects.

Other income and expenses, net, was $67 million in 2023 compared to $116 million in 2022, decreasing mainly due to higher start-up costs primarily for our new 300mm fab in Agrate, Italy, partially offset by higher income from public funding.

Operating profit in 2023 increased to $4,610 million compared to $4,534 million in 2022 mainly driven by the combining effect of higher revenues and improved gross margin profitability, partially offset by higher operating expenses.

Combined finance income and costs resulted in a net loss of $95 million, compared to a net income of $312 million in 2022, and reflect in both years the International Financial Reporting Standards (“IFRS”) accounting of our convertible bonds. The 2023 amount included a loss of $249 million for the fair value adjustment of the embedded bondholders’ conversion options on outstanding convertible bonds (compared to a gain of $276 million in 2022).

Full year 2023 net profit was $3,985 million or $4.38 diluted earnings per share, compared to net profit of $4,323 million, or $4.74 diluted earnings per share for the full year 2022.

Capital expenditure payments, net of proceeds from sales, capital grants and other contributions were $4,111 million during the full year 2023 compared to $3,524 million during the full year 2022.

During 2023, our net cash decreased by $36 million, with net cash from operating activities reaching $6.37 billion. During 2023, we paid $346 million for the repurchase of ordinary shares, $223 million of cash dividends to our shareholders, and $169 million for long-term debt repayment, partially offset by $329 million proceeds from the drawdown of our credit facility with European Investment Bank (“EIB”) signed in 2022.

Our free cash flow and net financial position are described in Section 3.2.5.

3.2.2. Business overview

We are a global 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.

Further information on our business model is included in chapter 2 above and sections 3.2.2.1. et seq. below.

3.2.2.1. Strategy

We have over 50,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. As an integrated 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. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of cloud-connected autonomous things. We are committed to achieving our goal to become carbon neutral on scope 1 and scope 2 and partially on scope 3 by 2027.

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 car manufacturers make driving safer, greener and more connected; Power & Energy: our technology and solutions enable industries to increase energy efficiency and support the use of renewable energy and cloud-connected autonomous things, which transform our lives and the objects we use with smart, connected devices for personal, business and industrial applications.

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.

3.2.2.2. Employees

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

	2023	2022
France	11,958	11,953
Italy	12,561	12,037
Rest of Europe	1,198	1,128
Americas	828	789
Mediterranean (Malta, Morocco, Tunisia)	5,923	5,634
Asia	18,855	19,829
Total	**51,323**	**51,370**

	2023	2022
Research and Development	9,426	9,036
Marketing and Sales	2,671	2,573
Manufacturing	32,822	33,690
Administration and General Services	3,038	2,787
Product Group Functions	3,366	3,284
Total	**51,323**	**51,370**

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.

3.2.2.3. 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 process 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, customers, experts and suppliers to further our R&D efforts. Such collaboration provides us with a number of important benefits, including acquisition of technical know-how, access to additional production capacities, sharing of costs and reductions in our own capital requirements.

3.2.2.4. 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, which helps foster closer, strategic relationships with customers. Our major customers include Apple, Bosch, Continental, HP, Huawei, Hyundai Motor, Mobileye, Samsung, SpaceX and Tesla. 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 our distribution channel.

In Automotive, we have identified a significant evolution of the relationship with customers. Historically, semiconductor companies addressed the needs of carmakers mostly through tier-1 and/or tier-2 automotive industry suppliers with whom we work closely. In recent years there has been an accelerated transformation of the automotive industry driven by the electrification and the digitalization of vehicles, significantly increasing the amount and complexity of semiconductor products in vehicles. As a result, and following further from the supply chain challenges which arose during and after the COVID-19 pandemic, carmakers are taking a more direct role in the decision making and control of both the semiconductor strategy and supply for their vehicles. Carmakers now have a more direct relationship with companies such as ours, notably playing a more active role in defining the specific solutions they require, as well as in certain instances engaging in direct co-operation agreements, including multi-year agreements to secure capacity corridors. We are committed to playing a major role in these new business models and we see multiple opportunities for co-operation with carmakers in this area, while also continuing to build on our co-operation with tier-1 and tier-2 automotive industry suppliers.

3.2.2.5. 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 four regional sales organizations reporting to a global head of Sales & Marketing: Americas, APeC (Asia Pacific excluding China), China and EMEA (Europe, Middle-East and Africa). 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, competence centers, field application engineers and quality engineers.

In the first quarter of 2024, we announced that we will complement the existing Sales & Marketing organization by implementing a new application-specific marketing organization by segment, offering customers end-to-end system solutions based on our product and technology portfolio, covering the following four end markets:

- Automotive;
- Industrial Power and Energy;
- Industrial Automation, IoT and AI; and
- Personal Electronics, Communication Equipment and Computer Peripherals.

The current regional Sales & Marketing organization will remain unchanged.

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.

At the request of certain customers, we also sell and deliver our products to electronics manufacturing services 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 electronics manufacturing services 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.

3.2.2.6. Research and Development

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 18% of our employees work in R&D on product design/development and technology and, in 2023, we spent approximately 10.1% of our total revenues on R&D expenses.

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 nonvolatile 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 18-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. We also play leadership roles in numerous projects running under the EU's 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).

The total amount of our R&D expenses was $1,750 million and $1,485 million in 2023 and 2022, respectively, while the total amount of R&D expenses capitalized amounted to $361 million and $362 million in 2023 and 2022, respectively.

3.2.2.7. Property, Plants and Equipment

We are an integrated device manufacturer with the ability to control and optimize the value chain, from semiconductor process development, chip design, testing and validation, wafer fabrication, to assembly, testing, and delivery to our customers. At our Company, manufacturing is based on our owned and operated facilities in EMEA and in Asia, complemented by outsourcing in both front-end and back-end processes. This enables us to provide customers with an independent, flexible and robust manufacturing and supply chain, which aids in our success. In addition, our proprietary semiconductor process technologies highlighted above enable product differentiation. We believe that the combination of these two aspects represent a differentiating factor for our Company as compared to fabless semiconductor companies and semiconductor foundries.

We currently operate 14 main manufacturing sites around the world.

At December 31, 2023, our front-end facilities had a total maximum capacity of approximately 140,000 wafer starts per week (200mm equivalent). 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; Kirkop, Malta; 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 2023, we subcontracted approximately 20% 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, 2023, we had approximately $1,899 million in outstanding orders for purchases of equipment (certain of which are subject to cancellation or amendment in accordance with their terms) and other assets for delivery in 2024. In 2023, our capital expenditure payments, net of proceeds from sales, capital grants and other contributions, was $4,111 million compared to $3,524 million in 2022. In the 2021-2023 period the ratio of capital expenditure payments, net of proceeds from sales, capital grants and other contributions to net revenues was about 20%.

3.2.2.8. Intellectual Property

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 20,000 patents and pending patent applications.

We believe that our IP represents valuable assets. We rely on various IP 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. 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.

3.2.2.9. Backlog

Our sales are made primarily pursuant to standard purchase orders that are generally booked from one to eighteen 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 half 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 2023 with a backlog higher than we had entering 2022. For 2024, we entered the year with a backlog lower than what we had entering 2023.

3.2.2.10. 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.

3.2.2.11. Public Funding

We receive public funding mainly from EU member states (including France, Italy and Malta). Such funding is generally provided to encourage R&D activities, enhance building capacities, industrialization and national, regional and local economic development. On September 21, 2023, the European Chips Act entered into force. The regulation, mobilizing more than €43 billion of public and private investments, is designed to bolster Europe's competitiveness and resilience in semiconductor technologies and applications, help achieve both the digital and green transition and has, amongst others, the objective of supporting technological capacity building and innovation in the European Union by bridging the gap between the European Union's advanced research and innovation capabilities and their industrial exploitation.

Public funding in Europe is also generally available to all companies, having R&D operations in Europe, 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.

Further, some grants may be subject to a financial return based on future cumulative sales over a certain period. Our funding programs are classified under four general categories: funding for research, development and innovation activities (“RDI”), funding for First Industrial Deployment (“FID”) activities and capital investment for pilot lines. We also benefit from tax credits for R&D activities in several countries which are generally available to all companies.

The main programs in which we are involved include: (i) Important Project of Common European Interest (“IPCEI”) which combines RDI as well as FID activities; (ii) Key Digital Technologies Initiative (“KDT”, formerly Electronic Components and Systems for European Leadership), which combines all electronics related R&D activities and is operated by joint undertakings formed by the EU, certain member states and industry; (iii) EU R&D projects within Horizon Europe (the EU'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, the U.K. and Austria.

In our combined role as beneficiary of the IPCEI on Microelectronics, we have been allocated an overall funding budget of €340 million for the period 2018-2022 in France (locally referenced as Nano2022) which was linked to technical objectives and associated achievements, and approximately €720 million for the period 2018-2024 in Italy. The IPCEI program is highly strengthening our leadership in key technologies. It contributes to anticipating, accelerating, and securing our technological developments. The IPCEI also has wide ranging, pan-European benefits on the microelectronics ecosystem from education to downstream industries.

In December 2021, we 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. It involves ST in France (2022-2026), Italy (2023-2027) and Malta (2021-2025), as well as around 65 other companies across 16 European countries. In 2023 we recognized grants of €135 million related to our participation in IPCEI in Italy, €120 million related to our participation in IPCEI, KDT and other national and European programs in France and $9 million related to our participation in IPCEI in Malta.

In addition to public funding through IPCEI programs, in October 2022, the European Commission approved, under EU State Aid Rules, a support up to €292.5 million through the Italian Recovery and Resilience Plan for the construction of a new integrated SiC substrate manufacturing facility in Catania, Italy.

On April 28, 2023, the European Commission approved, under EU State Aid Rules, a French aid measure to support the Company and GlobalFoundries in the construction and operation of a front-end semiconductor production facility in Crolles, France. This project represents an overall projected cost of €7.5 billion for capital expenditure, maintenance and ancillary costs. The new facility will benefit from significant financial support of up to roughly €2.9 billion from France. These projects have been recognized as “first-of-a-kind” facilities in Europe in line with the ambitions and objectives of the European Chips Act.

3.2.2.12. 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 consume significant amounts of energy and use many materials, including silicon and SiC, GaN and glass wafers, lead frames, mold compound, ceramic packages and chemicals, gases and water. The prices of energy, such as electricity and natural gas, and many of these materials are volatile due to the specificity of the market, and other factors including geopolitics. We have therefore adopted a “multiple sourcing strategy” designed to minimize the impact of price increases. The same strategy applies to supplies for the materials used by us to avoid potential material disruption of essential materials and to ensure the continuity of energy supply. 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.

Finally, we also use external subcontractors to outsource wafer manufacturing and assembly and testing of finished products.

3.2.3. Key announcements

On January 10, 2024 we announced the Product Group Reorganization (as defined above).

On December 6, 2023, we announced the ST Edge AI Suite, a free-to-use integrated set of software tools to complement ST hardware.

On November 24, 2023, we signed a fifteen-year power purchase agreement with ERG for the supply of renewable energy to our operations in Italy over the 2024-2038 timeframe, in part to achieve our goal to become carbon neutral by 2027 on scope 1 and 2 and partially scope 3.

On September 19, 2023, we announced the decision of our Supervisory Board to propose that Mr. Jean-Marc Chery be reappointed for a three-year mandate as the sole member of the Managing Board, our President and Chief Executive Officer, for shareholder approval at the 2024 AGM.

On August 23, 2023, we published our IFRS 2023 Semi Annual Accounts for the six-month period ended July 1, 2023 on our website and filed them with the Netherlands Authority for the Financial Markets (Autoriteit Financiële Markten) (“AFM”).

On June 20, 2023, we signed an agreement with Airbus to cooperate on power electronics research & development to support more efficient and lighter power electronics, essential for future hybrid-powered aircraft and full-electric urban air vehicles.

On June 7, 2023, we signed an agreement with Sanan Optoelectronics to create a new 200mm silicon carbide device manufacturing joint venture in Chongqing, China (“SST JV”).

On June 5, 2023, we announced the finalization of our agreement with GlobalFoundries Inc. to create a new, jointly-operated, high-volume semiconductor manufacturing facility in Crolles, France.

On May 24, 2023, we announced that the members of our Supervisory Board appointed Mr. Nicolas Dufourcq as the Chairman and Mr. Maurizio Tamagnini as the Vice-Chairman of the Supervisory Board, respectively, for a three-year term to expire at the end of the 2026 AGM.

On May 24, 2023, we held our AGM in Amsterdam, the Netherlands. The proposed resolutions, all approved by the shareholders, were:

- The adoption of the Company's Statutory Annual Accounts for the year ended December 31, 2022, prepared in accordance with International Financial Reporting Standards (IFRS-EU) and filed with the Netherlands Authority for the Financial Markets (Autoriteit Financiële Markten) on March 23, 2023;
- 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 2023 and first quarter of 2024;
- The reappointment of Mr. Frédéric Sanchez and Mr. Maurizio Tamagnini, as members of the Supervisory Board for a three-year term to expire at the end of the 2026 AGM;
- The reappointment of Ms. Ana de Pro Gonzalo, as member of the Supervisory Board, for a two-year term expiring at the end of the 2025 AGM;
- The reappointment of Mr. Yann Delabrière, as member of the Supervisory Board, for a one-year term expiring at the end of the 2024 AGM;
- The appointment of Mr. Paolo Visca, as member of the Supervisory Board, for a three-year term expiring at the 2026 AGM, in replacement of Mr. Alessandro Rivera whose mandate expired at the end of the 2023 AGM;
- The appointment of Ms. Hélène Vletter-van Dort, as member of the Supervisory Board, for a two-year term expiring at the end of the 2025 AGM, in replacement of Ms. Heleen Kersten whose mandate expired at the end of the 2023 AGM;
- The approval of the stock-based portion of the compensation of the President and CEO;
- The authorization to the Managing Board, until the end of the 2024 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’ pre-emptive rights on common shares, until the end of the 2024 AGM;
- The discharge of the sole member of the Managing Board; and
- The discharge of the members of the Supervisory Board.

On April 20, 2023, we announced the publication of our 26th sustainability report detailing our 2022 performance.

On April 13, 2023, we signed a multi-year supply agreement with ZF for the supply of our silicon carbide devices.

3.2.4. Financial outlook: Capital investment

Our policy is to modulate our capital spending according to the evolution of the semiconductor market. For 2024, we plan to invest about $2.5 billion in net capital expenditures.

A large portion of capital expenditures will be devoted to support our strategic programs, selected capacity additions and mix change in our manufacturing footprint, in particular for our wafer fabs:

- the increase capacity for silicon carbide products in our Catania and Singapore fabs;
- the ramp-up of a new integrated silicon carbide substrate manufacturing facility in Catania for the production in volume of 150mm, moving to 200mm, silicon carbide epitaxial substrates;

- the creation of new 200mm silicon carbide device manufacturing joint venture with Sanan Optoelectronics in Chongqing, China;
- the ramp-up of our new 300mm wafer fab in Agrate, Italy, to support mixed signal technologies and then phase-in smart power technologies and embedded-non-volatile memory at a later stage;
- digital 300mm in Crolles, France, to extend the cleanroom and support production ramp-up on our main runner technologies;and,
- certain selected programs of capacity growth in some of our most advanced 200mm fabs, including the analog 200mm fab in Singapore.

The most important 2024 capital investments for our back-end facilities will be: (i) capacity growth on certain package families, including PLP / Direct Copper Interconnect technology and automotive related packages, (ii) the new generation of Intelligent Power Modules for Automotive and Industrial applications, and (iii) specific investments in innovative assembly processes and test operations.

The remaining part of our capital investment plan covers the overall maintenance and efficiency improvements of our manufacturing operations and infrastructure, R&D activities, laboratories as well as the execution of our carbon neutrality programs.

Capital expenditures are net of proceeds from sales, capital grants and other contributions.

We will continue to invest to support revenues growth and new products introduction, taking into consideration factors such as trends in the semiconductor industry, capacity utilization and our goal to become carbon neutral by 2027 on scope 1 and 2, and partially scope 3. 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, share buy-backs as part of our current repurchase program and the repayment of our debt in line with maturity dates.

We will drive the Group based on a plan for 2024 revenues in the range of $15.9 billion to $16.9 billion.

3.2.5. Liquidity and financial position

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 generated from operating activities.

During 2023, our net cash decreased by 36 million. The components of the net cash decrease for 2023 and the comparable period are set forth below:

In millions of U.S. dollars	2023	2022
Net cash from operating activities	6,366	5,579
Net cash used in investing activities	(6,127)	(4,979)
Net cash used in financing activities	(280)	(556)
Effect of change in exchange rates	5	(11)
Net cash increase (decrease)	**(36)**	**33**

Net cash from operating activities

Net cash from operating activities is the sum of (i) net profit adjusted for non-cash items and (ii) changes in net working capital. The net cash from operating activities in 2023 was $6,366 million, increasing compared to $5,579 million in the prior year, mainly due to higher net profit adjusted for non-cash items.

Net cash used in investing activities

Investing activities used $6,127 million of cash in 2023, mainly due to increased payments for purchase of tangible assets, net of proceeds from sales, capital grants and other contributions, for a total of $4,111 million, higher purchases of marketable securities for a total of $1,653 million, net investments in short-term deposits of $645 million, and investment in intangible assets of $458 million, of which the largest part is related to the capitalization of development costs, partially offset by proceeds from marketable securities for a total of $750 million. Capital investments for the year 2023 included (i) investments in advanced wafer fabs, such as the 300mm fab in Crolles, France and the 300mm fab in Agrate, Italy; (ii) SiC activities, primarily in Singapore and Catania, Italy; and (iii) in selected programs of capacity growth in other front-end and back-end activities.

Net cash used in financing activities

Net cash used in financing activities was $280 million for 2023, compared to $556 million in 2022, and consisted mainly of $346 million repurchase of common stock, $223 million of dividends paid to our shareholders and $169 million repayment of long-term debt, partially offset by $329 million of proceeds from a new drawdown of our existing credit facility with EIB.

Free cash flow (non-GAAP measure)

Our Free Cash Flow is derived from our U.S. GAAP Consolidated Statements of Cash Flows, which differs from our Consolidated Statements of Cash Flows under IFRS. Free Cash Flow, a non-GAAP measure, is 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 investments in (and proceeds from) short-term deposits, which are considered as temporary financial investments. This definition ultimately results in net cash from operating activities plus payment for purchases (and proceeds from sale) of tangible, intangible and financial assets, proceeds from capital grants and other contributions, and net cash paid upon acquisition for business combinations, if any.

We believe Free Cash Flow, a non-GAAP measure, provides useful information for investors and management because it measures our capacity to generate cash from our operating and investing activities to sustain our operations. Free Cash Flow is a non-GAAP measure and does not represent total cash flow since it does not include the cash flows from, or used in, financing activities. Free Cash Flow reconciles with the total cash flow and the net cash increase (decrease) by including the payment for purchase of (and proceeds from matured) marketable securities and net investments in (and proceeds from) short-term deposits, the net cash from (used in) financing activities and the effect of changes in exchange rates. Our definition of Free Cash Flow may differ from definitions used by other companies. Our Free Cash Flow derived from our U.S. GAAP Consolidated Statements of Cash Flows; a reconciliation from the Consolidated Statements of Cash Flows as reported under IFRS is provided in the table below:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Net cash from operating activities as reported under IFRS	**6,366**	**5,579**
Excluding U.S. GAAP/IFRS presentation differences:		
Payment for withholding tax on vested shares	54	44
Payment for lease liabilities	(67)	(58)
Net cash from operating activities adjusted under IFRS	6,353	5,565
Payment for purchase of tangible assets, net of proceeds from sale, and proceeds from capital grants and other contributions	(4,111)	(3,524)
Payment for purchase of intangible assets, net of proceeds from sale	(458)	(450)
Payment for purchase, net of proceeds from sale, of financial assets	(10)	—
Free Cash Flow (non-GAAP measure)	1,774	1,591

Our Free Cash Flow was $1,774 million in 2023, compared to $1,591 million in 2022.

Net Financial Position and Adjusted Net Financial Position (non-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, short-term deposits and quoted debt securities, and our total financial debt includes interest-bearing loans and borrowings, including current portion, as represented in our consolidated statement of financial position. Adjusted Net Financial Position represents net financial position less advances from capital grants, to represent the effect on total liquidity of advances received on capital grants for which capital expenditures have not been incurred yet. Prior periods are not impacted. Net Financial Position and Adjusted Net Financial Position are a non-GAAP measure, but we believe they provide useful information for investors and management because they give 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, if any, short-term deposits and quoted debt securities and the total level of our financial indebtedness. Our definition of Net Financial Position may differ from definitions used by other companies and therefore comparability may be limited. Our Net Financial Position and Adjusted Net Financial Position are derived from our U.S. GAAP Consolidated Balance Sheets, which differs from the Consolidated Statements of Financial Position under IFRS. A reconciliation with the Consolidated Statements of Financial Position under IFRS is provided in the table below:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Cash and cash equivalents	3,222	3,258
Short-term deposits	1,226	581
Government bonds issued by the U.S. Treasury	1,635	679
Total liquidity	**6,083**	**4,518**
Funding program loans from European Investment Bank	(1,077)	(827)
Credit Facility from CDP	(284)	(334)
Dual tranche senior unsecured convertible bonds	(1,432)	(1,407)
Other funding programs loans	(6)	(4)
Total financial debt, as reported under IFRS	**(2,799)**	**(2,572)**
Difference in dual-trench senior convertible debt amortized cost	(64)	(88)
Difference in the presentation of finance lease	(64)	(57)
Total U.S. GAAP/IFRS differences	(128)	(145)
Total financial debt, as reported under US GAAP	(2,927)	(2,717)
Net Financial Position (non-GAAP measure)	3,156	1,801
Advances from capital grants	(152)	—
Adjusted Net Financial Position (non-GAAP measure)	3,004	1,801

Our Net Financial Position as of December 31, 2023, was a net cash position of $3,156 million, increasing compared to a net cash position of $1,801 million as of December 31, 2022.

As of December 31, 2023, our financial debt as reported under IFRS was $2,799 million, composed of (i) $1,640 million of current portion of long-term debt and (ii) $1,159 million of long-term debt. The breakdown of our total financial debt included: (i) $1,432 million in senior unsecured convertible bonds issued in 2020, (ii) $1,077 million in European Investment Bank loans (the "EIB Loans"), (iii) $284 million in CDP SpA loans (the "CDP SpA Loans") and (iv) $6 million in loans from other funding programs.

The EIB Loans are comprised of three 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 for the years 2017 and 2018. The entire amount was fully drawn in Euros, corresponding to $346 million outstanding as of December 31, 2023. 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. The amount was fully drawn in Euros representing $442 million outstanding as of December 31, 2023. In 2022, the Company signed a third long-term amortizing credit facility with EIB of €600 million, out of which, €300 million was withdrawn representing $332 million outstanding as December 31, 2023. In January 2024, an amount of $300 million was withdrawn under this credit facility.

The CDP SpA Loans are comprised of two long-term credit facilities. The first, signed in 2021, is a €150 million loan, fully drawn in Euros, of which $97 million were outstanding as of December 31, 2023. The second one, signed in 2023, is a €200 million loan, fully drawn in Euros, of which $187 million was outstanding as of December 31, 2023.

On August 4, 2020, we issued $1.5 billion offering of senior unsecured convertible bonds (Tranche A for $750 million and Tranche B for $750 million), due 2025 and 2027, respectively. Tranche A bonds were issued at 105.8% as zero-coupon bonds and 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 us following contractual terms and schedule, if certain conditions are satisfied, on a net-share settlement basis, except if we elect 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.

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 $1,030 million as of December 31, 2023.

Our current ratings with two major rating agencies that report on us on a solicited basis, are as follows: Standard & Poor's ("S&P"): "BBB+" with stable outlook; Moody's Investors Service ("Moody's"): "Baa1" with positive outlook.

3.2.6. Financial risk management

We are exposed to changes in financial market conditions in the normal course of business due to our operations in different foreign currencies and our ongoing investing and financing activities. Our activities expose us 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. Our overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on our financial performance. We use 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 our Chief Financial Officer, steers treasury activities and ensures compliance with corporate policies. Treasury activities are thus regulated by our policies, which define procedures, objectives and controls. The policies focus on managing financial risk in terms of exposure to market risk, credit risk and liquidity risk. Treasury controls are subject to internal audits. Most treasury activities are centralized, with any local treasury activities subject to oversight from Corporate Treasury. Corporate Treasury identifies, evaluates and hedges financial risks in close cooperation with our 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 or Fitch ratings, or better. These ratings are closely and continuously monitored in order to manage exposure to the counterparty’s risk. Hedging transactions are performed only to hedge exposures deriving from operating, investing and financing activities conducted in the normal course of business.

Foreign exchange risk

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

Cash flow and fair value interest rate risk

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

Credit risk

We select banks and/or financial institutions that operate with the Company 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.

We monitor the creditworthiness of our customers to which we grant credit terms in the normal course of business. If certain customers are independently rated, these ratings are used. Otherwise, if there is no independent rating, risk control assesses the credit quality of the customer, 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 of December 31, 2023 and 2022, no customer represented more than 10% of total trade accounts receivable. 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.

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. Our objective is to maintain a sufficient cash position and a low debt-to-equity ratio, which ensures adequate financial flexibility. Our liquidity management policy is to finance our investments with net cash from operating activities.

Management monitors rolling forecasts of our liquidity reserve based on expected cash flows.

3.3. Risk management and Internal control

3.3.1. Risk Management

3.3.1.1. Our Risk Management approach

As a company operating globally in the semiconductor market, we are exposed to risks, particularly in the current environment of increased volatility, uncertainty, complexity and ambiguity. For a description of our risk factors, please refer to section 3.3.1.2. (Risk factors). Our embedded approach to enterprise risk management (“ERM”) is formalized in a specific policy and is aligned with ISO 31000 (Risk Management). This enables us to:

- set and enable our Company strategy, manage our performance, and capitalize on opportunities; and
- systematically identify, evaluate and treat specific risk scenarios.

Our ERM improvement roadmap includes, in particular, deploying our risk framework which is based on the following principles:

- taking into consideration the interests of our stakeholders;
- addressing uncertainty explicitly;
- pragmatic and tailored to us;
- integral part of our processes and decision-making;
- proactive, structured, dynamic, iterative and responsive to change; and
- based on the best available information.

Our risk framework is described in the following chart:

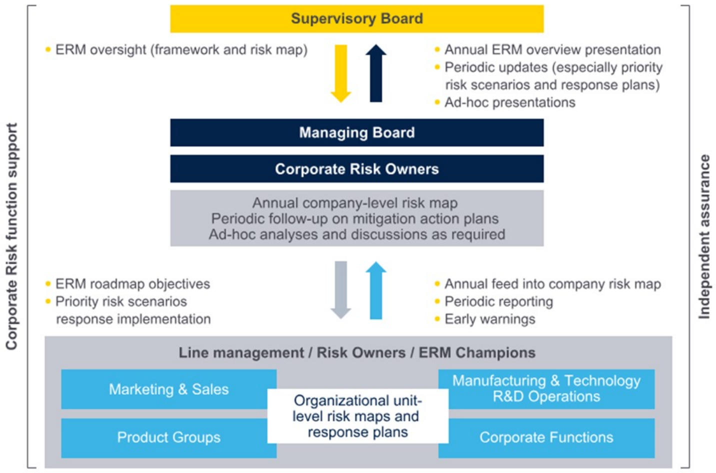
RISK FRAMEWORK

The maturity of our overall risk framework design and implementation is periodically audited by a leading independent organization. This was last performed in 2022, confirming a significant improvement in maturity compared to the previous such audit performed in 2017.

Our overall risk approach is managed by our Chief Audit & Risk Executive, Mr. Franck Freymond, under the direct responsibility of our Managing Board and the oversight of our Supervisory Board. The scope of this oversight role is detailed in our Supervisory Board charter.

Our risk governance is described in the following chart:

RISK GOVERNANCE



3.3.1.2. Risk Factors

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

Summary of 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.
- The semiconductor industry is cyclical and downturns in the semiconductor industry can negatively affect our results of operations and financial condition.
- Epidemics or pandemics may impact the global economy and could also adversely affect our business, financial condition and results of operations.
- We may not be able to match our production capacity to demand.
- 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.

Risks Related to Our Operations

- Our high fixed costs could adversely impact 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.
- 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 financial results can be affected by fluctuations in exchange rates, principally in the value of the U.S. dollar.
- Our operating results may vary significantly from quarter to quarter and annually and may also differ significantly from our expectations or guidance.
- If our external silicon foundries or back-end subcontractors fail to perform, this could adversely affect our business prospects, financial condition and results of operations.
- 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.
- We may experience quality problems from time to time that can result in decreased sales and operating margin and product liability or warranty 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.
- We may experience delays in delivering our product and technology roadmaps as well as transformation initiatives.
- 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 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.
- 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.
- Market dynamics have driven, and continue to drive us, to a strategic repositioning.
- 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
- We depend on patents to protect our rights to our technology and may face claims of infringing the IP rights of others.
- 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 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.

- 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.
- Climate change and related sustainability regulations and initiatives, including our commitment to become carbon neutral by 2027 on scope 1 and 2 and partially scope 3, could place additional burden on us and our operations.
- Loss of key employees and the inability to continuously recruit and retain qualified employees could hurt our competitive position.
- 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.
- Our shareholder structure and our preference shares may deter a change of control.
- Any decision to reduce or discontinue paying cash dividends to our shareholders could adversely impact the market price of our common shares.
- 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.
- There are inherent limitations on the effectiveness of our controls.
- 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.

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, recessions, 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.

Geopolitical conflicts have resulted in certain countries imposing sanctions. Further consequences of such conflicts could include a risk of further sanctions, embargoes, regional instability, geopolitical shifts and adverse effects on macro-economic conditions, currency exchange rates and financial markets. This could lead to disruption to international commerce and the global economy, and could have a negative effect on our ability to sell to, ship products to, collect payments from, and support customers in certain regions based on trade restrictions, embargoes, logistics restrictions and export control law restrictions. We may also experience a shortage of certain semiconductor components and delays in shipments due to supply chain disruptions caused by geopolitical conflicts, and sales of our products may be negatively impacted by geopolitical conflicts, both directly and indirectly through a reduction of sales or production by our customers in or to affected areas or otherwise.

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 other 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 or pandemics such as disease outbreaks 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, IP and anti-corruption;
- differing practices of regulatory, tax, judicial and administrative bodies, including with regards to the interpretation of laws, governmental approvals, permits and licenses;
- water availability, usage and consumption levels, as well as recycling and discharge practices; and
- labor and human rights, especially in international supply chains.

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

The semiconductor industry is cyclical and has been subject to significant downturns from time to time, as a result of global economic conditions, as well as industry-specific factors, such as built-in excess capacity, fluctuations in product supply, product obsolescence and changes in end-customer preferences.

Downturns are typically characterized by reduction in overall demand, accelerated erosion of selling prices, reduced revenues and high inventory levels, any of which could result in a significant deterioration of our results of operations. Such macro-economic 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 recent increase in inflation rates in the markets in which we operate may lead us to experience higher costs related to labor, energy, water, transportation, wafer and other raw materials costs from suppliers. Our suppliers may raise their prices, and in the competitive markets in which we operate, we may not be able to make corresponding price increases to preserve our gross margins and profitability due to market conditions and competitive dynamics. Additionally, any such increase in prices may not be accepted by our customers.

Epidemics or pandemics may impact the global economy and could also adversely affect our business, financial condition and results of operations.

Epidemics or pandemics may result 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. This may negatively impact 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, during the COVID-19 pandemic, we generally continued to operate in each of the jurisdictions where we were present. However, certain of our facilities were not able to operate at optimal capacity and any future similarly restrictive measures may have a negative impact on our operations, supply chain and transportation networks, and our products and services may not be considered to be essential in the future. In addition, our customers and suppliers may experience disruptions in their operations and supply chains, which could result in delayed, reduced, or cancelled orders, or collection risks, and which may adversely affect our results of operations and financial condition.

During an epidemic or pandemic, governments may look to re-direct resources and implement austerity measures in the future to balance public finances, which could result in reduced economic activity. Any resulting 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 and financial condition.

An epidemic or pandemic may also lead to increased disruption and volatility in capital markets and credit markets. Unanticipated consequences of an epidemic or pandemic and resulting economic uncertainty could adversely affect our liquidity and capital resources in the future.

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

As a result of the cyclicality and volatility of the semiconductor industry, it is difficult to predict future developments in the markets we serve, and, in turn, to estimate requirements for production capacity. If our markets, start-up or ramp-ups in manufacturing operations are not efficiently executed, major customers or certain product designs or technologies do not perform as well as we have anticipated, demand is impacted by factors outside of our or our customers' control, or if there is otherwise any future excess capacity by us or other semiconductor manufacturers, we risk unused capacity charges, price erosion, write-offs of inventories and losses on products that may adversely impact our operating results, and we could be required to undertake restructuring and transformation measures that may involve significant charges to our earnings. Furthermore, during certain periods, the global supply of semiconductor industry fabrication capacity may not be sufficient to meet the demand for semiconductor products. We may also experience increased demand in certain market segments and product technologies and any future shortage of our capacity and the capacity of our sub-contractors may lead to an increase in the lead times of our delivery to customers, us being required to enter into agreements with our suppliers with onerous terms such as take-or-pay arrangements, or 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 may experience 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 may be driven to reduce prices and we may not always be 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 if 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 develop, 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, epidemics or pandemics could cause disruptions from the temporary closure of suppliers' facilities or delays and reduced export or shipment of various materials. Geopolitical conflicts could also disrupt supply chains and cause shortages of certain semiconductor components and corresponding delays in shipments. Any such shortage may impact different geographical markets disproportionately, leading to shortages or unavailability of supplies in specific areas and higher transportation costs. In addition, the costs of certain materials may increase due to recent inflationary rates and 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 able 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.

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.

If our external silicon foundries or back-end subcontractors fail to perform, this could adversely affect our business prospects, financial condition and results of operations.

We currently use external silicon foundries and back-end subcontractors for a portion of our manufacturing activities. 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, financial condition and results of operations.

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 could affect our customers. The geographic spread of epidemics or pandemics may be difficult to predict and adverse public health impacts 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, including our artificial intelligence ("AI") technology, 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, partners 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 IP, system disruptions, and denial of service.

The attempts to breach our systems, including our cloud-based systems, and to gain unauthorized access to our information technology systems are becoming increasingly more sophisticated. These attempts may include covertly introducing malware into 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 IP 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 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.

Geopolitical instability has been associated with an increase in cybersecurity incidents. This may result in a higher likelihood that we may experience direct or collateral consequences from cybersecurity conflicts between nation-states or other politically motivated actors targeting critical technology infrastructure.

U.S. and foreign regulators have increased their focus on cybersecurity vulnerabilities and risks, and customers and service providers are increasingly demanding more rigorous contractual certification and audit provisions regarding cybersecurity and data governance. This may result in an increase of our overall compliance burden due to increasingly onerous obligations and leading to significant expense. There may also be shorter deadlines in which to notify the authorities of data breaches and ever-increasing fines and penalties for businesses that fail to respond swiftly and appropriately to cyberattacks. Any failure to comply could also result in proceedings against us by regulatory authorities or other third parties.

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, including 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, data 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, damage to our reputation and could also affect our relationships with our customers, suppliers and partners. See section 3.3.1.4 (Illustrative risk management measure - protection against cyber threats).

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 processed by us could result in significantly increased security costs or costs related to defending legal claims.

Further, with increasing digitalization, data privacy-related legislations are rapidly evolving around the globe 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.

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 2023 our largest customer, Apple, accounted for 12.3% of our total 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 and financial condition.

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 condition 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, to divest ourselves of or wind down activities that we believe do not serve our longer term business plans, or to enter into partnerships or joint ventures to enter into or strengthen our position in certain markets and increase our scale of operations. 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. Our actual or potential partnerships and joint venture strategies depend in part on our ability to execute sales and operations plans alongside our partner or joint venture.

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, dispositions or partnerships and joint ventures, will be successful and will not result in impairment, restructuring charges and other related closure costs.

Acquisitions, divestitures, partnerships and joint ventures involve a number of risks that could adversely affect our operating results and financial condition, including, in respect of acquisitions and divestitures, the inability for us to successfully integrate businesses or teams that we acquire with our culture and strategies on a timely basis or at all, and the potential requirement for us 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, partnership, joint venture 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, divestitures, partnerships or joint ventures may negatively impact our financial position, including our ability to pay a dividend and/or repurchase our shares, and our credit rating and we could be required to raise additional funding.

Other risks associated with acquisitions include the 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 IP 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. 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 2021, the Organization for Economic Cooperation and Development (OECD) and the G20 Inclusive Framework on base erosion and profit shifting (BEPS) agreed to a two-pillar solution to address the tax challenges arising from the digitalization of the economy. Pillar I is a set of proposals to revisit tax allocation rules in a changed economy. The intention is that a portion of a multinationals' residual profit is taxed in the jurisdiction where revenue is sourced.

Pillar II enforces a global minimum corporate income tax at an effective rate of 15% for large multinationals. On December 20, 2021 the OECD published the Global Anti-Base Erosion Model Rules ("GloBe Rules") for Pillar II. On December 22, 2021, the European Commission published a legislative proposal for Pillar II (the "EU Pillar II Directive").

On December 15, 2022, the Council of the European Union formally adopted the EU Pillar II Directive. The EU Pillar II Directive aims at consistently implementing among all 27 member states the GloBe Rules. EU Member States will have to transpose the EU Pillar II Directive into their national laws and will have to apply the Pillar II measures in respect of the fiscal years beginning on or after December 31, 2023. The Netherlands have transposed the EU Pillar II Directive into its national legislation with effect from December 31, 2023 pursuant to the Dutch Minimum Tax Act 2024 (*Wet minimumbelasting 2024*).

The tax impact of the Pillar I and Pillar II rules is monitored to determine the potential effect on our results and to ensure compliance when the legislation is effective. The impact on the Company's tax position will depend on the changes in the level of tax results within various local jurisdiction and the potential adoption of the legislation in the jurisdiction where the Company operates in 2024. Therefore no quantitative tax impact on the Company's tax position is provided as per December 31, 2023.

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 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.

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.

We have in the past obtained public funding, primarily to support our proprietary R&D for technology investments and investments in cooperative R&D ventures, and expect to obtain public funding in the future, mainly from EU member states (including France, Italy and Malta). 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 or other 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, amongst others, 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, the European Chips Act which entered into force on September 21, 2023 and is designed to bolster Europe's competitiveness and resilience in semiconductor technologies and applications and any similar proposals in other regions, 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 or other investments and ventures, but any reduction in said funding will result in a material adverse effect on our results of operations. Further, this may result in new or existing competitors benefiting 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 various laws and regulations, as well as increasing focus from our stakeholders regarding environmental, health and safety matters, including the use, storage, discharge and disposal of chemicals, gases and other hazardous substances used in our operations. Addressing such focus from stakeholders, as well as 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 become carbon neutral by 2027 on scope 1 and 2 and partially scope 3, 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. As of the end of 2023, we are on track towards our goal to become carbon neutral by 2027 on scope 1 and 2 and partially scope 3, 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 greenhouse gas 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 condition. 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 constraints in the availability of water, changing temperature, wind or precipitation patterns) or acute (event-driven 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 June 18, 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.

Directive (EU) 2022/2464 of the European Parliament and of the Council of December 14, 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting (the “CSRD”), which entered into force on January 5, 2023 and which will apply to our reporting as of financial year 2024, strengthens the rules regarding social and environmental information that is required to be reported. The CSRD seeks to provide investors and other stakeholders with access to the information they need to assess investment risks arising from climate change and other sustainability topics. The CSRD further makes it mandatory for us to have an audit of the sustainability information that we report on. If our disclosure metrics relating to climate change and other sustainability topics 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.

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 understand that as of December 31, 2023, 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. 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 direct 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 Annual 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.

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. 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 in Europe 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 position and results of operations reported in accordance with IFRS will differ from our financial position 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.

3.3.1.3. Managing risk according to our risk appetite strategy

Risk management activities are governed by our risk appetite strategy, which is discussed annually at the Supervisory Board and Audit Committee levels.

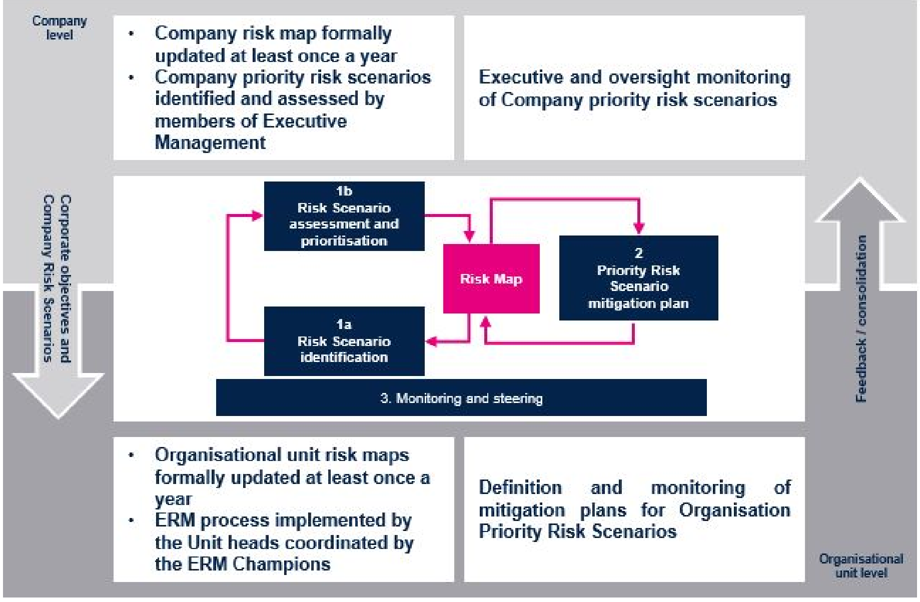
We determine the amount of risk we are willing to pursue or retain, depending on associated expected rewards, opportunities, and costs.

Our risk appetite strategy depends on the nature of risks. As an illustration, we strive to reduce residual exposure to a level as low as reasonably practicable for the following risk categories:

- corporate governance;
- product quality;
- operations resilience (internal events);
- protection of IP and other sensitive information;
- people, health & safety;
- compliance with environmental regulations and commitments;
- adherence to our Code of Conduct and complying with applicable laws & regulations; and
- protection against cyber threats.

ERM PROCESS

The embedded ERM process takes a holistic view, combining both company-wide top-down and bottom-up perspectives, to ensure that specific risk scenarios are addressed at the right level. The process is implemented as described in the following chart:



During 2023, we refreshed our Company risk assessment with the executive management team. The output from this exercise was a risk map linked to our strategic objectives, including nine redefined ‘priority 1’ risk areas.

Risk owners (members of our Senior Management, which consists of our Executive Committee and Executive Vice Presidents as described in section 5.4. (Managing Board)) were appointed for each priority risk area to develop risk response plans, adapt to changing external conditions and enhance monitoring capabilities. The risk response plans are regularly reviewed by our Executive Committee and periodically discussed with the Audit Committee of the Supervisory Board.

Each of our organizational units completes its own risk assessment. This includes marketing and sales regions, product groups, manufacturing and technology, and corporate functions. In addition, we implemented further risk assessments on large company programs, including transformation programs.

3.3.1.4. Illustrative risk management measures

Corporate governance

Our commitment to the good principles of corporate governance is outlined in section 5.1. (Commitment to the principles of good corporate governance). The Supervisory Board and its committees, and the Managing Board, through their structures, charters and activities ensure proper corporate governance as described in chapter 5 (Corporate Governance).

Product quality

Quality is a key value and priority for us. Our vision is to elevate ST to the highest level of quality as an asset for our customers. We can achieve a high level of quality because our employees and management are committed to quality, focused on customer's targets, and improvement programs are effective.

Product Quality & Reliability ("PQR") is organized at Company level and embedded in all our organizations. The PQR leadership team brings together quality directors from across our entire business operations (front-end and back-end manufacturing, product groups, sales regions and corporate organizations) to deploy our quality strategy and quality programs throughout the Company.

We are continuously adapting to have the necessary advanced and innovative infrastructure and organization to ensure our products meet the highest quality and reliability requirements in the markets we address.

Our quality governance is based on our quality management system, part of our enterprise management system, as documented in our quality manual. It details how we implement processes allowing to meet the highest customer and standards requirements.

We adhere to internationally recognized quality management standards. We received our first companywide ISOTS16949 certification in 2003 and this certification was renewed every three years since that time. Since 2018, we have been certified IATF 16949:2016 and ISO 9001:2015 demonstrating our robust quality governance, effective quality management system and quality compliance across the Company. In 2023, we were certified ISO SAE 21434 confirming that we established a certified management system and governance which meets and complies with the requirements of the automotive industry in the field of cyber security process management within product development phases.

Operations resilience

We have extended our risk approach to encompass a dedicated resilience management system ("RMS"), including both business continuity and crisis management, and addressing the following dimensions:

- continuity of the main sites;
- manufacturing flexibility across internal and/or external sites;
- continuity of full supply chain including third parties;
- managing the business continuity and crisis communication to clients and other stakeholders; and
- improving company-wide capability to respond to crises.

In 2023, as per our multi-year improvement roadmap, we further embedded RMS in our main sites and selected organizational units, leveraging our corporate resilience competence center and a global network of resilience champions. We deployed incremental improvements to our RMS (fully aligned methodologies and toolkits across ERM, resilience, business continuity and crisis management). It provides a consistent methodology to address potential business disruptions of our resources, such as:

- site unavailability;
- people unavailability;
- IT system disruptions (e.g. cyber-attacks); and
- critical sourcing and logistics/transportation disruptions.

As such, we address scenarios that may affect our supply chain and operations such as pandemics, natural hazards (such as earthquakes, floods, snowstorms, volcanic eruptions or tsunamis), industrial accidents (such as fires and explosions), facilities/energy interruptions and major impacts related to human activities (such as geo-political tensions, terrorism or strikes).

In 2023, we continued to enhance a company-specific methodology underpinning a global dashboard: a range of relevant indicators based on internal or external standards, covering dimensions such as exposure to natural hazards, loss prevention characteristics, facilities robustness, equipment modernization and redundancy, IT infrastructure quality and cyber protection. For every significant site, those indicators are compiled in our “site resilience index”, which is updated on a quarterly basis. Annually, site management teams prepare and update a site improvement plan accordingly.

We have been ISO 22301 (Security and Resilience) certified since 2016. Throughout 2023, our continuous improvements have been subjected to both internal audits and external surveillance audits from the certification body.

In addition, in 2023, an additional independent audit was completed focusing on the maturity assessment of the design and implementation of our resilience framework, confirming its current level of maturity.

Protection of IP and other sensitive information

We have processes and procedures in place to protect our IP and other sensitive information. This includes a dedicated team of global patent attorneys and patent engineers who harvest and collect inventions generated through our R&D efforts, chair and manage patent committees to determine patent filing strategies and oversee the filing and issuance of our approximately 20,000 patents and patent applications around the world. As part of this process, we offer incentive awards to our inventor community to help ensure their active and on-going participation in protecting this innovation. The patent committees also regularly make decisions on which inventions are better maintained as our confidential or sensitive information. For any information which we deem as confidential or sensitive, we have processes and procedures which restrict any disclosure of such information to any third-party without having in place appropriate measures such as a non-disclosure agreement. We further secure our IP and sensitive information through the administration of our corporate IT security policies and procedures.

People, health & safety

We listen to feedback from customers, investors, partners, employees and management before identifying, prioritizing and managing our environmental, health and safety (“EHS”) risks. Based on feedback from all stakeholders, we maintain a regular materiality exercise on all related topics and update our sustainability strategy accordingly. For each sustainability domain, we define precise ambitions and long-term goals, and deploy the relevant programs to manage the related risks.

We have a Company sustainability council that reviews the progress of these programs and related key performance indicators (“KPIs”) together with our stakeholders’ continuous feedback. EHS risks are reviewed annually through our ERM and business continuity processes. All our plants run their own EHS specific risk analyses and follow-up both on Company and local programs.

Our aim is to prevent employee and environmental risks, including social, chemicals, fire, ergonomics, mechanical, handling, radiation, movements and work at height, nanomaterials, wastes, water or air emission. We take a precautionary approach when assessing new processes, chemicals and products, as set out in principle 15 of the Rio Declaration.

We constantly review our policies and rules, deploy certified management systems such as ISO45001, reinforce our culture, strengthen job hazard analysis and training plans, deploy industry standards such as Responsible Business Alliance (“RBA”), and audit all of our sites. Our EHS performance and management systems are regularly evaluated and certified through internal and third-party audits. Moreover, to limit any risks related to our license to operate, we have a three-year program to conduct third-party EHS legal compliance audits. This program covers 41 sites, including all our manufacturing sites, all our sites with more than 100 employees and some smaller sites and warehouses.

We promote and recognize shared vigilance and drive continuous improvements in behaviors. Everywhere we practice early detection of hazards, unsafe acts and conditions. We systematically implement adequate actions to address weak points and avoid recurrence of near misses. We share all data transparently and adapt our prevention and practices to the highest standards.

Compliance with environmental regulations and commitments

Our approach to managing our Company in an environmentally responsible way is outlined in section 3.4.1. (Environmental matters) and in section 3.4.6. (EU Taxonomy Regulation).

Adherence to our Code of Conduct and complying with applicable laws & regulations

We believe that conducting our business with the highest standard of integrity is essential to our long term success, and that compliance and ethics is everyone's job and responsibility.

Our Code of Conduct is all about our values and the principles contained therein, which are shared throughout the Company, are the top level reference for guiding our behavior, decision making and activities. Our values are:

- Integrity: we conduct our business with the highest ethical standards, honor our commitments, deliver on our promises, are loyal and fair, and stand up for what is right.
- People: we behave with openness, trust and simplicity; we are ready to share our knowledge, encourage everyone's contribution, develop our people through empowerment, teamwork and training; each one of us is committed and personally involved in the continuous improvement process.
- Excellence: we strive for quality and customer satisfaction and create value for all our partners; we are flexible, encourage innovation, develop our competences, seek responsibility and are accountable for our actions; we act with discipline, base our decisions on facts, and focus on the priorities.

In 2023, we continued to push forward and refreshed our compliance & ethics awareness and communication campaign (branded "Building Trust Together"), focusing on the importance of integrity and ethical conduct. This initiative establishes clear expectations throughout the Company and invites all employees to speak up without fear of retaliation.

We use a variety of tools to engage with employees, managers and third parties, such as: face-to-face and town-hall meetings, e-learning modules, dedicated intranet webpage, articles, posters, targeted emails and short videos (available in 10 languages). We have also developed a dedicated mobile application, our ST Integrity App, which we use to provide our employees with quick and easy access to important and useful information, push notifications, fun quizzes, training materials, and a link to our ethics hotline and other useful contact information.

We have a zero-tolerance approach to bribery and corruption, regardless of the identity or position of the originator or recipient of any bribe. It is also strictly forbidden for anybody to use Company funds or assets to make a political contribution.

Our Code of Conduct and Anti-Bribery and Corruption policy, which are available in the corporate governance section of our website at investors.st.com, provide clear definitions regarding instances of bribery and corruption, and include detailed descriptions of the Company's rules for engaging with third-parties. They also explain how to report actual or suspected violations and outline the potential disciplinary actions and legal consequences of any non-compliance.

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. Managers are accountable for maintaining a working atmosphere where employees are comfortable about speaking up and expressing their concerns freely.

Our Speak Up Policy is communicated to all employees through, inter alia, our Code of Conduct, dedicated intranet web page and our ST Integrity App. In addition to Company reporting channels, we have an independent multilingual ethics hotline.

We apply a high standard of confidentiality when handling reports of misconduct (received either through management or through the ethics hotline) to ensure that no employee who reports a concern in good faith suffers retaliation in the form of harassment, adverse employment or career consequences.

Protection against cyber threats

Cybersecurity risk management is an integral part of the overarching risk framework and seeks to identify and address fast-evolving cybersecurity threats. The management of cybersecurity risks are governed by the Executive Committee and receives regular oversight from the Audit Committee as a standing item.

We have a specialized Information Security team within the wider Digital Transformation and Information Technology team of the Company. The Information Security team covers the following:

- program definition and steering;
- framework, which include third-party security;
- awareness and training campaigns;
- architecture and engineering;
- business applications;
- R&D solutions;
- manufacturing and industrial solutions;
- IT infrastructures;
- information security operations (risk-based vulnerability management, privileged access management); and
- detection and reactions to information security incidents, as part of the wider crisis management process.

In particular, within our Information Security team, the Cyber Security Incident Response Team monitor on a continuous basis the evolving cyber threats, and detect and analyze incidents. Based on their initial assessments, any significant risk is escalated and would, if required, trigger the assembly of a Corporate Crisis Team ("CCT"). This CCT would lead the Company response (e.g. containment, forensic investigation, system restoration, and any associated business impact). The CCT would periodically inform the Executive Committee of any developments, and the Executive Committee would in-turn keep the Audit Committee and Supervisory Board informed.

In addition, we have recently created a Third-Party Management function within our procurement department, which will take into consideration cybersecurity risks in the overall management of third parties.

In 2023, an audit by a leading independent organization was completed, focussing on a dedicated review of our cyber crisis playbook.

We have also been certified ISO SAE 21434 (Road Vehicles – Cybersecurity Engineering) since 2022 confirming that we established a certified management system and governance which meets and complies with the requirements of the automotive industry in the field of cyber security process management within product development phases.

3.3.1.5. Risks having had a significant financial impact during 2023

In 2023, no single risk event had a negative material impact on the Company’s financial results.

3.3.2. Internal Control

Our Managing Board is responsible for ensuring that we comply with all applicable legislation and regulations. As such, under the guidance of our Chief Financial Officer, we have established and implemented internal financial risk management and control systems. These controls and procedures are based on identified risk factors that could potentially influence our operations and financial objectives and contain a system of monitoring, reporting and operational reviews.

We regularly evaluate the effectiveness of our internal controls and procedures and correspondingly advise our Audit Committee on the results of such evaluations, any changes to such internal controls and procedures, as well as any significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting, which are reasonably likely to affect our ability to record, process or summarize and report financial information to our auditors and to our Audit Committee. Likewise, any fraud, whether or not material, that involves management, or other employees who have a significant role in our internal control over financial reporting, are disclosed to our external auditors and to our Audit Committee, which informs our Supervisory Board.

We have established policies and procedures which set forth principles, business rules of behavior and conduct which are considered to be consistent with proper business management, in line with our mission and strategic objectives, such as our Code of Conduct.

We have adopted policies and procedures to describe the operational flow of actions to perform a task or activity, or to implement a policy within a given functional field. We have a large number of standard operating procedures which cover a wide range of activities such as approvals, authorizations, verifications, reconciliations, review of operating performance, security of assets and segregation of duties, which are deployed throughout the Company.

Our internal audit organization ("Corporate Audit") is independent of our management. Its primary objective is to enhance and protect organizational value by providing risk-based and objective assurance, advice, and insights.

Internal audit plans are developed by Corporate Audit and apply a risk-based approach. They are reviewed annually by our Audit Committee and approved by our Supervisory Board. Each year, the internal audit plan includes audit assignments covering a variety of organizational units, processes and risks.

Corporate Audit performs its activities in accordance with the International Standards for the Professional Practice of Internal Auditing, published by the Institute of Internal Auditors.

Based on the information included in this section 3.3. (Risk Management and Internal Control) and the outcome of the aforementioned measures, the Managing Board states that to the best of its knowledge: (i) the internal risk management and control systems in place provide a reasonable assurance that the Company’s financial reporting does not include any errors of material importance as of and for the 2023 financial year; (ii) in relation to the Company’s financial reporting these systems operated effectively during 2023; (iii) it is justified that the financial reporting is prepared on a going concern basis; and (iv) the report states those material risks and uncertainties that are relevant to the expectation of the Company’s continuity for the period of twelve months after the preparation of the report.

Our internal risk management and control systems, including the structure and operation thereof, were discussed and evaluated on several occasions with our Audit Committee, and also discussed by our Supervisory Board, during 2023 (in accordance with best practice provision 1.4.1 of the Dutch Corporate Governance Code).

3.4. Sustainability

Sustainability has been a guiding principle at ST for 30 years. We believe that our commitment to a sustainable culture is good for people, the planet, business, and society at large. Our ambition is to create sustainable technology in a sustainable way for a sustainable world, providing long-term value for all our stakeholders.

Sustainability is embedded in all our activities. We implement programs to manage our impacts, opportunities, and risks at each step of our value chain. We create technologies that enable responsible applications for safer, greener and smarter living. We put people first, prioritize health and safety, well-being, human rights and community empowerment. We are committed to minimizing our impact on the environment by reducing our emissions and energy consumption as well as addressing water and waste related challenges. Our goal is to conduct business in a responsible way, while creating profitable growth, managing risks and meeting stakeholder expectations. Our full approach is detailed in our sustainability charter (available on www.st.com/SustainabilityCharter).

At the heart of our strategy is a strong focus on identifying topics that matter to our business and stakeholders. We carry out a materiality exercise every year, including a review with our main stakeholders. These assessments allow us to prioritize and focus on the relevant topics and address these in our strategy, programs and objectives.

As in previous years, the most material topics identified in 2023 were: health and safety, greenhouse gas emissions, water efficiency, ethics, and labor and human rights. In addition, we continued to focus on important topics including energy efficiency, water recycling, waste recycling, talent attraction and engagement, diversity, equity and inclusion as well as corporate social responsibility in our supply chain. For each material topic, we define a specific ambition and a long-term goal.

We are included in several sustainability indices, such as Dow Jones Sustainability Index World and Europe, FTSE4Good, EuroNext VIGEO Europe 120, Eurozone 120 and Benelux 120, CAC 40 ESG, MIB ESG, ISS ESG Corporate Rating, Vérité40 and Bloomberg Gender Equality index. As of 2023, we received an MSCI ESG Rating of AAA[1]. We received an A- score for CDP Water security and an A- score for CDP Climate Change. In addition, as a full member of the RBA, we participate in the collective efforts of the industry to find solutions to global sustainability challenges.

We have been a signatory of the UN Global Compact since 2000. Our sustainability programs are aligned with its ten principles and contribute to 11 of the 17 UN Sustainable Development Goals ("SDG"), as referenced in the table below.

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[1] The use by ST of any MSCI ESG RESEARCH LLC or its affiliates ("MSCI") data, and the use of MSCI logos, trademarks, service marks or index names herein, do not constitute a sponsorship, endorsement, recommendation, or promotion of ST by MSCI. MSCI services and data are the property of MSCI or its information providers and are provided 'as-is' and without warranty. MSCI names and logos are trademarks or service marks of MSCI.

UN Sustainable Development Goals	ST sustainability programs
SDG 3 - Good health and well-being	Health and safety
SDG 4 - Ensure inclusive and quality education for all and promote lifelong learning	Talent attraction and engagement
SDG 5 - Achieve gender equality and empower all women and girls	Diversity, equity and inclusion
SDG 6 - Clean water and sanitation	Water
SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all	Energy and climate change
SDG 8 - Promote inclusive and sustainable economic growth, employment and decent work for all	Labor and human rights Responsible supply chain Health and safety
SDG 9 - Build resilient infrastructure, promote sustainable industrialization and foster innovation	Innovation
SDG 10 - Reduce inequality within and among countries	Diversity, equity and inclusion
SDG 12 - Ensure sustainable consumption and production patterns	Waste and chemicals
SDG 13 - Take urgent action to combat climate change and its impacts	Energy and climate change
SDG 17 - Revitalize the global partnership for sustainable development – multi-stakeholder partnerships	Labor and human rights

During the preparation of this annual report we took note of the guidance on reporting over financial year 2023 issued by the regulator, focussed, amongst others, on the inclusion of further disclosure on various sustainability topics. Although it is our practice to adhere to such guidance as much as possible, for financial year 2023 we have decided to keep our reporting on sustainability topics consistent with prior years, since we are currently extensively preparing to issue an integrated report over financial year 2024, in which this further sustainability disclosure will be included

3.4.1. Environmental Matters

We are committed to managing our business operations in an environmentally responsible way. Consistent with our sustainability approach, 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.

3.4.1.1. Our environmental policy

Our environmental policy (available on www.st.com) describes how we prevent pollution, reduce consumption of natural resources, reduce waste, and minimize impacts from our manufacturing operations. Our environmental policy is in line with international and local regulations and is supported by our sustainability charter.

Our corporate environmental team is responsible for developing environmental programs and procedures. These are then implemented and executed at an operational level by dedicated environmental teams at each site.

Environmental management system

Our environmental management system is aligned with international standards. Almost all our manufacturing sites are ISO 14001, ISO 50001, ISO 14064 certified and Eco-Management and Audit Scheme ("EMAS") validated. Our performance and management system is evaluated annually through third-party surveillance audits, and our certifications are renewed every three years. In 2023, we performed a number of audits and all our sites maintained their certifications. Furthermore, to support our culture of continuous improvement, we also conduct internal audits on a three-year basis.

Environment, health and safety legal compliance

To assess the compliance status of our sites and limit any risks related to our license to operate, we have a three-year program to conduct third-party EHS legal compliance audits. This program covers 41 sites, including all our manufacturing sites, all our sites with more than 100 employees and some smaller sites and warehouses. In 2023 we started a new three-year cycle and 3 sites were audited under this legal compliance audit program. We believe that in 2023 our activities complied with then-applicable environmental regulations in all material respects. We regularly engage external consultants to audit all of our environmental activities and create or update environmental management teams, information systems and trainings. We also regularly review and update environmental procedures for our processes. In 2023, there were no material environmental claims made against us.

Monitoring performance

We evaluate our overall environmental performance by monitoring multiple indicators, such as resource consumption, waste, and air emissions.

All environmental data within the Company is regularly (monthly, quarterly, and annually) collected in our internal central environmental database and reported to all management levels. Tracking the progress of each indicator allows our various sites and organizations to continually adjust and improve their performance. Unless otherwise stated, our environmental data, reported in this section 3.4., covers our 11 largest manufacturing sites.

3.4.1.2. Energy and Climate Change

At the end of 2020, we announced our commitment to become carbon neutral on scope 1 and scope 2 and partially on scope 3 by 2027. This commitment is part of our response to the global climate challenge and reflects our ambition to reduce the impact of our activities on the environment.

Our carbon neutrality program includes:

- a comprehensive roadmap covering the reduction of direct and indirect emissions, including product transportation, business travel, and employee commuting;
- the sourcing of 100% renewable energy by 2027; and
- an intermediate milestone, to be achieved by 2025, with full compliance to the 1.5°C scenario defined at the Paris COP21, endorsed by the Science Based Targets Initiative (SBTi). Our intermediate milestone is to reduce by 50% our direct (scope 1) and indirect (scope 2) emissions by 2025 compared to 2018 and to source 80% of renewable energy by 2025.

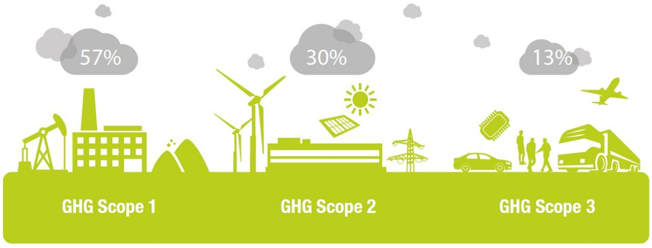
Our comprehensive roadmap includes:

- reduction of direct emissions of greenhouse gases (scope 1), mainly through investment in equipment to burn the gases (PFCs) remaining after manufacturing;

- reduction of overall energy consumption (scope 2), by improving energy efficiency, sourcing renewable energy and saving 150GWh from 2018 to 2027;
- reduction of emissions from product transportation, business travel, and employee commuting (part of scope 3); and
- offsetting of the remaining emissions through the identification and implementation of the most credible and relevant carbon avoidance and sequestration programs. Our current environmental programs and data do not include carbon offsetting projects which will form the final part of our carbon neutrality program.

We measure, manage, and report our direct and indirect emissions in accordance with Scopes 1, 2, and partly 3 of the greenhouse gas protocol.

The graph below highlights the breakdown of our greenhouse gas emissions for scopes 1, 2 and part of scope 3.



In 2023, we continued our progress towards carbon neutrality and, although there was an increase in our scope 1 and part of scope 3 emissions (the reasons for which are explained further below), we decreased our global greenhouse gas emissions, as detailed in the table below:

Summary of net CO_2 equivalent emissions (KTons)(1)	**2023**	**2022**	**2021**	**2020**	**2019**
Direct emissions scope 1	514(2)	504	481	486	557
Indirect emissions (purchased electricity) scope 2 market-based (3)	272	358	473	564	702
Other indirect emissions (transportation(4)) part of scope 3	120(5)	111	90	86	143
Total emissions	**906**	**972**	**1,044**	**1,137**	**1,402**

(1) The sums may not add up due to rounding of the figures.
(2) 2019 refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories used starting in 2023.
(3) Market-based calculation method according to the greenhouse gas protocol standard, includes renewable electricity purchases. Location-based emissions calculated in accordance with the greenhouse gas protocol standard = 902 KTons of net CO_2 equivalent for 2023.
(4) The transportation emissions value is a global estimate of employee transportation and transportation of goods.
(5) Increase of post-pandemic business travel and increase of production resulting in increased goods transportation.

Our comprehensive program

(i) Reducing our direct emissions

The use of perfluorinated compounds (“PFC”) in the manufacture of semiconductors accounts for a significant share of our direct air emissions, as defined by scope 1 of the greenhouse gas protocol. It is therefore a central part of our environmental strategy to reduce their use and ensure they are treated appropriately before being released into the atmosphere. In 2023, we installed and activated 53 new PFC abatement systems in several of our sites.

In 2023, we updated our methodology to calculate our GHG emissions from PFC usage, in line with the 2019 refinement to the IPCC Guidelines for National Greenhouse Gas Inventories to align with the World Semiconductor Council's recommendation of May 2023. This updated calculation methodology and an increase in production, have resulted in a 2% increase in our scope 1 direct emissions reported in absolute values. This updated methodology also explains why our PFC emissions per unit of production remained stable despite the installation of new PFC abatement systems.

	2023(1)	2022	2021	2020	2019
PFC emissions Per unit of production - normalized values	54	54	56	74	80

Baseline 100 in 2016.

(1) 2019 refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories used starting in 2023.

(ii) Reducing energy consumption

In 2023, our energy consumption increased (per unit of production) compared to 2022. This was due to an increase in the use of advanced manufacturing technologies, some of which have a higher environmental impact in the manufacturing phase, but the devices are designed to consume less energy in the end application. Despite this, we achieved a 17% decrease vs 2016, contributing to our 2025 goal of 20% decrease compared to 2016.

	2023	2022	2021	2020	2019
Consumption of energy Per unit of production - normalized values	83	80	81	99	86

Baseline 100 in 2016.

All our manufacturing sites continue to develop initiatives to optimize their energy consumption, such as increasing efficiency in the production process, updating and renewing manufacturing equipment and installing energy efficient lighting.

(iii) Increasing our use of renewable electricity

Renewable sources provided 71% of the electricity we purchased in 2023, compared to 62% in 2022. This is in line with our 2027 target to source 100% renewable electricity. This was mainly due to the purchasing of more renewable electricity certificates. Solar and wind power purchase agreements also play a major role in our transition to 100% renewable electricity by 2027. In 2023, we signed a 15-year power purchase agreement with ERG for the renewable energy to our sites in Italy.
The below table shows our renewable electricity purchased over the past 5 years:

	2023	2022	2021	2020	2019
Renewable electricity (%) / total electricity purchased	71%	62%	51%	43%	30%

Covers our 11 main manufacturing sites, plus Rennes back-end, Castelletto and Grenoble.

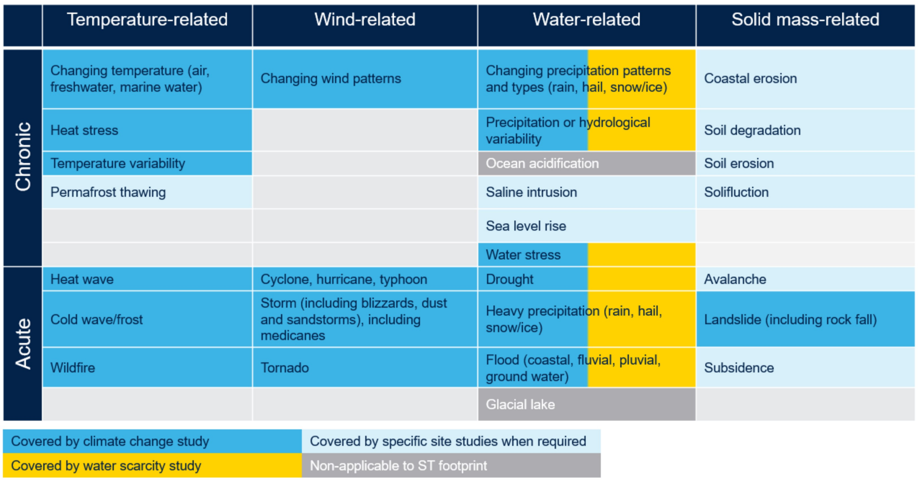
Addressing climate-related risks

Since 2020, when we declared our support for the Taskforce on Climate-related Financial Disclosure ("TCFD"), we have been working towards implementing TCFD recommendations.

We adopt a double perspective when considering climate-related risks:

- impact of our activities on the environment and people, and
- impact of climate change on our activities.

In 2023, we continued to work to address physical risks resulting from climate change that are either chronic (induced by longer-term shifts in climate patterns) or acute (event-driven) in a way that is consistent with the TCFD and the EU Green Deal classification, as illustrated in the following chart.



	Temperature-related	Wind-related	Water-related	Solid mass-related
Chronic	Changing temperature (air, freshwater, marine water)	Changing wind patterns	Changing precipitation patterns and types (rain, hail, snow/ice)	Coastal erosion
	Heat stress		Precipitation or hydrological variability	Soil degradation
	Temperature variability		Ocean acidification	Soil erosion
	Permafrost thawing		Saline intrusion	Solifluction
			Sea level rise	
			Water stress	
Acute	Heat wave	Cyclone, hurricane, typhoon	Drought	Avalanche
	Cold wave/frost	Storm (including blizzards, dust and sandstorms), including medicanes	Heavy precipitation (rain, hail, snow/ice)	Landslide (including rock fall)
	Wildfire	Tornado	Flood (coastal, fluvial, pluvial, ground water)	Subsidence
			Glacial lake	

Covered by climate change study	Covered by specific site studies when required
Covered by water scarcity study	Non-applicable to ST footprint

In 2023, we commissioned an update of the science-based study from an expert third-party to assess the current and future climate risks on our 155 most critical locations (including all our main sites and those of our key manufacturing and logistics partners in our supply chain, located in 25 countries). To guide our adaptation efforts, the analysis was based on two climate change scenarios defined by the United Nations Intergovernmental Panel on Climate Change (IPCC):

- SSP2-4.5 (mid-century warming of 1.6 to 2.5°C, end of century warming of 2.1 to 3.5°C versus pre-industrial era)
- SSP5-8.5 (mid-century warming of 1.9 to 3°C, end of century warming of 3.3 to 5.7°C versus pre-industrial era)

For each scenario and for each of the 155 locations, climate projections on 2030 and 2050 time horizons show likely evolutions across a range of indicators based on the European Taxonomy classification of climate-related hazards, including:

- cyclonic and non cyclonic wind gusts;
- coastal and riverine floods;
- number of very heavy precipitation days;
- freezing conditions such as cold wave duration, number of frost days, or percentage of very cold days;
- extreme heat conditions, including heatwave duration and percentage of very warm days;
- drought including dry wave duration and water stress; and
- landslides, mud flows, rock falls.

A study commissioned in 2021 (referenced below) from a different expert third-party, an environmental consultancy, has been a valuable resource to help us understand the characteristics and impact of water scarcity and our carbon footprint .

In addition to these global analyses, site-specific studies on natural hazards are also conducted where necessary due to local conditions.

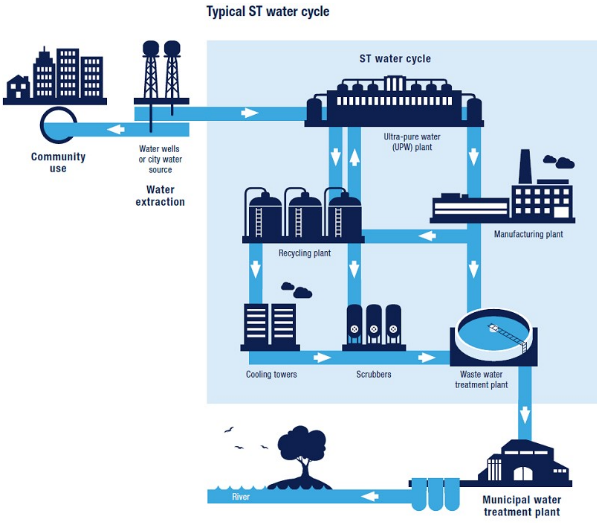
Overall, the purpose of these different climate-related analyses is to feed our site-level business interruption risk assessments and business impact analyses, as well as our site resilience index. Ultimately, they feed into our regularly updated improvement, adaptation and mitigation plans addressing environmental and resilience issues in the medium to long-term.

We are proactively addressing the transition to a lower-carbon economy. In this context, we are in the process of further identifying and assessing policy, legal, technology, and market transition risks, across the short, medium and long-term, as per the TCFD provisions. Simultaneously, we are actively investing in developing and launching new products to help our customers implement new energy saving applications, transforming risk into opportunity, as further described in section 3.4.6. (EU Taxonomy Regulation) below.

3.4.1.3. Water

We have a holistic water strategy, and our management approach includes water stress assessments, conservation programs, water efficiency, and wastewater treatment. To support this, we also consider our energy supply and aim to select the most water-efficient energy sources.

The graph below describes our typical water cycle.



Our Global Water Policy is available on www.st.com. It reflects, among others, our commitments and approach to managing water within our operations as well as our positive contribution to society and the planet. The policy is based on four key principles:

- demonstrating water conservation leadership;
- managing water risks and opportunities;
- enabling solutions for the world; and
- engaging with stakeholders.

It is our ambition to increase the water resilience of our sites and implement mitigation strategies to minimize risks related to water availability and biodiversity. This process includes reviewing our energy supply to select the most water-efficient energy sources.

We aim to minimize any impact from our operations on local communities through careful management and committed partnerships; and create value by providing responsible products and technologies. Our long-term goal is to implement solutions that protect water resources, and deliver long-term societal value, especially in water-stressed areas.

Assessing and monitoring our impact

A reliable water supply is essential for manufacturing semiconductors. All our sites manage their water-related risks, according to their needs and water availability. Each site monitors the volume of water it uses and complies with local regulations. We engage in regular discussions with local stakeholders and implement solutions to reduce water extraction and consumption. As in 2022, in 2023, 87% of the water used throughout our operations came from municipal water supplies, with 13% coming from groundwater.

Assessing water-related risks

In 2021, we conducted a water assessment to evaluate our global water footprint and identify water stress areas, water-related risks of our operations, as well as our impact on local communities. Using the lifecycle assessment approach, we evaluated our direct and indirect impacts. Using the Water Risk Filter 5.0 methodology, we also identified that most of our manufacturing sites are at medium risk for operational and external risks, water quality and scarcity. In 2022, we went a step further, evaluating each of our manufacturing sites to assess relevant risks and formalize water saving action plans. As a result, all sites defined remedial actions. In 2023 we conducted a detailed review of the environmental impact assessments of our manufacturing sites to verify compliance with current legislation and identify potential areas of improvement. Our approach to sustainable use and protection of water and marine resources is also reflected in section 3.4.6. (EU Taxonomy Regulation, specifically the section Do no significant harm (DNSH).

Reducing our water use

(i) Water efficiency

We aim to reduce our water use by continuously improving water efficiency across our operations. In 2023, our water consumption increased (per unit of production) compared to 2022. The increase was due to an increase in the use of advanced manufacturing technologies, some of which have a higher environmental impact in the manufacturing phase, but the devices are designed to have a positive environmental impact in their use phase. Despite this, in 2023, we reduced our water consumption by 10% per unit of production compared to 2016. Our 2025 goal is to improve our water efficiency by 20% compared to 2016. We recognize that further efforts will be necessary to meet this target and we are implementing the action plans identified for each site. Examples of actions being taken are: (i) recycling of waste water to manufacture softened water and ultra-pure water, reducing the use of municipal water for industrial purposes; (ii) drainpipe replacement, drain hose segregation, and the use of recycled water for the cooling tower instead of fresh water and (iii) installation of smart water metering systems to identify and mitigate water consumption inefficiencies and detect leaks and water wastage.

	2023	**2022**	**2021**	**2020**	**2019**
Consumption of water Per unit of production - normalized values	90	88	89	106	91

Baseline 100 in 2016.

(ii) Water recycling

In 2023, our water recycling rate was 42%, the same level as in 2022. Further efforts are needed to reach our annual goal to recycle at least 50% of water used each year. We have identified our sites where we need to accelerate actions to drive us to our goal.

Water recycling rate	2023	2022	2021	2020	2019
Water reused, sent for recycling, or recovered	42%	42%	40%	41%	41%

One of our main approaches to overall water conservation is to reuse and recycle. However, as we use ultrapure water in our processes, it is not always possible to reuse processed water. Although water can be treated and recycled into ultrapure water, it is more often reused to cover facility needs, such as cooling towers, scrubbers and thermal processing units.

3.4.1.4. Waste

Our waste management strategy is based on the proper classification, separation and safe disposal of waste. It is driven by both local regulations and Company policy, with our sites being expected to respect the most stringent of these requirements. Wherever possible, we give priority to reduction, reuse, recycling and recovery over incineration and landfill. We strive for zero waste and promote a circular economy. Our approach to recycling waste is also further reflected in section 3.4.6. (EU Taxonomy Regulation, specifically the section Do no significant harm (DNSH) - Circular Economy).

In 2023, 96% of the waste generated by our operations was either reused, recovered, or sent for recycling, one percentage point higher than in 2022, in line with our 2025 goal to reach a recycling rate of 95%.

Waste recycling rate	2023	2022	2021	2020	2019
Waste reused, sent for recycling, or recovered	96%	95%	90%	88%	94%

3.4.2. Labor and Human rights

Labor and human rights are at the core of our history and culture. We continuously monitor and update due diligence programs to identify, prevent, mitigate, and remediate labor and human rights risks, both within our operations and throughout our supply chain. Our programs are established to ensure that all our employees are treated with respect and dignity. We enforce advanced standards and apply a holistic due diligence process covering nine core human rights principles: freely chosen employment, prevention of underage labor and protection of young workers, fair organization of working time, fair wages and benefits, fair treatment and anti-harassment, non-discrimination, freedom of association, fair working conditions and employee well-being, and privacy of personal information.

The main management systems and programs we use to monitor, control and improve labor conditions in our operations are:

- a corporate Labor and Human Rights policy deployed throughout our operations (available on www.st.com) aligned with the nine core principles described above;
- an internal audit program on labor and human rights, targeting our manufacturing sites, allocating priorities with timely and adequate corrective follow-up actions; and
- RBA human rights self-assessments at all our major sites and third-party RBA audits at our 11 largest manufacturing sites.

We run internal audits on labor and human rights at our major sites. In 2023, we conducted two labor and human rights internal audits. The areas of improvement identified were related to management systems and to labor issues such as working hours, overtime rates, days off, and housing standards.

All major production and design sites are required to answer the RBA risk self-assessment on an annual basis, covering 89% of our employees. In 2023, the sites scored from 73.7 to 97/100.

We also run third-party RBA Validated Assessment Program (“VAP”) audits at our 11 largest manufacturing sites, covering more than 80% of our employees. These audits highlight any gaps at the sites, help to identify areas that

require improvement, and strengthen the local social responsibility culture. In 2023, five of our manufacturing sites obtained RBA Platinum recognition with full compliance (200/200) during their initial audit. With this recognition as per December 31 2023, nine of our largest manufacturing sites had a RBA Platinum recognition, one a RBA Gold recognition and one a RBA Silver recognition. As a result, we consider that 10 out of 11 or our largest manufacturing sites achieved recognition as defined in our 2025 goal - 100% of largest manufacturing sites with external recognition. Our 2023 RBA audit average score exceeds the industry average by 55 points in initial audits and by 6 points in closure audits.
The table below shows an overview of VAP audits performed and their results over the past 5 years.

RBA VAP[1] audit score (score out of 200)	**2023**	**2022**	**2021**	**2020**	**2019**
Number of initial audits	6	5	6	5	3
ST average score (initial audit)[2]	199	173	155	186	176
Comparison ST vs electronic industry average	+55	+29	+10	+45	+47
Number of closure audits	1	5	6	4	5
ST average score (closure audit)[2]	187	200	198	198	183
Comparison ST vs electronic industry average	+6	+19	+20	+22	+13

(1) VAP: Validated Assessment Program.
(2) Full mark = 200/200

In 2023, the preventive and corrective actions implemented in our operations are described in the table below.

Description	**Actions implemented**
Risk assessment	• Update of internal documentation to encompass regular updates and assessment of labor and human rights risks.
Reporting of violations and promise of non-retaliation	• Enhanced communication on grievance mechanisms, including posters, roundtables, and informative sessions, including with supervisors. • Design of checks, including post-meeting questionnaires to verify the effectiveness of the communication channels implemented.
Prevention of underage (child labor) and protection of young workers	• Update of local policies and implementation and check of procedures to ensure full overview and verification of all workers' ages before entering the premises.
Awareness on RBA standard and worker's rights	• Design and implementation of tools to communicate and address questions from employees on social responsibility standards.

To improve our overall performance, we regularly train our community and we encourage best practice sharing between the sites.

We aim to improve workers' awareness of their labor rights and to amplify workers' voices to improve working conditions and mitigate issues that contribute to forced labor. Our Code of Conduct and related 'speak up' culture ensures employees are aware of how to raise grievances. Our approach to labor and human rights is also further reflected in section 3.4.6. (EU Taxonomy Regulation, specifically the section Minimum Safeguards).

3.4.3. Anti-bribery and corruption matters

We conduct our business with the highest standards of integrity and believe this is essential for our long-term success. At ST, compliance and ethics are everyone's job and everyone's responsibility. We have a zero-tolerance approach to bribery and corruption, regardless of the identity or position of the originator or recipient of any bribe. It is also strictly forbidden for anybody to use Company funds or assets to make a political contribution. Our Code of Conduct and Anti-Bribery and Corruption policy, which are available in the corporate governance section of our website at investors.st.com/corporate-governance and https://investors.st.com/corporate-governance/compliance-ethics-privacy, respectively, provide clear definitions regarding instances of bribery and corruption, and include detailed descriptions of the Company's rules for engaging with third-parties. They also explain how to report actual or suspected violations and outline the potential disciplinary actions and legal consequences of non-compliance. Risks of non-compliance with our Code of Conduct and Anti-bribery and Corruption policy and relevant mitigation actions are further described above in sections 3.3.1.2 (Risk factors) and 3.3.1.3. (Managing risk according to our risk appetite strategy).

Any actual, potential or suspected violations of our Anti-Bribery and Corruption policy and all requests for bribes must be reported without delay. Such reports must be made in accordance with our Speak Up Policy, as further described in section 3.3.1.4. (Illustrative risk management measures, more specifically the paragraph Adherence to our Code of Conduct and complying with applicable laws and regulations). Records of all reports that have been made within our Company, are kept by either the Chief Audit and Risk Executive or the Chief Compliance & Ethics Officer. If any situation of bribery or corruption is identified, it is investigated and reported to our Audit Committee. Any violation of our Anti-Bribery and Corruption policy will be deemed a serious violation of our principles and will lead to disciplinary actions including and up to termination of the relationship with us.

Our approach to anti-corruption and bribery matters is also further reflected in section 3.4.6. (EU Taxonomy Regulation, specifically the section Minimum Safeguards).

The below table sets forth an overview of concerns reported through our ethics hotline in 2023 and 2022(1):

Ethics Hotline Reports	**2023**	**2022**
Number of cases	**337**	**102**
Number of cases under review as of January 1st	17	7
Number of cases reported during the year	320	95
Number of cases per category		
Asset misappropriation	24	3
Bribery & corruption	11	9
Conflict of interest	7	2
Fraudulent statements	0	0
Harassment and other behavioral issues	187	66
Environment, health & safety issues	5	2
Data privacy	0	0
Cyber security	9	0
Insider trading	0	0
Other grievance	94	20
Cases closed after a preliminary assessment or formal investigation	**260**	**85**
Number of confirmed external misconduct cases	4	5
which led to termination of contracts with business partners	0	4
Number of confirmed internal misconduct cases	71	29
which led to employees being dismissed or disciplined(2)	51	28
Cases still open at year end	**77**	**17**
Number litigations or investigations conducted by authorities regarding corruption against us or our employees	**0**	**0**

(1) We included locally reported cases, in addition to cases reported at corporate level.

(2) After follow-up actions, including coaching, training and awareness sessions, which are not considered disciplined measures.

3.4.4. Social and employee matters

3.4.4.1. Health and safety

Health and safety is a constant priority for us. We protect the health and safety of our employees and contractors by providing a safe working environment aiming to prevent work related injuries and illnesses. We offer access to healthcare and believe it is essential to invest in the well-being of our people to create a positive and productive workforce. These values are shared and reinforced across all our sites.

We have implemented a robust health and safety management system throughout our Company. Our main manufacturing sites are ISO 45001 certified.

Our performance and management systems are evaluated annually through third-party surveillance audits and certifications are renewed every 3 years. All sites follow our corporate occupational health and safety policy (available on our website www.st.com), which aims to establish and maintain health and safety best practices.

In 2023, we audited nine sites as part of our internal corporate EHS audit program that aims to assess a site's performance and practices against EHS objectives, programs, and procedures.

We continually strengthen our safety culture by re-enforcing safe behaviors and working conditions through visits, training, audits, best practice sharing and communication. We encourage the reporting and investigation of near-misses, hazards, and unsafe behaviors and conditions as part of our proactive approach.

We align our safety programs with industry risks, with a priority on preventing employees' potential exposure to hazards such as chemicals, fire, radiation and nanomaterials; movements and work at height; and mechanical, handling and ergonomic risks.

In 2023, we maintained our safety performance through collective efforts across our sites, with a recordable case rate (injuries) for our employees of 0.10, better than our target of 0.13.

	2023	2022	2021	2020	2019
Employee recordable case rate - injuries	0.10	0.10	0.12	0.14	0.16

Per 100 employees per year as defined by OSHA-US regulation.

The total recordable rate which includes our employees' and contractors' injuries and occupational diseases was 0.14, 0.02 points higher than in 2022, but nevertheless in line with our 2025 goal of less than 0.15. The table below shows the total recordable rate as of 2021, when we started to monitor this rate.

	2023	2022	2021
Total recordable case rate for employees and contractors – injuries and illnesses	0.14	0.12	0.15

Per 100 employees per year as defined by OSHA-US regulation.

We believe in helping our employees to adopt healthy lifestyles because we know good health is the foundation of a fulfilling and productive life. Our health plan provides our employees with a high level of medical care, including regular medical check-ups, vaccinations and prevention screening.

Employee well-being and high-quality working conditions are a priority for us. In 2020, we partnered with an external healthcare platform which provides 24/7 access to dedicated confidential assistance. Nearly 16,000 connections to the platform have been registered since it opened in 2020. A network of over 300 psychologists and other specialists is also available to employees and their families.

3.4.4.2. Attraction and engagement

Recruiting and retaining the best talent is a critical cornerstone to supporting and sustaining our business growth ambitions. It enables us to address staffing challenges such as the competitive labor market, the size of the labor pool, skill shortages and the need to rejuvenate our workforce by recruiting young talent. In 2023, we have continued to improve employee experience through an effective strategic end to end talent management, boosted by internal mobility and development opportunities. We also continued to build strategic partnerships with universities and engineering schools throughout the world to ensure a regular flow of candidates, while also establishing education pathways to respond to our specific competence needs.

Our 2023 employee survey consisted of 75 questions covering key categories, including engagement, organizational agility, quality, and customer focus. The global participation rate was 87% of employees and the overall engagement index was 86%. This is an increase of 3 points on 2021 (when our last full engagement survey was conducted), and one point above the Global High Performance1 Benchmark (75th percentile score).

Employee survey – engagement rate (%)	**2023**	**2022 (1)**	**2021**	**2020**	**2019**
Overall participation rate	87	67	89	89	90
Individual engagement index	86	86	83	82	79

(1) In 2022 we did not run a full engagement survey, but rather a focus survey on diversity, equity and inclusion.

3.4.4.3. Diversity, Equity and Inclusion

We are a global company with a presence in more than 40 countries and we offer a diverse working environment. We have more than 50,000 employees with more than 120 nationalities working together as one team. We believe that diversity, equity and inclusion enable innovation and stakeholder engagement, as well as personal and company growth. We have zero-tolerance for discrimination of any kind and are committed to building a diverse workforce throughout our organization, including but not limited to, nationality, age, gender, disability, ethnic origin, and personal beliefs.

Diversity, equity and inclusion, is an important pillar of our employer value proposition. It is prominent in all our employer branding campaigns and is a tracked indicator in all our recruitment worldwide. Our aim is to overcome stereotypes by continually reinforcing an inclusive mindset that recognizes the value and richness of a diverse workforce. To help us achieve this, we provide diversity and inclusion training for our employees. In 2023, over 8,000 employees completed the diversity, equity and inclusion e-learning course.

3.4.4.4. Gender balance

On January 1, 2022, the Dutch Gender Balance Act (Wet evenwichtige man-vrouw verhouding, “GBA”) promoting gender diversity within the management of large companies entered into force. Pursuant to the GBA, below we report on (i) the current composition of our Supervisory Board, Managing Board and our Senior Management (as defined in chapter 5. Managing Board) in number of men and women, (ii) the gender diversity target that we have set for our Supervisory Board and our Senior Management, (iii) our action plan to reach these gender diversity targets; (iv) the results of our efforts in meeting the set gender diversity targets. For the purpose of reporting under the GBA, we consider our Senior Management to be our sub-top as referenced in the GBA.

We operate in an industry in which women are traditionally under-represented, and it is a priority for us to attract, retain and grow our female talent pool. We aim to encourage girls to choose technical studies at an early stage in their education, helping us to address the shortage of women in technical positions. In 2023 we continued to promote diversity in STEM (Science, Technology, Engineering and Mathematics) functions. We organized local initiatives that raise awareness among people about the importance of STEM related subjects.

Composition of our Supervisory Board, Managing Board and Senior Management indicated in number of men and women

On December 31, 2023, our Managing Board consisted of one male, Mr. Jean-Marc Chery, the sole member of our Managing Board, our President and Chief Executive Officer.

On December 31, 2023, our Supervisory Board consisted of 9 members, of which 4 female (44%) and 5 male (56%). Please refer to section 4.1. (Composition of the Supervisory Board) for further details on the composition of our Supervisory Board.

On December 31, 2023, our Senior Management consisted of 31 members, of which 3 female (10%) and 28 male (90%). More specifically, on December 31, 2023, our Executive Committee consisted of 9 members, of which 1 female (11%) and 8 male (89%), and our Executive Vice Presidents as a group consisted of 22 members, of which 2 female (9%) and 20 male (91%). Please refer to section 5.4. (Managing Board) for further details on the composition of our Senior Management.

Gender diversity target for our Supervisory Board, Managing Board and Senior Management

Gender diversity target Managing Board. Our Managing Board has historically consisted of one person, therefore we have not set a gender diversity target for our Managing Board.

Gender diversity target Supervisory Board. As stated in our gender diversity policy for our Supervisory Board, the gender diversity target for our Supervisory Board is that at least 30% of its members is male and at least 30% is female. On December 31, 2023, our target was exceeded for both the male and female members of our Supervisory Board as mentioned above.

Gender diversity target Senior Management. Our gender diversity target for our Senior Management is that at least 20% is female and at least 20% is male by 2025, to ensure a more balanced ratio of male and female members within our Senior Management. The same target applies respectively to our Executive Committee, and to our Executive Vice Presidents as a group.

Gender diversity action plan

Managing Board. We do not have a gender diversity action plan in place for our Managing Board as our Managing Board consists of one member and this practice is expected to continue in the coming years, and we have subsequently not set a gender diversity target for our Managing Board.

Supervisory Board. No specific gender diversity action plan is in place for our Supervisory Board as in its current composition our gender diversity targets for our Supervisory Board are met and even exceeded.

Senior Management. We have implemented a gender diversity action plan to achieve the above mentioned gender diversity target for a more balanced ratio of male and female members in our Senior Management. This plan is applied respectively to our Executive Committee and to our Executive Vice Presidents as a group.

We are committed to strengthening the role of women in building the future of our Company and have therefore accelerated the relevant programs aimed at increasing the proportion of women in management roles. Programs such as the Women in Leadership ("WIL") and Advanced Women in Leadership ("AWIL") programs play a key role in preparing the pipeline of women in management roles within our Company to ultimately reach the above mentioned gender diversity target in our Senior Management, in our Executive Committee and in our Executive Vice Presidents as a group.

The WIL program launched in 2015 for junior and middle management aims to prepare the next generation of female leaders. The AWIL program, launched in 2021 is aimed at senior female managers and directors to identify their leadership style and increase their visibility and recognition within our Company. Both programs consist of training, coaching and mentoring.

Furthermore, we are committed to continuing our efforts to ensure that 30% of recruits in executive positions are women.

Results

Supervisory Board. With regard to our Supervisory Board, the gender diversity target of at least 30% male and at least 30% female has been exceeded.

Senior Management. With regard to our Senior Management, in 2023, we exceeded our target of 30% on all exempt hiring which increased our women managerial talent pool. Our WIL and AWIL programs accelerate the development of women for leadership positions in our Company. We continue to make progress in women representation at all management levels, and thus are confident to reach our gender diversity target for our Senior Management by 2025.

Due to a shortage of women in our executive talent pool, the female representation within our Senior Management remained unchanged compared to December 31, 2022. More specifically per December 31, 2023: (i) the female representation in our Senior Management remained 10%; (ii) the female representation in our Executive Committee remained 11% and (iii) the female representation in our Executive Vice Presidents as a group remained 9%.

We remain committed to increasing the representation of women in executive levels, both by increasing the internal pool and building an external one with sourcing partners.

Women in our management

At the end of 2023 35% of our global workforce consisted of women. Strengthening the role of women in building our future is one of our ongoing objectives. Our target for 2025 is to increase the percentage of women at all management levels to 20%. As shown in the table below, we continue making progress.

Women in management (%)	**2023**	**2022**	**2021**	**2020**	**2019**
Junior managers	27	27	26	25	24
Experienced managers	21	20	20	19	18
Directors and senior managers	16	15	14	13	13
Executives (total)	14	13	10	10	9
of which belong to the Executive committee and Executive Vice President group	10	9	12	4	4
Total women in management position (%)	**20**	**19**	**18**	**17**	**17**
Women in the Supervisory Board	44	44	44	44	44

3.4.5. Corporate social responsibility in our supply chain

As a multinational company with a complex supply chain, our corporate social responsibility goes beyond our own operations and includes a review of our suppliers and subcontractors. We are committed to partnering only with suppliers who share our values of respecting people and the environment. We increasingly raise the corporate social responsibility standards expected from them and reinforce our internal capacity to address and remediate any adverse impact identified.

To identify, manage, prevent, and mitigate sustainability risks, we conduct regular risk assessment of our supply chain during the life cycle of our business relationship.

- We assess risks prior to on-boarding suppliers. In 2023, 100% of our new material suppliers were assessed for sustainability risks, including, amongst others, risks on forced labor, occupational health and safety and the environment. We conduct an annual risk assessment of our tier one suppliers based on specific risk criteria. These include supplier activity risks and supplier location risks extracted from a supply chain intelligence platform. We refine the process according to spend and the regular presence of suppliers on site.
- When specific risks, such as forced labor, are identified in our upstream supply chain, we extend our due diligence to sub-tier suppliers.

Once on-boarded, suppliers must declare that they have read and understood our business ethics and corporate responsibility statement and that they agree to comply with the latest version of the RBA code of conduct and to deploy the code to their own supply chain. In addition to this, we require our high-risk suppliers to go through a three-step process:

- Commitment letter: suppliers sign a supply chain responsibility commitment letter, agreeing to comply with the RBA code of conduct, to complete self-assessment questionnaires and accept second or third-party audits;
- Self-assessment questionnaire: suppliers complete an RBA risk self-assessment (SAQ); and
- Audit and follow-up: suppliers receive a third-party RBA VAP audit, or a second-party RBA-based audit, to monitor and control compliance and address areas of non-compliance with corrective actions. All audited suppliers with non-conformances must put corrective actions in place. These are verified in a follow-up closing audit.

97% of our high-risk suppliers signed the RBA commitment letter to contractually engage on RBA standards and audits.

3.4.6. EU Taxonomy

3.4.6.1 The EU Taxonomy Regulation

On July 12, 2020, EU Regulation 2020/852 of the European Parliament and of the Council of June 18, 2020 (the “EU Taxonomy Regulation”) entered into force. The EU Taxonomy Regulation establishes the basis for a classification system to determine which economic activities can be considered environmentally sustainable. The EU Taxonomy Regulation is part of the EU's overall efforts to reach the objectives of the European Green Deal, Europe's strategy towards climate neutrality in 2050. The EU Taxonomy Regulation is designed as a transparency tool to help companies and investors make sustainable investment decisions, with the overall purpose to steer financing towards more sustainable economic activities. Pursuant to the EU Taxonomy Regulation, we are required to disclose information on how and to what extent our activities qualify as environmentally sustainable. The EU Taxonomy Regulation is implemented in phases and will further develop over the coming years. Consequently, disclosure obligations under the EU Taxonomy Regulation will enter into force in multiple phases. The EU Taxonomy Regulation effective as per reporting year 2021 is recent legislation and includes additional reporting obligations for financial year 2023 as a result of changes to the EU Taxonomy Delegated Acts (as defined below) and presentation formats.

Environmental objectives

The EU Taxonomy Regulation defines overarching conditions which an economic activity must meet to be considered environmentally sustainable and focuses on six environmental objectives, being (i) climate change mitigation, (ii) climate change adaptation, (iii) the sustainable use and protection of water and marine resources, (iv) the transition to a circular economy, (v) pollution prevention and control and (vi) the protection and restoration of biodiversity and ecosystems. For these environmental objectives, several delegated acts have been issued containing technical screening criteria (“Taxonomy technical screening criteria”), which specify environmental performance requirements for the economic activities to be classified as environmentally sustainable (“EU Taxonomy Delegated Acts”).

On January 1, 2022, the EU Taxonomy Delegated Act on climate change mitigation and climate change adaptation entered into force. The EU Taxonomy Delegated Acts on the other four environmental objectives entered into force on January 1 2024, as well as the amended EU Taxonomy Delegated Acts on climate change mitigation and climate change adaptation (the "Climate Delegated Act").

Eligibility and alignment

For financial year 2023, as a non-financial undertaking, we have to disclose information on our economic activities which are eligible (“Taxonomy-eligible”), non-eligible ("Taxonomy non-eligible") and aligned (“Taxonomy-aligned“) under the EU Taxonomy Regulation.

An economic activity can be considered Taxonomy-eligible when the economic activity is described as such in the relevant EU Taxonomy Delegated Act. To assess whether the relevant economic activity can also be considered Taxonomy-aligned, an additional evaluation must be made to identify if the overarching Taxonomy technical screening criteria are met. Economic activities that are not described in the EU Taxonomy Delegated Acts are considered Taxonomy non-eligible.

3.4.6.2 Applicability of the EU Taxonomy Regulation to ST

As a listed company the EU Taxonomy Regulation is applicable to us, and subsequently, we must disclose information on how and to what extent our economic activities are associated with economic activities that qualify as environmentally sustainable under the EU Taxonomy Regulation.

We have taken note of the developments of the EU Taxonomy Delegated Acts relating to the six environmental objectives. We notably screened all the economic activities listed in the EU Taxonomy Delegated Acts for each environmental objective. Our activities are not described in the EU Taxonomy Delegated Act on the other four environmental objectives and are not included in the additional activities added to the Climate Delegated Act. This assessment did not result in additional disclosures on economic activities included herein compared to our reporting over financial year 2022.

For financial year 2023 in relation to climate change mitigation and climate change adaptation, we hereinafter include disclosure of: (i) Taxonomy-eligible and Taxonomy-aligned economic activities, (ii) Taxonomy-eligible and Taxonomy-non-aligned economic activities, and (iii) Taxonomy non-eligible economic activities within our turnover, capital expenditure and operating expenditure. In addition for financial year 2023, in relation to the four other environmental objectives, we hereinafter include disclosure of Taxonomy non-eligible economic activities within our turnover, capital expenditure and operating expenditure.

The following disclosures pursuant to the EU Taxonomy Regulation are based on the most recent interpretations of the EU Taxonomy Regulation as published by the European Commission. Acknowledging that the EU Taxonomy Regulation is still under development and its interpretation and application is evolving, our disclosure approach under the EU Taxonomy Regulation might consequently evolve accordingly.

Environmentally sustainable activities

Under the EU Taxonomy Regulation an economic activity is considered environmentally sustainable (“EU Taxonomy-aligned”) if it meets the following conditions:

1. provides a substantial contribution to one of the six above-mentioned environmental objectives by complying with Taxonomy technical screening criteria;
2. does not significantly harm any of the other environmental objectives (i.e. does not support one environmental objective at the expense of progress on another environmental objective) (“DNSH”); and
3. complies with internationally recognized minimum safeguards (e.g. OECD Guidelines for Multinational Enterprises, UN Guiding Principles on Business and Human Rights) (“MSS”).

We assessed our economic activities against the EU Taxonomy Regulation classification system in various steps, amongst others: (i) identifying the economic activities relevant for the EU Taxonomy Regulation disclosure, (ii) performing a Taxonomy-eligibility assessment based on the relevant EU Taxonomy Delegated Act, and (iii) assessing Taxonomy-alignment of the economic activities. For the disclosure of Taxonomy-eligibility and Taxonomy-alignment we assessed the proportion of our turnover, capital expenditure and operating expenditure, related to environmentally sustainable activities.

Enabling economic activity

We believe that the semiconductor industry plays a key role as a strategic enabler of a low carbon society as well as to manage the transition towards carbon neutrality. As part of our value proposition, we aim at designing and manufacturing products that are power efficient and support our customers in developing technologies that have low carbon footprint. Low carbon applications such as electric mobility, renewable energies, smart cities, or smart building have been and remain strategic markets for us. We are a market leader in the design and manufacturing of power solutions and motor control enabling products, in which there are ample opportunities for short-term impact on greenhouse gas emissions. We are also a market leader in terms of ultra-low power ICs such as sensors or microcontrollers.

While some sectors contribute directly to climate change mitigation and climate change adaptation, we, as an intermediate product manufacturer, enable "the manufacturing of low-carbon technologies", which activity is also covered by the EU Taxonomy Regulation classification system. Our activities which aim at contributing to climate change mitigation and climate change adaptation, are the manufacturing of electronic components that enable other sustainable economic activities and applications. The relevant EU Taxonomy Delegated Act lists economic activities that may be considered Taxonomy-eligible based on associated so-called NACE codes. For our Taxonomy-eligibility we report on NACE code 26: "Manufacture of computer, electronic and optical products"; and NACE code 26.11: "Manufacture of electronic components". NACE code 26.11 is considered relevant for the semiconductor market as confirmed in the guidance published on the interpretation of the EU Taxonomy Regulation by the European Commission in October 2022. For financial year 2023, we therefore continue reporting under section 3.6 of the EU Taxonomy Delegated Act on Manufacture of low carbon technologies.

Our EU Taxonomy-eligibility assessment

In our Taxonomy-eligibility assessment we identified all our products, which aim at contributing substantially to climate change mitigation. These products are divided into the following four product categories: (i) products that have a low carbon manufacturing footprint compared to similar products of a previous generation, (ii) products that have low power consumption or low power loss characteristics compared to similar products manufactured by us or others, (iii) products that bring an advantage to run a low greenhouse gas emission end application or (iv) products that bring an advantage to improve efficiency of high greenhouse gas emitting end applications.

With regard to climate change adaptation, we constantly assess how our products could contribute to climate change adaption and potentially qualify under the relevant EU Taxonomy criteria. Capital expenditure related to the implementation of climate change adaptation solutions is less than 1% of our total capital expenditure as reported in Notes 7.6.10, 7.6.11 and 7.6.12 of our consolidated financial statements for the year ended December 31, 2023.

3.4.6.3 EU Taxonomy reporting – Taxonomy-eligible economic activities related to climate change mitigation

Our approach towards application of the EU Taxonomy Regulation for the relevant KPIs: turnover, capital expenditure and operating expenditure for EU Taxonomy reporting purposes is reflected below.

Turnover of Taxonomy-eligible economic activities

In our Taxonomy-eligibility assessment all our product lines have been reviewed. Products falling into one of the four product categories referenced above are considered Taxonomy-eligible and we have included the relevant turnover generated from those products in the Taxonomy turnover calculation.

This assessment resulted in a turnover of Taxonomy-eligible economic activities amounting to 40% of our total revenues reported for the financial year 2023, whereby the denominator is based on our total revenues as reported on the consolidated income statement for the year ended December 31, 2023, while the numerator is based on the total net turnover of our products considered as Taxonomy-eligible. This is to compare to 38% for the financial year 2022, following product portfolio evolution.

Capital expenditure of Taxonomy-eligible economic activities

To determine the Taxonomy-eligible portion of our capital expenditure the following has been taken into account:

- investments in our technologies, which have been directly associated with Taxonomy-eligible product lines based on our capital expenditure plan for each technology;
- individual measures, such as investments for our carbon neutrality program or investments related to energy efficiency of our processes;
- investments related to IP or licenses or capitalized development costs, which have been classified as Taxonomy-eligible based on the relevant product line; and
- lease of buildings and equipment which have been considered as fully or partially Taxonomy-eligible.

For determining the Taxonomy-eligible portion of the capital expenditure, the denominator is determined based on the 2023 additions to property, plants and equipment (including rights of use for leased assets), intangible assets (including capitalized development costs), as reported in Notes 7.6.10, 7.6.11 and 7.6.12 of our consolidated financial statements for the year ended December 31, 2023.

Furthermore, the numerator equals the part of the capital expenditure (including IFRS 16 leases) related to assets or processes that (i) are associated with Taxonomy-eligible economic activities, (ii) are part of a capital expenditure plan to expand Taxonomy-eligible economic activity, and (iii) are individual measures enabling economic activities to become low-carbon or to lead to greenhouse gas reduction.

This results in a capital expenditure of Taxonomy-eligible economic activities amounting to 48% of our total capital expenditure for the financial year 2023, higher than the ratio published for the financial year 2022 (46%). This growth is primarily driven by a more granular and wider coverage of our investments review.

Operating expenditure of Taxonomy-eligible economic activities

For determining the operating expenditure of Taxonomy-eligible economic activities, the denominator is determined based on R&D expenses, as reported in our consolidated income statement for the year ended December 31, 2023, after deducting depreciation and amortization, certain expenses and overheads, which are not directly associated with the development of new products or technologies.

Furthermore, the numerator equals to the part of the operating expenditure included in the denominator that is any of the following: (a) related to assets or processes associated with Taxonomy-eligible economic activities, (b) part of the capital expenditure plan to expand Taxonomy-eligible economic activities. For the numerator, we reviewed each R&D project with the following approach:

- each R&D project linked to a product line classified as Taxonomy-eligible resulted in Taxonomy-eligible operating expenditure; and
- for the remaining R&D projects serving multiple product lines or technologies, we applied relevant allocation keys taking into account, amongst others, the above mentioned Taxonomy-eligible portion of our turnover.

This assessment results in operating expenditure of Taxonomy-eligible economic activities amounting to 47% of our total operating expenditure for the financial year 2023, compared to 35% in 2022. This growth is primarily driven by a more granular and wider coverage of our R&D projects review.

3.4.6.4 EU Taxonomy Regulation reporting – Taxonomy-aligned activities related to climate change mitigation

As mentioned above, Taxonomy-alignment implies that the economic activities comply with the following three conditions:

(i) providing a substantial contribution to one of the six environmental objectives by complying with the Taxonomy technical screening criteria;

(ii) complying with the DNSH criteria; and

(iii) complying with the minimum safeguards criteria.

(i) Substantial contribution

Turnover of environmentally sustainable (Taxonomy-aligned) economic activities

To verify to what extent the turnover is aligned according to the Taxonomy technical screening criteria of the "Substantial contribution to climate change mitigation" from EU Taxonomy Regulation, we apply the principles of the described activity as reflected under 3.6 "Manufacture of other low carbon technologies": "the economic activity manufactures technologies that are aimed at and demonstrate substantial life-cycle greenhouse gas emission savings compared to the best performing alternative technology/product/solution available on the market".

In the case of semiconductors, the greenhouse gas reduction can come from both products (supply, manufacturing, end-of life) as from contributions to application impact (usage). Therefore, we have adopted a combined approach to reflect this duality. Firstly, for all our product lines classified as Taxonomy-eligible on the basis of their low power consumption characteristics or the low manufacturing footprint criteria, life-cycle greenhouse gas emissions have been calculated and compared to a previous generation of products made by us. As a result, the sales of certain products have been excluded from our turnover calculation. For the product lines classified as Taxonomy-eligible on the basis of their contribution in a low or high greenhouse gas emitting end applications, a second assessment has been performed at application level, aiming at qualifying our substantial contribution. We have considered an internal application classification to reflect the overall impact of the semi-conductor on the electricity consumption of the application, hence its implied greenhouse gas emissions. We selected the turnover of our product lines ending in applications considered, as either low greenhouse gas emitting applications (e.g. electric vehicle) or high greenhouse gas emitting but transitional applications (e.g. data center servers), on the basis of the high impact of the semiconductor in the reduction of greenhouse gas emissions during the operating lifetime of the applications.

Capital expenditure of environmentally sustainable (Taxonomy-aligned) economic activities

A similar approach as for Taxonomy-eligibility has been adopted to determine the Taxonomy-alignment of our capital expenditure and consistent with the approach defined for the Taxonomy-alignment of the turnover. Notably for the main category related to the investment in our technologies, where the investment supporting product lines aligned as per the turnover approach were included i.e. the ones bringing a key advantage to low or transitional greenhouse gas emitting end applications.

An allocation key derived from the proportion of our aligned investment was applied to building and equipment, and other capital expenditure not directly linked to a product line.

Operating expenditure of environmentally sustainable (Taxonomy-aligned) economic activities

A similar approach as for Taxonomy-eligibility has been adopted to determine the Taxonomy-alignment of operating expenditure, and consistent with the approach defined for the Taxonomy-alignment of the capital expenditure. Substantial contribution was determined by either associating the R&D project with a product line, or by applying a relevant ratio of aligned turnover.

(ii) Do No Significant Harm (DNSH)

The second pillar of our approach to Taxonomy-alignment relates to the demonstration that our economic activity does no significant harm to the other five environmental objectives included in the EU Taxonomy Regulation:

- climate change adaptation;
- sustainable use and protection of water and marine resources;
- pollution prevention and control regarding use and presence of chemicals;
- protection and restoration of biodiversity and ecosystems; and
- circular economy.

For each environmental objective, we have designed templates to approach the various sub-criteria in a consistent manner across our activities. Only the pollution prevention and control regarding use and presence of chemicals' objective resulted in the identification of product lines which were not compliant and had a direct negative impact on the Taxonomy-aligned turnover, capital expenditure and operating expenditure KPIs.

Climate change adaptation

As mentioned in 3.4.1 section, we performed a climate risk and vulnerability assessment together with an external provider to ensure that climate projections are based on state-of-the-art science compared to two scenarios set out by the United Nations Intergovernmental Panel on Climate Change, as required under this DNSH criterion. This assessment covers all relevant ST and partner sites and features a risk analysis (projected evolution of physical risks (natural hazards)) as well as an overall vulnerability assessment (aggregated peril-score compiling the overall multi-natural-hazard exposure to future climate). Once finalized, the detailed results (with site specific areas of focus) were communicated to all relevant internal stakeholders at corporate levels. Priority sites were identified based on these results. These sites provided a preliminary view on existing climate change adaptation efforts based on their exposure and will continue working on a more detailed roadmap in terms of climate change adaptation.

The outcome of this analysis confirmed our compliance with the DNSH criterion in connection with climate change adaptation.

Sustainable use and protection of water and marine resources

We have completed an environmental assessment for all our manufacturing sites and main R&D centers and have a view at site and corporate levels on the risks associated with the preservation of the water quality and the prevention of water stress. As part of our environmental processes, we have actions plan in place to address the risks identified to ensure that deterioration is avoided.

All our manufacturing sites and several of our key sites of R&D are ISO 14001 certified for our environmental management system. Most manufacturing and R&D sites are EMAS validated.

The outcome of this analysis confirmed our compliance with the DNSH criterion in connection with sustainable use and protection of water and marine resources.

Pollution prevention and control regarding use and presence of chemicals

Managing chemical substances and materials used in our manufacturing sites is critical for protecting people, preserving the environment, and complying with legal and customer requirements. Accordingly, for all materials including chemicals and gases entering at any of our sites, a site chemical committee authorizes the use and evaluates the best management solutions, both for new processes and modification of existing processes. In addition, since 1996 we have defined our environment, health and safety regulated substances list detailing the substances, which use is prohibited and those which use is restricted to selected applications only and/or is subject to strict measures.

The review performed for the DNSH assessment was done at substance level in order to evaluate if our activities do not lead to the manufacture, placing on the market or use of the listed substances as reflected in the relevant DNSH – criteria following from the EU Taxonomy Delegated Act. For each of the requirements following from the DNSH-criteria a detailed evaluation was carried out comparing the requirements to the current situation in our manufacturing sites and subcontracted manufacturing activities. This analysis included an assessment of the manufacturing-related raw materials delivered to all our sites. For the financial year 2023, we have considered the updated Appendix of the DNSH pollution leading to an adjustment of our approach compared to the financial year 2022.

A detailed assessment was performed at product line level in order to exclude associated revenues not compliant with the Appendix C paragraphs and to enable consistency with the approach taken for turnover. Notably, exclusions were performed when substances of very high concern were above the threshold as included in Appendix C or when not in compliance with the regulations and directives mentioned in Appendix C. We used the possibility to consider compliance in case there is no technical alternative available on the market and that those substances are used under controlled conditions, only for one substance - Lead - used in our manufacturing process. ST is a member of the Die Attach5 consortium which seeks to standardize solutions for lead-free solders for attaching dies to packages during manufacturing, however at this stage Lead used in the semi-conductor industry does not have currently a suitable alternative available on the market.

The outcome of this analysis confirmed that most of our product lines are compliant with the EU Taxonomy Regulation. However, part of our turnover was excluded notably due to the use of substances of very high concern above the mentioned threshold. Alternatives are constantly being further investigated in our manufacturing processes or products. This may result in adjustment of this assessment and related reporting in the future.

Consistent with the approach defined for the turnover, the investment supporting product lines not compliant with DNSH on pollution prevention were excluded from the Taxonomy-alignment of the capital expenditure and any R&D project linked to a product line not compliant as per the DNSH on pollution prevention was excluded from the Taxonomy-alignment of the operating expenditure.

Protection and restoration of biodiversity and ecosystems

We have completed an environmental assessment for all our manufacturing sites and main R&D centers. All the sites have put in place policies on the impact of their activities on the environment and maintain a system to monitor and manage such impact. In addition, we commissioned a specific study from an external provider to provide an assessment on the biodiversity and ecosystems in the areas close to our sites and operations. Our sites were assessed from our front-end and back-end activities, along with three R&D and design centers. To date, several initiatives have been carried out to protect biodiversity of the areas around our sites (e.g. low mowing or insect hotels). Certain sites have defined biodiversity targets and started the evaluation of the diversity of species in their vicinity.

Based on the outcome of the specific biodiversity and ecosystems study, ongoing efforts are taken at our sites to assess enhanced potential mitigation measures to further protect the environment.

The outcome of this analysis confirmed our compliance with the DNSH criterion in connection with protection and restoration of biodiversity and ecosystems.

Circular economy

We have deployed several actions to promote the reuse and use of secondary raw materials and reused components in manufactured products. Our recycling solution for silicon for example allows avoiding extraction and transportation of silicon. Furthermore, our scrap of silicon is valorised in a foundry where when added to aluminium it is then used in automotive, aeronautics and solar panel manufacturing.

Our waste management process prioritises recycling over disposal, in the manufacturing process. Action plans have been defined at site level to increase the recycling rate. These actions are verified during RBA, ISO 14001 or EMAS audits. First actions have been implemented to reduce the packaging, then the remaining waste is compressed and recycled. Several initiatives are in place, for example, some of our wafers and frame packing are returned to suppliers and reused by them, or our carton waste resulting from material packaging is sent for recycling.

Information on and traceability of substances of concern throughout the life cycle of the manufactured products are notably performed through material declaration forms. Our analysis as part of the DNSH pollution prevention also demonstrates our ability to identify the substance present in our processes or in products.

The outcome of this analysis confirmed our compliance with the DNSH criterion in connection with circular economy.

(iii) Minimum Safeguards

The last pillar of the Taxonomy-alignment assessment relates to the compliance with minimum safeguards. We have performed a detailed analysis of the following regulations: the OECD Guidelines for Multinational Enterprises, the United Nations Guiding Principles on Business and Human Rights, including the principles and rights set out in the eight fundamental conventions identified in the Declaration of the International Labour Organisation on Fundamental Principles and Rights at Work and the International Bill of Human Rights. Our review also included the EU Charter of Fundamental Rights and the European Pillar of Social Rights. Our financial year 2022 analysis was reviewed and updated for financial year 2023, considering the FAQ published by the European Commission in October 2022 with additional analysis performed on Corruption, Taxation and Fair competition criteria. Our 2023 assessment also took into account the updated version of the OECD guidelines published in 2023.

Our analysis was performed on our own operations based on internal audit (e.g. for taxation), procedures (e.g. corporate labor and human rights), programs (e.g. ST anticorruption program), policies (e.g. speak up policy) and our code of conduct in place. We also assessed our supply chain with a focus on subcontractors and high risk/strategic suppliers (according to the spend level, the nature of the activity, and the geographical location of the supplier) and other business relationships with a focus on our main customers which are RBA members. The analysis was performed and discussed with the relevant experts and senior level stakeholders within ST.

The outcome of this analysis confirmed our compliance with the minimum safeguards.

3.4.6.5 EU Taxonomy reporting tables

Turnover

The proportion of turnover from products associated with Taxonomy-aligned economic activities reached 12% for the financial year 2023, compared to 9% in 2022. The increase is driven by the combined effects of the introduction of a threshold in the Annex C of the DNSH pollution and the wider coverage of life-cycle assessments as described in section 3.4.6.4.

				Substantial Contribution Criteria						DNSH criteria ('Does Not Significantly Harm')										
Economic Activities	**Code**	**Absolute turnover**	**Proportion of Turnover**	**Climate Change Mitigation**	**Climate Change Adaptation**	**Water**	**Pollution**	**Circular Economy**	**Biodiversity and ecosystems**	**Climate Change Mitigation**	**Climate Change Adaptation**	**Water**	**Pollution**	**Circular Economy**	**Biodiversity and ecosystems**	**Minimum Safeguards**	**Taxo-nomy aligned propor-tion of total turnover, 2023**	**Taxo-nomy aligned propor-tion of turnover, 2022**	**Category (enabling activity)**	**Category (transi-tional activity)**
		USDm	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*%*	*%*	*E*	*T*
A. TAXONOMY-ELIGIBLE ACTIVITIES																				
A.1. Environmentally sustainable activities (Taxonomy-aligned)																				
Manufacture of other low carbon technologies		2,095	12%	100%	—%	N/EL	N/EL	N/EL	N/EL	n.a	Y	Y	Y	Y	Y	Y	12%	9%	E	
Turnover of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**2,095**	**12%**	**100%**	**—%**	**N/EL**	**N/EL**	**N/EL**	**N/EL**	**n.a**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**12%**	**9%**	E	
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																				
Manufacture of other low carbon technologies		4,800	28%							**n.a**	**Y**	**Y**	**N**	**Y**	**Y**	**Y**				
Turnover of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		**4,800**	**28%**							**n.a**	**Y**	**Y**	**N**	**Y**	**Y**	**Y**	**28%**	**29%**		
Total (A.1+A.2)		**6,895**	**40%**														**40%**	**38%**		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																				
Turnover of Taxonomy-non-eligible activities		**10,391**	**60%**																	
Total (A+B)		**17,286**	**100%**																	

Capital expenditure

The proportion of capital expenditure (CapEx) associated with Taxonomy-aligned economic activities reached 17% for the financial year 2023, compared to 12% in 2022. This increase is primarily attributable to our strategic investments in technologies directly linked to Taxonomy-aligned product lines, as outlined in our individual technology CapEx plans.

				Substantial Contribution Criteria						DNSH criteria ('Does Not Significantly Harm')										
Economic Activities	**Code**	**Absolute CapEx**	**Proportion of CapEx**	**Climate Change Mitigation**	**Climate Change Adaptation***	**Water**	**Pollution**	**Circular Economy**	**Biodiversity and ecosystems**	**Climate Change Mitigation**	**Climate Change Adaptation**	**Water**	**Pollution**	**Circular Economy**	**Biodiversity and ecosystems**	**Minimum Safeguards**	**Taxonomy aligned proportion of total CapEx, 2023**	**Taxonomy aligned proportion of CapEx, 2022**	**Category (enabling activity)**	**Category (transitional activity)**
		USDm	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*%*	*%*	*E*	*T*
A. TAXONOMY-ELIGIBLE ACTIVITIES																				
A.1. CapEx of environmentally sustainable activities (Taxonomy-aligned)																				
Manufacture of other low carbon technologies		733	17%	100%	0*%	N/EL	N/EL	N/EL	N/EL	n.a	Y	Y	Y	Y	Y	Y	17%	12%	E	
CapEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**733**	**17%**	**100%**	**0%**	**N/EL**	**N/EL**	**N/EL**	**N/EL**	n.a	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**17%**	**12%**	E	
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned)																				
Manufacture of other low carbon technologies		1,332	31%							**n.a**	**Y**	**Y**	**N**	**Y**	**Y**	**Y**				
CapEx of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		**1,332**	**31%**							**n.a**	**Y**	**Y**	**N**	**Y**	**Y**	**Y**	**31%**	**34%**		
Total (A.1+A.2)		**2,065**	**48%**														**48%**	**46%**		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																				
Capex of Taxonomy-non-eligible activities		**2,195**	**52%**																	
Total (A+B)		**4,260**	**100%**																	

(*) due to rounding

Operating expenditure

The proportion of operating expenditure (OpEx) associated with Taxonomy-aligned economic activities reached 14% for the financial year 2023, compared to 10% in 2022. As per the eligibility ratio, this growth is primarily driven by a more granular and wider coverage of our R&D projects review.

				Substantial Contribution Criteria						DNSH criteria ('Does Not Significantly Harm')										
Economic Activities	Code	Absolute OpEx	Proportion of OpEx	Climate Change Mitigation	Climate Change Adaptation	Water	Pollution	Circular Economy	Biodiversity and ecosystems	Climate Change Mitigation	Climate Change Adaptation	Water	Pollution	Circular Economy	Biodiversity and ecosystems	Minimum Safeguards	Taxonomy aligned proportion of total OpEx, 2023	Taxonomy aligned proportion of OpEx, 2022	Category (enabling activity)	Category (transitional activity)
		USDm	*%*	*%*	*%*	*%*	*%*	*%*	*%*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*Y/N*	*%*	*%*	*E*	*T*
A. TAXONOMY-ELIGIBLE ACTIVITIES																				
A.1. Environmentally sustainable activities (Taxonomy-aligned)																				
Manufacture of other low carbon technologies		212	14%	100%	—%	N/EL	N/EL	N/EL	N/EL	n.a	Y	Y	Y	Y	Y	Y	14%	10%	E	
OpEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)		**212**	**14%**	**100%**	**—%**	**N/EL**	**N/EL**	**N/EL**	**N/EL**	**n.a**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**14%**	**10%**	**E**	
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																				
Manufacture of other low carbon technologies		519	33%							**n.a**	**Y**	**Y**	**N**	**Y**	**Y**	**Y**				
OpEx of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		**519**	**33%**							**n.a**	**Y**	**Y**	**N**	**Y**	**Y**	**Y**	**33%**	**25%**		
Total (A.1+A.2)		**732**	**47%**														**47%**	**35%**		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																				
OpEx of Taxonomy-non-eligible activities		**840**	**53%**																	
Total (A+B)		**1,572**	**100%**																	

3.4.6.6 Future developments

There is still currently limited guidance published on the interpretation of various elements of the EU Taxonomy Regulation. Despite the fact that we have carefully balanced our assessment and disclosures on the EU Taxonomy Regulation, taking into account the latest publications, this is only the second reporting year for the Taxonomy-alignment and can still be considered to be a transitionary year. This reporting may still differ from future disclosures as more guidance becomes available over time.

In the coming years, we will continue to report under the EU Taxonomy Regulation regarding our Taxonomy-eligible and our Taxonomy-aligned economic activities. This entails a further and continuous review of our products, do no significant harm procedures and minimum safeguards assessment. Future guidance on the EU Taxonomy Regulation could result in updated definitions and other decision-making in meeting reporting obligations that may come into force notably related to the DNSH pollution prevention and control criteria or the definition of the operating expenditure. We expect that our reporting will evolve over time as more insights will be gained on how best to comply with the EU Taxonomy Regulation.

3.4.7. Corporate Sustainability Reporting Directive

We will become subject to further sustainability related reporting requirements in the near future. Directive (EU) 2022/2464 of the European Parliament and of the Council of December 14, 2022, amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting (the "CSRD"), entered into force on January 5, 2023.

The CSRD modernizes and strengthens the rules about the social and environmental information that companies have to report. The CSRD aims to ensure that investors and other stakeholders have access to the information they need to assess investment risks arising from climate change and other sustainability topics. As of our reporting in relation to financial year 2024, the CSRD will require us to disclose information on the basis of European Sustainability Reporting Standards (“ESRS”) in our annual report. Based on the ESRS, we will be required to report on the way we operate and manage social, environmental and governance related impact, risks and opportunities. Specific metrics related to social, environmental and governance related matters will have to be disclosed according to relevant ESRS. The bulk of the required sustainability information is already present within the organization and we are is well on our way to implement the data collection and the streamlining of the integration process in accordance with the CSRD. This information will be disclosed in our Dutch Annual Report starting from financial year 2024 expected to be filed in March 2025, and audited as per the mandatory requirement.

4. Report of the Supervisory Board

The supervision of the policies and actions of our Managing Board is entrusted to our Supervisory Board, which, in a two-tier corporate structure under Dutch law, is a separate body and fully independent from our Managing Board. In fulfilling their duties under Dutch law, our Supervisory Board members serve the best interests of ST and its business, taking into consideration the interests of all ST shareholders and other stakeholders.

Our Supervisory Board supervises and advises our Managing Board in performing its management tasks and setting the direction of our affairs and business. Among other matters our Supervisory Board supervises the structure and management of systems of internal business controls, risk management, strategy and the financial reporting process. In addition, it determines the remuneration of the sole member of the Managing Board within the remuneration policy adopted by the General Meeting of Shareholders.

The members of our Supervisory Board are carefully selected based on their combined experience, expertise, knowledge, as well as the business in which we operate. Our Supervisory Board is empowered to recommend to the general meeting of shareholders, people to be appointed as members of our Supervisory Board and our Managing Board.

In performing its duties, our Supervisory Board is advised and assisted by the following committees: the Strategic Committee, the Audit Committee, the Compensation Committee, the Nominating and Corporate Governance Committee and the Sustainability Committee. The committees all report to our Supervisory Board. Only members of the Supervisory Board can be committee members.

Our Supervisory Board has determined, based on the evaluation of 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 its consolidated subsidiaries, or its 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. As a result, we have deviated from the independence criteria as included in best practice provision 2.1.8 of the Dutch Corporate Governance Code, specifically item vii. of this best practice provision, which states that a supervisory board member is not independent if he/she (or his/her registered partner or other life companion, foster child or relative by blood or marriage up to the second degree as defined under Dutch law) is a member of the management board — or is a representative in some other way — of a legal entity which holds at least 10% of our shares, unless such entity is a member of our Group. Our independence criteria however comply with corporate governance listing standards of the New York Stock Exchange.

Our Supervisory Board also adopted specific criteria to assess the independence of its members, which can be found in Annex A to the Supervisory Board charter as available on investors.st.com/supervisoryboardcharter. On that basis, our Supervisory Board concluded that all members qualify as independent based on the criteria set forth above.

The Supervisory Board is pleased to report on its committees and its various activities in 2023.

4.1. Composition 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. In performing its duties, our Supervisory Board shall be guided by the interests of our Company and its business; it shall take into account the relevant interests of all stakeholders (including our shareholders). The Supervisory Board is responsible for the quality of its own performance.

Our Supervisory Board consists of such number of members as is resolved by our AGM upon a non-binding proposal of our Supervisory Board, with a minimum of six members. Decisions by our AGM concerning the number and the identity of our Supervisory Board members are taken by a simple majority of the votes cast at a meeting, provided quorum conditions are met.

Our Supervisory Board was composed of the following nine members as of December 31, 2023(1):

Name	Position	Year First Appointed	Term Expires	Nationality	Gender	Age
Nicolas Dufourcq	Chairman	2015	2024	French	Male	60
Maurizio Tamagnini	Vice Chairman	2014	2026	Italian	Male	58
Janet Davidson	Member	2013	2024	American	Female	67
Yann Delabrière	Member	2020	2024	French	Male	73
Ana de Pro Gonzalo	Member	2020	2025	Spanish	Female	56
Frédéric Sanchez	Member	2017	2026	French	Male	63
Donatella Sciuto	Member	2022	2025	Italian	Female	61
Paolo Visca(1)	Member	2023	2026	Italian	Male	62
Hélène Vletter-van Dort(1)	Member	2023	2025	Dutch	Female	59

(1) Ms. Heleen Kersten and Mr. Alessandro Rivera were members of our Supervisory Board until May 24, 2023, on which date their term expired and on such date Mr. Paolo Visca and Mrs. Hélène Vletter-van Dort were appointed as new members of the Supervisory Board.

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 (and in 2023, our Supervisory Board met 12 times), including to approve our quarterly, semi-annual and annual accounts and their release. In 2023, the average attendance rate for the meetings of our Supervisory Board was 91%. Our Supervisory Board has adopted (i) a Supervisory Board charter, (ii) a profile for the Supervisory Board based on which proposed new members of the Supervisory Board are selected (both of which are available on our website (www.st.com)), (iii) a diversity policy for the composition of the Managing Board, the Executive Committee and the Supervisory

Board, and (iv) a selection criteria and appointment procedure for the Supervisory Board and Managing Board members.

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.

Biographies

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

Maurizio Tamagnini has been a member of our Supervisory Board since June 2014 and is the Vice Chairman of our Supervisory Board since June 2023. He also serves on our Supervisory Board's Nominating & Corporate Governance Committee, Sustainability Committee, Compensation Committee and Strategic Committee. Mr. Tamagnini is currently Chief Executive Officer of FSI SGR S.p.A., an asset management company sponsored, until July 2022, by CDP SpA (with a 39% ownership), which is 82.7% controlled by the Italian Government. FSI SGR S.p.A. manages "FSI I" and "FSI II", private equity closed-end funds with approximately €2 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 SpA. 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 SpA. 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 33 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.

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 and chairs our Supervisory Board's Sustainability 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, United States of America, and Lehigh University, Bethlehem, PA, United States of America, and holds a Master's degree in Electrical Engineering.

Yann Delabrière has been a member of our Supervisory Board since June 2020 and serves on our 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 as advisor to the board and then in June 2017 as 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 Chief Executive Officer (between October 2018 and July 2020). He has been appointed a non-executive member of the board of directors of Leddar Tech in February 2021. Mr. Delabrière has also been the lead independent director of Alstom since March 2017 and 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 École Normale Supérieure and the École 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).

Ana de Pro Gonzalo has been a member of our Supervisory Board since June 2020. She chairs our Supervisory Board's Audit Committee and serves on our Supervisory Board's Sustainability Committee. She has been an independent non-executive director for Mobico Group PLC (formerly National Express Group PLC) and a member of its safety and security committee, audit committee and remuneration committee since October 2019 and she serves as independent non-executive director of Novartis A.G. and as a member of its audit and risk committees since March 2022. Until December 2020, she was 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. She has been independent non-executive director for Merlin Properties, S.A. from 2015-2017 and for Indra Sistemas S.A. from 2020-2022. Since June 2019, Ms. De Pro Gonzalo is an independent member of the non-profit Global Steering Group for Impact Assessment (Consejo Asesor Nacional Español) and member of the Board of Trustees of foundation Juan XXIII for the people with special intellectual needs since October 2020. 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.

Frédéric Sanchez has been a member of our Supervisory Board since June 2017. He chairs our Supervisory Board's Compensation Committee, and serves also on our Supervisory Board's Strategic Committee and Nominating and Corporate Governance Committee. Mr. Sanchez is the chairman of Fives' executive board, 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 aluminium, steel, glass, automotive, logistics, aerospace, cement and energy, in both developing and developed countries. Mr. Sanchez started his career in 1985 with Renault in Mexico, then in the USA. In 1987 he became a mission manager at Ernst & Young. In 1990 he joined Fives-Lille group, in which he held various positions before being appointed chief financial officer in 1994 and becoming chief operating officer in 1997. In 2002, the "Compagnie de Fives-Lille" (renamed Fives in 2007) became a company with a Management and Supervisory Board chaired by Mr. Sanchez. In 2018, Fives became a French simplified joint stock company (société par actions simplifiée) and Mr. Sanchez its chairman and Chief Executive Officer. 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-Bahrain. 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).

Donatella Sciuto has been a member of our Supervisory Board since May 25, 2022 and serves on our Supervisory Board's Audit Committee and Compensation Committee. Ms. Sciuto has been the Executive Vice Rector of Politecnico di Milano since 2015 and is its Executive Rector since January 2023, and full professor in computer science and engineering (since 2000). She was appointed IEEE Fellow for her scientific contribution in the "embedded systems design". Ms. Sciuto has been a member of the governing board of the Bank of Italy, since 2013. She has been an independent member of the board of directors of Avio S.p.A (since 2017) and of Fila S.p.A. (since 2020). Ms. Sciuto has also been a member of the board of the Italian Institute of Technology since 2021 and she was a member of the supervisory board of the Human Technopole Foundation until May 2022 and Rai Way S.p.A. until April 2023. Ms. Sciuto holds a degree in Electronic Engineering from Politecnico di Milano and a PhD in Electrical and Computer Engineering from the University of Colorado, Boulder. She holds a Master in Business and Administration (CEGA) from the Bocconi University School of Business Management.

Paolo Visca has been a member of our Supervisory Board since May 24, 2023. He serves on our Supervisory Board's Strategic Committee and Nominating and Corporate Governance Committee. Mr. Visca retired in 2022 after gaining over 30 years of experience in the public sector during which he covered several senior positions, specializing in the areas of public investments, support to industrial projects manufacturing activities, public finance and relations with the European Union. He holds a master's degree in political science from the University of Rome. Mr. Visca was the Head of the Cabinet of the Italian Minister of Economic Development from February 2021 until July 2022. In this capacity he oversaw several initiatives aimed to attract and promote public and private investments in Italy in the areas of semiconductor, automotive, technological and manufacturing industries and to foster the Italian venture capital ecosystem. Previously, he held the position of Chief of the Cabinet of the Vice President of the Council of Ministers of the Italian Republic (from June 2018 until February 2021) where he worked on several topics related to industrial and infrastructural investments. From November 2008 to June 2020, he held several positions within the Office of Relations with the European Union and the International Relations of the Italian Chamber of Deputies, being appointed as head in 2018. In this capacity he oversaw the relationship between the Republic of Italy and the European Union and other international organizations firstly with respect to the laws and projects requiring an EU clearance and more broadly supporting all the parliamentary activities in the international scenario. From February 2003 until November 2008, he was the head of the Italian office for "legislative coordination for the public finance area" and secretary of the commission for budgetary policies. From September 1996 until February 2003, he was the coordinator of the Italian Finance Department Task Force and from 2001, the head of office "coordination for the public finance area". Previously, he was the responsible of the Committees for Telecommunication and for Foreign Affairs within the Italian Parliament. In addition, he served several times on the Board of Directors of the Employees' of the Chambers of Deputies Pension Fund.

Hélène Vletter-van Dort has been a member of our Supervisory Board since May 24, 2023. She chairs our Supervisory Board's Nominating and Corporate Governance Committee and serves on our Supervisory Board's Audit, Compensation and Sustainability Committees. Mrs. Vletter-van Dort is a partner at De Bestuurskamer (since 2022) and a professor of financial law and governance at Erasmus School of Law, Rotterdam (since 2004). She holds a BA / LLM in corporate and commercial law from the University of Leiden and a PhD from the Utrecht University. Mrs. Vletter-van Dort has been the chairperson of the board of Intertrust NV from 2015 until 2022. She has been a member of the board of Fortis Bank Netherlands (from 2008 until 2010) and member of its risk committee and remuneration committee. Ms. Vletter-van Dort has been a member of the board of the Dutch Central Bank and chair of its committee on supervisory policy (from 2010 until 2014). She has been a member of the Dutch Monitoring Committee Corporate Governance (from 2009 until 2018) and, from 2017 until 2019, a member of the board of Barclays Bank Plc and chair of its remuneration committee. From 2015 until June 2023, Ms. Vletter-van Dort has been a member of the board of NN Group NV and, from 2019 until June 2023, vice-chair as well as chair of its remuneration committee. She is also a member of the board of the Dutch Foundation for Public Broadcasting, NPO (since 2020), Anthos Fund & Asset Management (since 2021) and Nyenrode Business University (since 2022) and serves on its audit committee and education & research committee. Since 2018, she is also the chairperson of Stichting Luchtmans, protective foundation Koninklijke Brill NV, a 335-year old listed publisher.

4.2. Meetings and activities of the Supervisory Board

4.2.1. Activities of the Supervisory Board

Our Supervisory Board held 12 meetings in 2023, of which all were held in the presence of the sole member of the Managing Board and other select members of our Senior Management, with the exception of the evaluation of the functioning of our Managing Board, Supervisory Board, its committees and its individual members as described below.

The items discussed in those meetings included recurring subjects such as our annual budget, financial performance, Annual Report on Form 20-F as well as its statutory annual accounts, objectives and results, strategy and long-term value creation, operations review, reports of the various committees of our Supervisory Board, the convocation of our AGM, the risks of our business and the assessment by our Managing Board of the structure of our internal risk management and control systems, as well as any significant changes thereto, corporate governance requirements and developments and the compensation of the sole member of our Managing Board. Certain Supervisory Board meetings also included presentations by senior executive management.

Outside the Supervisory Board meetings, the Chairman and other members of our Supervisory Board had regular contact with the sole member of our Managing Board, and other members of our Senior Management.

In accordance with the best practice provisions 2.2.6 and 2.2.7 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 individual 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 board, 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, 2023, is ongoing at the time of this report.

4.2.2. Membership and Attendance

As of December 31, 2023, the composition of the five 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. Donatella Sciuto and Mrs. Hélène Vletter-van Dort are members of the Audit Committee; (ii) Mr. Frédéric Sanchez is the Chair of the Compensation Committee, and Mr. Nicolas Dufourcq, Ms. Donatella Sciuto, Mr. Maurizio Tamagnini and Mrs. Hélène Vletter-van Dort are members of the Compensation Committee; (iii) Mrs. Hélène Vletter-van Dort is the Chair of the Nominating and Corporate Governance Committee, and Messrs. Nicolas Dufourcq, Frédéric Sanchez, Maurizio Tamagnini and Paolo Visca are members of the Nominating and Corporate Governance Committee; (iv) Nicolas Dufourcq is the Chair of the Strategic Committee, and Ms. Janet Davidson, and Messrs. Frédéric Sanchez, Maurizio Tamagnini and Paolo Visca are members of the Strategic Committee; and (v) Ms. Janet Davidson is the Chair of the Sustainability Committee, and Mr. Nicolas Dufourcq, Ms. Ana de Pro Gonzalo, Mr. Maurizio Tamagnini and Mrs. Hélène Vletter-van Dort are members of the Sustainability Committee.

Detailed information on attendance at full Supervisory Board and Supervisory Board Committee meetings during 2023 is as follows:

Number of Meetings Attended in 2022	Supervisory Board	% Attendance	Audit Committee	% Attendance	Compensation Committee	% Attendance	Strategic Committee	% Attendance	Nominating & Corporate Governance Committee	% Attendance	Sustainability Committee	% Attendance
Nicolas Dufourcq	12	100 %	—	— %	2	100 %	1	100 %	7	100 %	3	75 %
Maurizio Tamagnini	12	100 %	—	— %	2	100 %	1	100 %	7	100 %	4	100 %
Janet Davidson	12	100 %	10	100 %	0	— %	1	100 %	0	— %	4	100 %
Yann Delabrière	11	92 %	9	90 %	0	— %	0	— %	0	— %	—	— %
Ana de Pro Gonzalo	11	92 %	10	100 %	0	— %	0	— %	0	— %	4	100 %
Heleen Kersten(1)	2	50 %	3	60 %	1	100 %	0	— %	3	75 %	1	50 %
Alessandro Rivera(1)	4	100 %	—	— %	—	— %	0	— %	4	100 %	0	— %
Frédéric Sanchez	12	100 %	—	— %	2	100 %	1	100 %	4	100 %	0	— %
Donatella Sciuto	11	92 %	8	80 %	2	100 %	—	— %	0	— %	0	— %
Paolo Visca(1)	7	88 %	—	— %	—	— %	1	100 %	3	100 %	0	— %
Hélène Vletter-van Dort(1)	7	88 %	5	100 %	1	100 %	—	—	3	100 %	—	—

(1) Ms. Heleen Kersten and Mr. Alessandro Rivera were members of our Supervisory Board until May 24, 2023, on which date their term expired and Mr. Paolo Visca and Mrs. Hélène Vletter-van Dort were appointed as new members of the Supervisory Board.

4.3. Audit Committee

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

Our Audit Committee met ten times during 2023. 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 Chief Executive Officer, Chief Financial Officer, Chief Accountant, Chief Audit and Risk Executive, Legal Counsel, Chief Ethics & Compliance Officer and our 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, 2023, and the results press release was published on January 25, 2024. Furthermore, our Audit Committee also reviewed our annual consolidated financial statements under IFRS, as adopted by the EU, for the year ended December 31, 2023.

Our Audit Committee approved the compensation of our external auditors for 2023 and discussed the scope of their audit, audit related and non-audit related services for 2023.

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 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.

4.4. Compensation Committee

Our Compensation Committee advises our Supervisory Board in relation to the compensation of the members of the Supervisory Board and Managing Board, including in the case of our President and Chief Executive Officer, 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 Management and key employees. Our Compensation Committee met twice in 2023.

Among its main activities, in 2023 our Compensation Committee: (i) discussed the performance targets relating to the bonus of our President and Chief Executive Officer for the fiscal year ending on December 31, 2023, (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 performance) for approximately 30%, and long-term targets are based on, inter alia, two financial performance conditions constituting revenue growth versus a range of semiconductor peer companies (the "Peer Group" as discussed below) and average of operating margin ratio before restructuring, and one non-financial performance condition constituting the composite sustainability/corporate social responsibility index including health and safety, CO_2 neutrality, diversity & inclusion and people engagement (as further detailed in section 4.9.2. (Managing Board remuneration); and (ii) 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 section 4.9.2. (Managing Board Remuneration – Managing Board remuneration structure).

4.5. Strategic Committee

Our Strategic Committee advises the Supervisory Board on and monitor key developments within the semiconductor industry, our overall strategy for long-term value creation, and the long-term planning and budgeting. Our Strategic Committee met once in 2023. In addition, there were strategic discussions, many of which occurred at extended Supervisory Board meetings and involved all Supervisory Board members.

4.6. 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 7 times during 2023 to discuss succession planning for our Supervisory Board and Managing Board, best practices regarding corporate governance, and the update of our corporate governance documents.

4.7. Sustainability Committee

Our Sustainability Committee advises and supports the Supervisory Board in relation to its responsibilities in supervising, monitoring and advising on the Company's sustainability strategy, targets, goals and overall sustainability performance. Our Sustainability Committee met four times in 2023 to discuss our overall sustainability strategy, as well as our sustainability performances and reporting.

4.8. 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 Ethics & Compliance Officer, Philippe Dereeper, serves as Executive Secretary for our Supervisory Board, and for each of the five standing committees of our Supervisory Board. Ms. Charlotte Fadlallah serves as Secretary and, since July 2023, Ms. Alessia Allegretti serves as Vice Secretary. Ms. Fadlallah also serves 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 Mr. Samuel Dalens and, since July 2023, Mr. Paolo Bonazzi. Mr. Dalens also 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.

4.9. Remuneration report

4.9.1. Supervisory Board remuneration

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 EU, we are required, inter alia, to have a remuneration policy in accordance with the SRDII requirements with respect to the compensation of the Supervisory Board members 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.

4.9.1.1 Supervisory Board Remuneration Policy

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%. The remuneration policy of the Supervisory Board will be resubmitted to the 2024 AGM.

4.9.1.2 Compensation paid to current and former Supervisory Board Members in financial year 2023

The annual compensation of the Supervisory Board members is comprised of an annual fee and an attendance fee, promoting effective and independent supervision in the interest of the Company and the long-term success of the Company. There is no variable compensation nor stock-based compensation awarded to the members of our Supervisory Board.

The aggregate compensation for current and former members of our Supervisory Board with respect to service in 2023 was EUR 996,500 before any applicable withholding or other taxes, as set forth in the following table. No reimbursement fees were paid to members of our Supervisory Board in 2023.

Supervisory Board Members Fees		**Annual Fees**	**Attendance Fees**	**Total**
Nicolas Dufourcq (1)	€	—	—	—
Maurizio Tamagnini	€	144,000	33,500	177,500
Janet Davidson	€	84,500	33,000	117,500
Yann Delabrière	€	77,500	23,000	100,500
Ana de Pro Gonzalo	€	133,500	29,000	162,500
Heleen Kersten (2)	€	—	13,000	13,000
Alessandro Rivera (2)	€	—	10,000	10,000
Frédéric Sanchez	€	80,500	28,500	109,000
Donatella Sciuto	€	81,000	24,000	105,000
Paolo Visca (2)	€	77,000	14,000	91,000
Hélène Vletter-van Dort (2)	€	88,000	22,500	110,500
Total	**€**	**766,000**	**230,500**	**996,500**

(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.

(2) Ms. Heleen Kersten and Mr. Alessandro Rivera were members of our Supervisory Board until May 24, 2023, on which date their term expired and on such date Mr. Paolo Visca and Mrs. Hélène Vletter-van Dort were appointed as new members of our Supervisory Board.

4.9.1.3 Supervisory Board remuneration comparison

Set forth in the following table is the annual change over the last five years of (i) the average remuneration of our Supervisory Board Members, (ii) the performance of the Company (based on US GAAP where relevant) 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, our President and Chief Executive Officer):

In U.S. dollars	2023	2022	2021	2020	2019
Supervisory Board members remuneration					
Average remuneration of Supervisory Board members(1)	$ 119,413	$ 113,985	$ 114,775	$ 99,431	$ 105,066
Company performance					
Net revenues (amounts in millions)	$ 17,286	$ 16,128	$ 12,761	$ 10,219	$ 9,556
Operating income - US GAAP (amounts in millions)	$ 4,611	$ 4,439	$ 2,419	$ 1,323	$ 1,203
Employee remuneration					
Average remuneration(2) of all global indirect employees (FTE basis)(3)	$ 114,100	$ 109,600	$ 111,200	$ 98,500	$ 97,300

(1) Using the Euro per U.S. dollar exchange rate on December 31, 2023 of €1 = $1.078496.

(2) Remuneration is defined as all remuneration paid to indirect 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.

In connection with the above table and to provide insight in the correlation between the remuneration of each Supervisory Board member and the Company performance as well as the average remuneration of all global indirect employees (FTE basis) over the past five years, the table below sets forth the remuneration (including an attendance fee) of each Supervisory Board member for the past five years:

Supervisory Board Members Fees (1)		**2023**	**2022**	**2021**	**2020**	**2019**
Nicolas Dufourcq	$	0 (2)	0 (2)	0 (2)	0 (2)	0 (2)
Maurizio Tamagnini	$	191,433	181,475	181,224	192,002	203,657
Janet Davidson	$	126,723	121,695	117,229	123,912	130,046
Yann Delabrière(3)	$	108,389	106,216	111,566	107,963	N/A
Ana de Pro Gonzalo(4)	$	175,256	172,401	171,030	172,372	N/A
Heleen Kersten	$	14,020	129,168	121,760	128,819	143,541
Jean-Georges Malcor(3)	$	N/A	N/A	N/A	8,588	122,072
Lucia Morselli(5)	$	N/A	9,608	117,796	130,660	113,484
Alessandro Rivera	$	10,785	92,873	99,107	103,055	112,870
Frédéric Sanchez	$	117,556	108,885	113,265	118,391	132,500
Donatella Sciuto(5)	$	113,242	103,548	N/A	N/A	N/A
Martine Verluyten(4)	$	N/A	N/A	N/A	7,975	185,868
Paolo Visca (6)	$	98,143	N/A	N/A	N/A	N/A
Hélène Vletter-van Dort (6)	$	94,908	N/A	N/A	N/A	N/A

(1) These amounts are in US dollars using the Euro per US dollar exchange rate on December 31, 2023 of €1 = $1.078496 and include a fixed annual compensation for the members' mandate, together with attendance fees from January 1 until December 31 of the relevant year.

(2) Mr. Dufourcq would have been entitled to receive remuneration in the relevant years, but each year he waived his rights to receive any compensation from the Company in relation to his mandate as a member of the Supervisory Board.

(3) The term of Mr. Jean-Georges Malcor ended on June 17, 2020 and Mr. Yann Delabrière was appointed on June 17, 2020.

(4) The term of Ms. Martine Verluyten ended on June 17, 2020 and Ms. Ana de Pro Gonzalo was appointed on June 17, 2020.

(5) The term of Ms. Lucia Morselli ended on May 25, 2022 and Ms. Donatella Sciuto was appointed on May 25, 2022.

(6) Ms. Heleen Kersten and Mr. Alessandro Rivera were members of our Supervisory Board until May 24, 2023, on which date their term expired and on such date Mr. Paolo Visca and Mrs. Hélène Vletter-van Dort were appointed as new members of our Supervisory Board.

We do not have any service agreements with any of the 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. No share awards or stock options were granted to Supervisory Board Members.

For further details on the compensation of the members of our Supervisory Board we refer to Note 7.6.33 to our consolidated financial statements.

4.9.2. Managing Board remuneration

For details on the performance of ST in 2023, we refer to the Business overview in section 3.2.1.

4.9.2.1 Guiding principles of Managing Board Compensation

Amongst others, the following key principles are considered by the Supervisory Board to determine the remuneration structure of the sole member of the Managing Board, our President and Chief Executive Officer:

- 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. For details on the performance of the Company in 2023, we refer to the Business overview in section 3.2.1.
- enhancing long-term creation of shareholder value: to strengthen the alignment with the interests of the shareholders and to enhance the long-term value creation of the Company, the compensation structure includes short-term and long-term variable remuneration either in cash or in shares or a combination thereof.
- promoting sustainable corporate development: to ensure that the Company 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 include performance conditions promoting ST’s sustainable growth.
- retaining and motivating key employees: the compensation package should be competitive, ensuring remuneration levels are determined by reference internally between the Company’s senior managers and externally against the Peer Group.

In accordance with the key principles of the Company’s remuneration structure, the total remuneration of the sole member of our Managing Board, our 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.

4.9.2.2 Managing Board remuneration policy

The remuneration of the sole member of our Managing Board, our President and Chief Executive Officer, is determined by our Supervisory Board on the advice of the Compensation Committee.

In compliance with the disclosure requirements in the Dutch Civil Code, we present in this section certain comparative information on our performance relative to the compensation of the sole member of our Managing Board, our President and Chief Executive Officer.

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

Set forth in the table below is the list of companies retained for the Peer Group compensation analysis used for the remuneration policy for the Managing Board:

Analog Devices	ON Semiconductor
Infineon	Texas Instruments
Monolithic Power Systems	Vishay
Microchip	Rohm
NXP Semiconductors	Renesas

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

The remuneration of the sole member of our Managing Board, our President and Chief Executive Officer, is bound by the remuneration policy as adopted by our 2021 AGM for a duration of a maximum of four years. Under the terms of the Dutch Civil Code, the remuneration policy for the Managing Board shall be submitted to the AGM for adoption at least every four years after its adoption. A resolution to adopt the remuneration policy requires a majority of at least 75% of the votes cast. At the 2023 AGM, over 92% of voting shareholders voted in favor of the remuneration report.

The remuneration policy for the Managing Board contains the following key features:

- 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 and long-term incentive 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
- claw-back provisions in order to reclaim payments after they have been awarded or to withhold remuneration under specific conditions.

4.9.2.3. Managing Board remuneration structure

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

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

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

- A base salary; and
- Variable components, linked to performance:
    - **A short-term incentive** of up to 210% of base salary which is fully paid in cash.
    - **A long-term incentive** through the grant of **stock awards**, up to a maximum of 100,000 shares.

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

The above-mentioned three elements of the maximum total direct remuneration of the sole member of our Managing Board, our President and Chief Executive Officer are further described below.

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, our President and Chief Executive Officer. It is a key component of overall remuneration, particularly as the short-term incentive is expressed as a percentage of base salary. The Company seeks to determine a fair and competitive base salary as compared to the Peer Group based on several factors.

Short-term incentive

The purpose of the short-term incentive is to motivate the sole member of our Managing Board, our 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 and effective from the year 2021, the short-term incentive of the sole member of our Managing Board, our President and Chief Executive Officer is 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 short-term incentive 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 recommendations made by the Compensation Committee regarding scorecard targets and weightings are designed to support the delivery of the Company's 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 pay-outs approved in the remuneration policy.

The Supervisory Board, upon the recommendation of its Compensation Committee, sets the conditions and performance criteria that must be met by the sole member of our Managing Board, our President and Chief Executive Officer for the attribution of his short-term incentive (which is paid in the subsequent year).

These performance conditions will enable the Supervisory Board to conduct a holistic and comprehensive assessment of the annual performance of the sole member of our Managing Board, our President and Chief Executive Officer. 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 financial performance criteria for 2023, as chosen by the Supervisory Board were as follows (based on US GAAP):

- market share evolution, which 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.
- revenue growth, which represents the total amount of income generated by the Company's operations;
- operating income, which is an important yardstick of profit measurement and reflects the operating performance of the business which does not take into consideration of non-operating gains or losses suffered by business, the impact of financial leverage and tax factors; and
- net operating cash flow, which 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 non-financial performance criteria for 2023, as chosen by the Supervisory Board were as follows:

- Execution of special manufacturing programs, including our new 300mm fab in Agrate, Italy, and wide-band gap capacity expansion notably in SiC (with notably our new integrated SiC substrate manufacturing facility in Catania, Italy, and the increase in capacity for SiC products in our Catania, Italy, and Singapore fabs);
- Execution of strategy implementation; and
- Sustainability/corporate social responsibility index, which is divided into four criteria related to:
    - 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; and
    - People management: measured against, amongst others, the employee survey (engagement index).

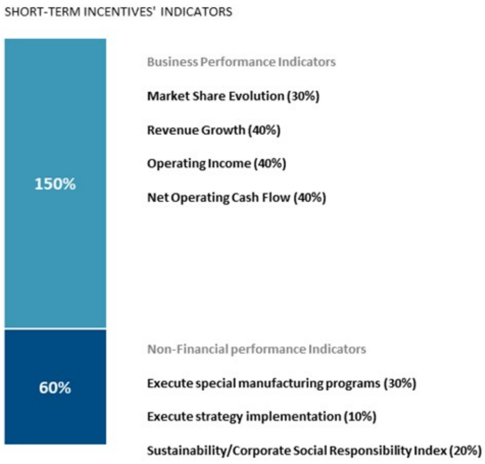
The weight of the sustainability/corporate social responsibility index is designed to remain stable over time, however the individual sub-components used to form the sustainability/corporate social responsibility index may evolve in the future to address sustainability priorities facing the Company and society.

Set forth in the following Table A1 and Chart A1 is the weight set for 2023 for each of the performance criteria that have been assessed by the Supervisory Board in March 2024 for the attribution of the 2023 short-term incentive (to be paid in 2024):

Table A1: Performance criteria with target weighting and pay-out and achievement rate

Annual short-term incentive performance criteria financial year 2023 (to be paid in 2024)	Target Weighting (as a % of total weighting for performance criteria)	Target pay-out (as a % of base salary)	Achievement rate (as a % of base salary)
Financial performance conditions (based on US GAAP)			
o Market share evolution	14%	30%	45%
o Revenue growth	19%	40%	60%
o Operating income	19%	40%	60%
o Net operating cash flow	19%	40%	60%
Sub-total for financial performance conditions	**71%**	**150%**	**Capped at 150%**
Non-financial performance conditions			
o Execute special manufacturing programs	14%	30%	30%
o Execute strategy implementation	5%	10%	5%
o Sustainability/corporate social responsibility index	10%	20%	20%
Sub-total for non-financial performance conditions	**29%**	**60%**	**55%**
Total	**100%**	**210%**	**205%**

Chart A1: Performance criteria with target weighting at target pay-out



As described in Table A2 below, the final pay-out of the short-term incentive is calculated by measuring the performance of each condition, then adding the sums of the corresponding pay-out from Table A1 above, taking into account any applicable caps. The sum is then multiplied by the base salary to determine the final short-term incentive pay-out.

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

	Pay-out as a percentage of base salary			
Annual short-term incentive performance criteria financial year 2023 (to be paid in 2024)	**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/corporate social responsibility index	0%	10%	20%	20%
Sub-total for non-financial performance conditions	**0%**	**30%**	**60%**	**60%(2)**
Total	**0%**	**105%**	**210%**	**Short-term incentive pay-out capped at 210%**

(1) Over-performance for financial conditions can balance the potential under-performance of other financial conditions if performance exceeds stretch targets, without exceeding a maximum pay-out of 150% of base salary regarding the portion of the short-term incentive dependent on financial performance criteria.

(2) No stretch targets are defined for non-financial performance criteria.

The evaluation and assessment of the fulfillment of conditions and performance criteria were completed by the Compensation Committee of our Supervisory Board on March 20, 2024, in order to determine the actual amount of the 2023 short-term incentive. The amount of the 2023 short-term incentive (to be paid in 2024) of the sole member of our Managing Board, our President and Chief Executive Officer, is EUR 2,255,000 (gross), which is 205% of his base salary, representing a global achievement rate of 205% (out of the maximum of 210%).

The Compensation Committee of our Supervisory Board determined that based on the 2023 performance of the sole member of our Managing Board, our President and Chief Executive Officer, the financial performance criteria have been assessed as follows: market share evolution (performance above stretch, payout of 45%), revenue growth (performance equal to threshold, payout of 20%), operating income (performance equal to target, payout of 40%), net operating cash flow (performance above stretch, payout of 60%), whereby the financial component of the short-term incentive is capped at 150% of payout, as further detailed in the table below.

Annual short-term incentive performance criteria financial year 2023 (paid in 2024)	Pay-out as a percentage of base salary							
	Performance above or equal to threshold and below target		Performance above or equal to target and below stretch		Performance above stretch		Achievement over 2023	
Financial performance conditions(1)								
o Market share evolution	Flat	15%	>=+0.05%	30%	>=+0.10%	45%	>=+0.10%	45%
o Revenue growth (in millions of U.S. dollars)	>= 16,800	20%	>=17,600	40%	>=17,960	60%	17,290	20%
o Operating income (in millions of U.S. dollars)	>=4,068	20%	>=4,452	40%	>=4,772	60%	4,611	40%
o Net operating cash flow (in millions of U.S. dollars)	>=706	20%	>=764	40%	>=802	60%	1,774	60%
Sub-total for financial performance conditions		**75%**		**150%**		**Capped(2) at 150%**		**165% Capped at 150%**

(1) Based on US GAAP where relevant

(2) Over-performance for financial conditions can balance the potential under-performance of other financial conditions if performance exceeds stretch targets, without exceeding a maximum pay-out of 150% of base salary regarding the portion of the short-term incentive dependent on financial performance criteria.

Furthermore, the Compensation Committee of our Supervisory Board determined that based on the 2023 performance of the sole member of our Managing Board, our President and Chief Executive Officer, the non-financial performance criteria have been assessed as follows: execute special manufacturing programs (fully met, payout of 30%), execute strategy implementation (partially met, payout of 5%), sustainability/corporate social responsibility index (fully met, payout of 20%). The assessment of the sustainability/corporate social responsibility index is further detailed in the table below, whereas no further details are disclosed regarding the assessment of the other two non-financial performance conditions due to the commercially sensitive nature thereof.

Annual short-term incentive performance : Sustainability/corporate social responsibility index year 2023 (to be paid in 2024)	Pay-out as a percentage of base salary							
	Performance above or equal to threshold and below target		Performance above or equal to target and below stretch		Performance above stretch		Achievement over 2023	
Employee Safety Recordable Case	0.18	15%	0.15	20%	0.12	25%	0.14	108%
GHG emissions (kTCO2 equivalent)	950	15%	875	20%	800	25%	862	104%
% women managers to senior managers (year end)	19%	15%	20%	20%	21%	25%	20%	100%
Employee survey - Engagement index	80%	15%	82%	20%	84%	25%	86%	125%
Sub-Total for Sustainability/corporate social responsibility index							**Final score 109%**	

Long-term incentive

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

The terms of this long-term incentive are included in the long-term incentive plan approved at the 2021 AGM, allowing for grants of unvested stock awards in 2021, 2022 and 2023. The vesting of unvested stock awards is subject to the achievement of performance conditions and calculated over a three-year performance period.

Grants of unvested stock awards made in 2022 and 2023 will fully vest, subject to performance conditions, in 2025 and 2026 respectively.

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 AGM, the maximum annual grant allowed in relation to the sole member of our Managing Board, our President and Chief Executive Officer's stock award for 2021, 2022 and 2023 was 100,000 unvested stock awards subject to performance criteria.

The Supervisory Board, upon recommendation of the Compensation Committee, determines whether the performance criteria are met and concludes whether and to which extent the sole member of our Managing Board, our President and Chief Executive Officer, is entitled to any stock awards under the long-term incentive 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.

Grants in 2023, 2022 and 2021

In accordance with the long-term incentive plan 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 sole member of the Managing Board, our President and Chief Executive Officer is still an employee at such time (subject to the termination provisions listed below in section 4.9.2.g. (Compensation provisions in the event of termination or departure of the sole member of our Managing Board, our President and Chief Executive Officer).

For the 2023 long-term incentive, the performance criteria are:

- revenue growth;
- operating margin; and
- sustainability/corporate social responsibility index, which was comprised of the following KPIs (including two external criteria):
  - environment/climate: measured against, amongst others, the direct emissions (kCO_2 equivalent);
  - diversity, inclusion and people engagement: measured against, amongst others, gender ratio among management levels;
  - investor ESG index: measured against, amongst others, the Dow Jones sustainability indices; and
  - carbon rating: measured against, amongst others, the CDP carbon rating.

Set forth in the following Table B1 and Chart B1 is the weight set for each of the performance criteria that will be assessed by the Supervisory Board over the three performance periods for the attribution of the relevant long-term incentive. Table B2 sets out the shares to vest at the end of the 3-year vesting period based on performance.

Table B1: Long-term incentive performance criteria and target weighting over the three performance periods

Long-term incentive plan performance criteria to be assessed over a 3-year period	**Target Weighting (as % of maximum achievement score)**
Revenue growth (financial year 2025 vs financial year 2022 in comparison to Peer Group)	33.33%
Operating margin ratio before restructuring (average for the 2023 – 2025 period)	33.33%
Sustainability/ corporate social responsibility index	33.33%
Maximum achievement score	**100%** **which correspond to a maximum of 100,000 unvested stock awards**

Chart B1: Long-term incentive performance criteria and target weighting over the three performance periods

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

	Shares to vest as a percentage of maximum award			
Long-term incentive plan performance criteria to be assessed over a 3-year period	**Performance below threshold**	**Performance equal to threshold**	**Performance above threshold and below target**	**Performance above or at target**
Revenue growth (financial year 2025 vs financial year 2022 in comparison to Peer Group)	0%	16.67%	25%	33.33%
Operating margin ratio before restructuring (average for the 2023 – 2025 period)	0%	16.67%	16.67%	33.33%
Sustainability/ corporate social responsibility index	0%	16.67%	16.67%	33.33%
Total	**0%**	**50%**	**58.34%**	**100%**

Set forth in the following Table B3 is an overview of the outstanding awards that have been granted to the sole member of our Managing Board, our President and Chief Executive Officer, in accordance with the new long-term incentive plan adopted by the 2021 AGM. For the purposes of the vesting schedule table below, a hypothetical achievement rate of 100% of performance conditions is used.

Table B3: Vesting schedule for the 2021, 2022 and 2023 long-term incentive grants

Grant date	Final vesting date	Max. number of shares that can be granted	Number of shares that have been granted based on performance conditions achievement	Share price at grant (in $)	2024 vesting	2025 vesting	2026 vesting	Unvested shares as of end of 2023
July 26, 2023	AGM date for 2026	100,000	100,000	$51.55			*100,000*(1)	***100,000***
July 27, 2022	AGM date for 2025	100,000	100,000	$36.33		*100,000*(1)		***100,000***
July 28, 2021	AGM date for 2024	100,000	100,000	$39.33	*100,000*(1)			***100,000***
Total vesting								**300,000**

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

Assessment of performance criteria for 2021 long-term incentive grant

The evaluation and assessment of the fulfillment of conditions and performance criteria for the 2021 long-term incentive grant, were completed by the Compensation Committee of our Supervisory Board on March 20, 2024.

Table B4 below sets forth the assessment of the performance criteria for the 2021 long-term incentive grant.

Long-term incentive plan performance criteria to be assessed over a 3-year period	Target Weighting (as % of maximum achievement score)	Achievement
Revenue growth (financial year 2023 vs financial year 2020 in comparison to Peer Group)	33.33%	Criteria met
Operating margin ratio before restructuring (average for the 2021 – 2023 period)	33.33%	Criteria met
Sustainability/ corporate social responsibility index (2021-2023)	33.33%	Criteria met
Total	**100% which correspond to a maximum of 100,000 unvested stock awards**	**100 % of performance achieved**

Grant in 2020

Set forth in the following table are the performance criteria, weight, and achievement rate for the periods indicated below set for the long-term incentive grant in 2020.

Under the terms of the previous long-term incentive plan in place before the current remuneration policy, performance was measured over the course of the year following the grant, subject to three performance conditions. Based on the achievement of long-term incentive 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 unvested stock awards then vested as follows:

- 1 year post-grant: 32% of unvested stock awards vest (a maximum of 32,000 shares if all targets were met);
- 2 years post-grant: 32% of unvested stock awards vest (a maximum of 32,000 shares if all targets were met);
- 3 years post-grant: 36% of unvested stock awards vest (a maximum of 36,000 shares if all targets were met).

Following the implementation of the remuneration policy adopted at the 2021 AGM, the terms of long-term incentive plans from 2021 onwards have changed, as detailed in the section “Grants in 2023, 2022 and 2021” above).

Assessment of performance criteria for 2020 long-term incentive grants

Long-term incentive plan performance criteria	**Target Weighting (as % of maximum achievement score)**	**2020**
Evolution of sales	33.33%	Criteria met
Evolution of operating income	33.33%	Criteria met
Return on net assets	33.33%	Criteria met
Maximum achievement score	**100% which correspond to a maximum of 100,000 unvested stock awards**	**100% 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 long-term incentive plan adopted in 2021 that have been granted to the sole member of our Managing Board, our President and Chief Executive Officer:

Plan	Grant date	Final vesting date	Max. number of shares that can be granted	Number of shares that have been granted based on performance conditions achievement	Share price at grant (in $)	2021 vesting	2022 vesting	2023 vesting	Unvested shares as of end of 2023
2020 unvested stock awards Grant	July 23, 2020	June 17, 2023	100,000	100,000	$29.97	32,000	32,000	36,000	0
Total vesting						**32,000**	**32,000**	**36,000**	**0**

Share ownership guidelines

The sole member of our Managing Board, our President and Chief Executive Officer is expected to build up a shareholding in the Company equal to 1.5 times of the base salary, in line with the remuneration policy.

Claw-back provisions under Dutch law

All performance-related remuneration awarded to the sole member of our Managing Board, our 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, our 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 short-term incentive was dependent, it may, in its discretion, within two years of the performance-related remuneration of the sole member of our Managing Board, our President and Chief Executive Officer vesting or being paid:

- require the sole member of our Managing Board, our President and Chief Executive Officer to repay to the Company an amount equal to the after-tax value of some or all of any short-term incentive 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, our 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 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 2023, no claw-backs have occurred.

The sole member of our Managing Board, our President and Chief Executive Officer may also receive other types of remuneration included as described in the remuneration policy, such as social premiums, benefits in kind (including a company car), pension contributions and miscellaneous allowances.

Statement of Compliance with Section 303A.14 of the New York Stock Exchange Listed Company Manual

In accordance with the applicable provisions of the New York Stock Exchange Listed Company Manual providing for the recovery of erroneously awarded incentive-based compensation, the Company has adopted a statement of compliance which provides for recovery of erroneously awarded incentive-based compensation (including both cash and equity compensation) received by current and former executive officers, which includes the sole member of our Managing Board, our president and Chief Executive Officer, during a three-year look back period following an accounting restatement. The Company did not have any restatement of financial statements that required a recovery of erroneously awarded compensation for the financial year ended December 31, 2023, nor up to the date of this report.

4.9.2.4. Compensation paid to the sole member of our Managing Board, our President and Chief Executive Officer in financial year 2023

The sole member of our Managing Board, our President and Chief Executive Officer, received compensation in the form of a base salary, short-term incentive (fully paid in cash from 2021 onwards), long-term incentive grant (unvested stock awards), social premiums, benefits in kind (including a company car), pension contributions and miscellaneous allowances.

The remuneration report relating to financial year 2022 was approved by the 2023 AGM with a vote percentage in favor of over 92%. Amongst others, taking this high percentage of votes in favor into account, a similar approach was taken for the allocation of remuneration of the sole member of our Managing Board, our President and Chief Executive Officer over financial year 2023, in accordance with the remuneration policy.

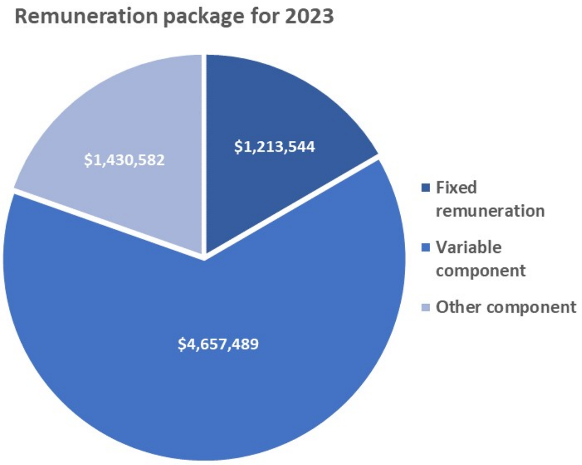
Set forth in the following table and chart is an overview of the total compensation of the sole member of our Managing Board, our President and Chief Executive Officer paid in 2023:

			2023
Base salary		$	1,213,544
Variable components	Short-term incentive(1)	$	2,819,125
	Long-term incentive	$	1,838,364
Other components(3)	Benefits	$	117,737
	Social security contributions(2)	$	877,128
	Pensions	$	435,717
	Miscellaneous allowances	$	—
	Termination benefits	$	—
Total		**$**	**7,301,615**

(1) Short-term incentive includes both the amount paid in cash in 2023 (based on 2022 performance) and a tranche from the short-term incentive payable in shares based on his 2020 performance. The achievement rate based on 2022 performance was 205% and paid in 2023.

(2) The sole member of our Managing Board, our President and Chief Executive Officer was granted, in accordance with the remuneration policy and subsequent shareholder authorizations, up to a maximum of 100,000 unvested stock awards, subject to performance criteria. The vesting of such stock awards is conditional upon the sole member of our Managing Board, our President and Chief Executive Officer's, continued service with us.

(3) Complementary pension plan for certain of the Company's key executives.



During 2023, the sole member of our Managing Board, our President and Chief Executive Officer did not have any stock options and did not purchase any shares in the Company. During 2023, the sole member of our Managing Board, our President and Chief Executive Officer sold 41,335 shares.

4.9.2.5. Evolution of paid remuneration to the Managing Board

Set forth in the following table is the total paid compensation of the sole member of our Managing Board, our President and Chief Executive Officer from 2021 to 2023:

		2023	2022	2021
Base salary		$ 1,213,544	$ 1,250,954	$ 936,357
Variable components	**Short-term incentive(1)**	$ 2,819,125	$ 2,506,576	$ 1,907,307
	Long-term incentive	$ 1,838,364	$ 2,043,212	$ 3,245,640
Other components(3)	**Benefits**	$ 117,737	$ 108,023	$ 101,867
	Social security contributions(2)	$ 877,128	$ 857,448	$ 904,742
	Pensions	$ 435,717	$ 452,230	$ 463,617
Total		**$ 7,301,615**	**$ 7,218,443**	**$ 7,559,530**

(1) The short-term incentive includes both the amount paid in cash and the amount paid in shares for the year 2020. As of 2021 with the implementation of the remuneration policy for our Managing Board adopted at the 2021 AGM, the short-term incentive is paid fully in cash. The short-term incentive related to 2023, 2022 and 2021 was approved by the Compensation Committee and Supervisory Board with respect to the 2023, 2022 and 2021 financial year, respectively, based on the evaluation and assessment of the actual fulfillment of a number of predefined objectives for such year. The short-term incentive related to a relevant year is paid in the subsequent year, i.e. the short-term incentive related to the 2023, 2022 and 2021 financial year, respectively, is paid in 2024, 2023 and 2022 respectively. The achievement rate for the 2022 short-term incentive (paid in 2023), based on 2022 performance, was 205% in cash out of maximum of 210%. The achievement rate for the 2021 short-term incentive (paid in 2022), based on 2021 performance, was 183% (135% in cash and 48% in shares) out of maximum of 210%.

(2) The employer social security contributions relate to the fixed and variable remuneration, including the unvested stock awards.

(3) There were no miscellaneous allowances nor termination benefits in the years 2023, 2022, and 2021.

4.9.2.6. Overview of the total compensation paid or owed to the sole member of our Managing Board, our President and Chief Executive Officer over financial years 2023, 2022, 2021

Set forth in the following table is the total compensation paid or owed to the sole member of our Managing Board, our President and Chief Executive Officer in office over financial years 2023, 2022 and 2021:

			Variable components		Other components(3)				
Name	**Year**	**Base Salary(4)**	**Owed short-term incentive(1)**	**Long-term incentive**	**Benefits**	**Social security contributions(2)**	**Pensions**	**Total**	**Proportion of fixed and variable remuneration**
Jean-Marc Chery	2023	$ 1,213,544	$ 2,487,766	$ 1,838,364	$ 117,737	$ 877,128	$ 435,717	$ 6,970,256	38% fixed 62% variable
Jean-Marc Chery	2022	$ 1,250,954	$ 2,564,455	$ 2,043,212	$ 108,023	$ 857,448	$ 452,230	$ 7,276,322	37% fixed 63% variable
Jean-Marc Chery	2021	$ 936,357	$ 1,919,531	$ 3,245,640	$ 101,866	$ 904,742	$ 463,617	$ 7,571,753	32% fixed 68% variable

(1) As of 2021 with the implementation of the remuneration policy for our Managing Board adopted at the 2021 AGM, the short-term incentive is paid fully in cash. The short-term incentive related to 2023, 2022 and 2021 was approved and granted by the Compensation Committee and Supervisory Board with respect to the 2023, 2022 and 2021 financial year, respectively, based on the evaluation and assessment of the actual fulfillment of a number of pre-defined objectives for such year. The short-term incentive related to a relevant year is paid in the subsequent year, i.e. the short-term incentive related to the 2023, 2022 and 2021 financial year, respectively, is paid in 2024, 2023 and 2022 respectively. The achievement rate for the 2023 short-term incentive (to be paid in 2024), based on 2023 performance, was 205% in cash out of maximum of 210%. The achievement rate for the 2022 short-term incentive (paid in 2023), based on 2022 performance, was 205% out of maximum of 210%. The achievement rate for the 2021 short-term incentive (paid in 2022), based on 2021 performance, was 205% out of maximum of 210%.

(2) The social security contributions relate to the fixed and variable remuneration, including the unvested stock awards.

(3) There were no miscellaneous allowances nor termination benefits in the years 2023, 2022 and 2021.

4.9.2.7. Compensation provisions in the event of termination or departure of the sole member of our Managing Board, our President and Chief Executive Officer

The sole member of our Managing Board, our President and Chief Executive Officer, was appointed on May 31, 2018, for a three-year term and was reappointed for another three-year term at the 2021 AGM, expiring at the 2024 AGM. He has two employment agreements with us, the first with the Company, which relates to his activities as sole member of our Managing Board and representative of the Company, 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 remuneration policy for our Managing Board. 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 the sole member of our Managing Board, will remain in effect.

The agreements can be terminated with a notice period of 6 months if terminated by the Company or 3 months if terminated by the sole member of our Managing Board, our President and Chief Executive Officer.

Severance clause

Pursuant to the agreements, the sole member of our Managing Board, our President and Chief Executive Officer will be entitled to a severance payment if his employment is terminated at the initiative of the Company and other than for cause, considering amongst others, his critical role in the Company and his seniority. The severance payment will be equal to a gross lump sum payment in the amount of two times his latest gross annual salary, plus the short-term incentive (being the average of the short-term incentive received in the last three years) subject to any and all applicable legal, regulatory and/or contractual deductions.

Any severance payments made will be disclosed in the remuneration report in the annual report of the financial year that this amount relates to, as well as the reason for the severance payment.

Vesting of stock awards in the event of termination or departure

In the event of termination of the employment or departure of the sole member of our Managing Board, our President and Chief Executive Officer, his stock awards will either (i) be forfeited in full, (ii) accelerate in vesting or (iii) continue vesting, as shown in the table below.

Table of the compensation in the event of termination or departure of the sole member of our Managing Board, our President and Chief Executive Officer.

Set forth in the table below is an overview of the compensation of the sole member of our Managing Board, our President and Chief Executive Officer in the event of his termination or departure, as applicable.

			Termination by the Company		
	Resignation	***Retirement***	***Not in connection with change of control or serious or gross misconduct***	***In connection with change of control***	***In connection with serious or gross misconduct***
Severance Clause	*Not applicable*	*Not applicable*	*2 times the annual base salary plus average short-term incentive over the last 3 years*	*2 times the annual base salary plus average short-term incentive over the last 3 years*	*Not applicable*
Outcome of unvested stock awards	*Forfeited in full*	*Continuation of vesting*	*Accelerated vesting*	*Accelerated vesting*	*Forfeited in full*

4.9.3. Senior Management remuneration

4.9.3.1. Guiding principles of Senior Management compensation

The Managing Board determines the remuneration structure of the Senior Management based on, amongst others, the same key principles that the Supervisory Board considers when determining the remuneration structure of the Managing Board. These key principles are described above in section 4.9.2.1. (Guiding principles of Managing Board compensation).

In accordance with the key principles, the total remuneration of the Senior Management takes into consideration factors such as the size and complexity of the 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.

4.9.3.2. Senior Management remuneration structure

The structure of our remuneration for our (i) Managing Board, President and Chief Executive Officer, (ii) Senior Management, and (iii) certain other groups of senior employees is aligned and consists of a base salary, short-term incentive and long-term incentive, under specified conditions. The standard benefits for the aforementioned groups are also aligned.

The Managing Board determines the remuneration structure and remuneration amounts for our Senior Management based on the analysis of the theoretical maximum total direct remuneration (i.e., sum of base salary, maximum short-term incentive, and maximum long-term incentive).

The remuneration package of the Senior Management is comprised of the following:

- **Base salary;** and
- **Variable components**, linked to performance:
  - A short-term incentive which is fully paid in cash.
  - A long-term incentive through the grant of stock awards, that are included in the long-term incentive plan approved at the AGM.

The sum of these three elements represents the **maximum total direct remuneration** for the Senior Management.

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 short-term incentive is expressed as a percentage of base salary.

Short-term incentive

The short-term incentive based on the corporate executive incentive program ("EIP"), entitles selected executives, including the members of Senior Management, to an annual short-term incentive. This short-term incentive is based upon the assessment of the achievement of individual, organizational and Company objectives that are set on an annual basis and focused on, inter alia, return on net assets, customer service, profit, cash flow and market share. The maximum amount awarded under the short-term incentive is based upon a percentage of the executive's salary and the overall achievement of the relevant objectives on an annual basis.

The 2023 short-term incentive includes a sustainability/corporate social responsibility index for Senior Management, as part of our efforts to include corporate social responsibility into the performance framework of our Senior Management. For Executive Committee members and Executive Vice Presidents, the weight of the sustainability/corporate social responsibility index ranges between 5% and 10%. The sustainability/corporate social responsibility index is divided into four criteria related to health and safety, environment, diversity & inclusion, and people engagement.

For the 2023 short-term incentive, the sustainability/corporate social responsibility 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/corporate social responsibility index is designed to remain stable over time, however the individual sub-components used to form the sustainability/corporate social responsibility index may evolve in the future to address sustainability priorities facing the Company and society.

Long-term incentive

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

In accordance with the current long-term incentive plan, the vesting of unvested stock awards in respect of:

(i) the Executive Committee, is subject to the achievement of performance conditions and calculated over a three-year performance period. Grants of unvested stock awards made in 2023 and 2024 will fully vest, subject to performance conditions, in 2026 and 2027 respectively, provided also that the eligible employee is still an employee of the Company at such time; and

(ii) the Executive Vice Presidents, is subject to the achievement of performance conditions and will 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% after three years, provided also that the eligible employee is still an employee of the Company at such time.

The Supervisory Board determines whether the performance criteria are met and concludes whether and to which extent all eligible employees are entitled to any stock awards under the long-term incentive plan.

From 2021, a new sustainability/corporate social responsibility index has been introduced among the performance conditions for the long-term incentive. For the 2023 long-term incentive, the sustainability/corporate social responsibility index was comprised of the following KPIs:

- 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/corporate social responsibility index is designed to remain stable for future grants, however the individual sub-components used to form the sustainability/corporate social responsibility index may evolve in the future to address sustainability priorities facing the Company and 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, our President and Chief Executive Officer, according to the general criteria of eligibility and service as determined by the Supervisory Board upon the proposal of its Compensation Committee. With respect to such complementary pension 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 2023, we made a contribution of approximately $0.5 million to the plan of the sole member of our Managing Board, our President and Chief Executive Officer, and of $1.05 million to the plan for all beneficiaries other than the sole member of our Managing Board, our President and Chief Executive Officer. The amount of pension plan payments made for other beneficiaries, such as former employees retired in 2023 and/or no longer salaried in 2023, was $1.1 million.

The members of our Senior Management, including the sole member of our Managing Board, our President and Chief Executive Officer, were covered in 2023 under certain group life and medical insurance programs provided by us. The aggregate additional amount set aside by us in 2023 to provide pension, retirement or similar benefits to our Senior Management, including the sole member of our Managing Board, our President and Chief Executive Officer, including the amounts allocated to the complementary pension plan described above, is estimated to have been approximately $8.3 million, which includes statutory employer contributions for state run retirement, similar benefit programs and other miscellaneous allowances.

4.9.3.3. Compensation paid to the Senior Management in 2023, 2022 and 2021

Base salary

Over the last three years the base salary paid to the Senior Management (including the sole member of the Managing Board, our President and Chief Executive Officer) is:

	2023(1)	**2022**(2)	**2021**(3)
Senior Management base salary	$19,225,024	$20,848,371	$14,665,462

(1) Including the amounts paid in 2023 to our former President, Technology, Manufacturing, Quality and Supply Chain, Orio Bellezza; former Executive Vice President Front-End Manufacturing, Analog and Power, Michael Hummel and former Executive Vice President, MEMS Sub-Group Analog, MEMS and Sensors Group, Andrea Onetti. During 2023, our Senior Management consisted of 34 members.

(2) Including amounts paid in 2022 to our former Executive Vice President, Digital & Smart Power Technology and Digital Front-End Manufacturing, Joel Hartmann, and former Executive Vice President, General Manager, Sales & Marketing, Americas Region, Paul Cihak. During 2022, our Senior Management consisted of 33 members.

(3) 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. During 2021, our Senior Management consisted of 24 members.

Short-term incentive

The amounts paid in 2023 to our Senior Management (including the sole member of the Managing Board, our President and Chief Executive Officer) pursuant to the short-term incentive represented approximately 18.07% of the total compensation paid to our Senior Management and are further detailed below:

	Bonus paid in 2023 (2022 performance)(1)	Bonus paid in 2022 (2021 performance)(2)	Bonus paid in 2021 (2020 performance)(3)
Short-term incentive (cash) amount	$ 19,654,870	$ 17,557,713	$ 11,476,929
Ratio short-term incentive / (base salary + short-term incentive)	50.55 %	45.72 %	47.43 %

(1) Including amounts paid in 2023 to our former President, Technology, Manufacturing, Quality and Supply Chain, Orio Bellezza; former Executive Vice President Front-End Manufacturing, Analog and Power, Michael Hummel and former Executive Vice President, MEMS Sub-Group Analog, MEMS and Sensors Group, Andrea Onetti.

(2) Including amounts paid in 2022 to our former Executive Vice President, Digital & Smart Power Technology and Digital Front-End Manufacturing, Joel Hartmann, and former Executive Vice President, General Manager, Sales & Marketing, Americas Region, Paul Cihak.

(3) 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.

Long-term incentive

The second part of the variable component is the long-term incentive which links the long-term interests of the Senior Management with the shareholders' and investors' interests.

The amounts paid in 2023 to our Senior Management (including the sole member of the Managing Board, our President and Chief Executive Officer) pursuant to the long-term incentive represented approximately 45.97% of the total compensation paid to our Senior Management and are further detailed below:

	Long-term incentives paid in 2023(1)	Long-term incentives paid in 2022(2)	Long-term incentives paid in 2021 (3)
Long-term incentive amount	$ 50,010,449	$ 41,000,100	$ 43,042,934
Ratio long-term incentive / base salary	260.13%	196.66%	293.50%
Ratio long-term incentive / (short-term incentive + long-term incentive)	71.79%	70.02%	78.95%

(1) Including amounts paid in 2023 to our former President, Technology, Manufacturing, Quality and Supply Chain, Orio Bellezza; former Executive Vice President Front-End Manufacturing, Analog and Power, Michael Hummel and former Executive Vice President, MEMS Sub-Group Analog, MEMS and Sensors Group, Andrea Onetti

(2) Including amounts paid in 2022 to our former Executive Vice President, Digital & Smart Power Technology and Digital Front-End Manufacturing, Joel Hartmann, and former Executive Vice President, General Manager, Sales & Marketing, Americas Region, Paul Cihak.

(3) 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.

Total compensation

The following table sets forth the total amount paid as compensation in 2023, 2022 and 2021 to our Senior Management (including the sole member of the Managing Board, our President and Chief Executive Officer) as of December 31 of each year, before applicable withholding taxes and social contributions:

		Variable components		Other components[1]					
Year	Base salary	Short-term Incentives	Long-term Incentives	Benefits	Social security contributions	Pensions	Termination benefits	Total	Fixed/ Variable remuneration
2023[2]	$19,225,024	$19,654,870	$50,010,449	$1,659,639	$10,555,981	$1,474,372	$6,203,607	$108,783,942	36% fixed / 64% variable
2022[3]	$20,848,371	$17,557,713	$41,000,100	$1,706,799	$10,468,677	$1,498,828	$2,284,907	$95,365,395	39% fixed/ 61% variable
2021[4]	$14,665,462	$11,476,929	$43,042,934	$1,395,509	$9,626,193	$794,387	$3,288,715	$84,290,129	35% fixed/ 65% variable

(1) There were no miscellaneous allowances in the years 2023, 2022, and 2021.

(2) Including amounts paid in 2023 to our former President, Technology, Manufacturing, Quality and Supply Chain, Orio Bellezza; former Executive Vice President Front-End Manufacturing, Analog and Power, Michael Hummel and former Executive Vice President, MEMS Sub-Group Analog, MEMS and Sensors Group, Andrea Onetti.

(3) Including amounts paid in 2022 to our former Executive Vice President, Digital & Smart Power Technology and Digital Front-End Manufacturing, Joel Hartmann, and former Executive Vice President, General Manager, Sales & Marketing, Americas Region, Paul Cihak.

(4) 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.

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

For further details on the compensation of our Senior Management we also refer to Note 7.6.33 to our consolidated financial statements.

Senior Management (and the compensation related hereto in this section 4.9.3.2. refers to:

- The sole member of the Managing Board, our President and Chief Executive Officer;
- The members of 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.

We also include below, for comparative purposes, (section 4.9.3.3.) compensation paid to the Executive Committee (excluding the sole member of the Managing Board, our President and Chief Executive Officer) in financial years 2023, 2022 and 2021, and (section 4.9.3.4.) compensation paid to the Executive Vice Presidents in financial years 2023, 2022 and 2021.

4.9.3.3. Compensation paid to the Executive Committee (excluding the sole member of the Managing Board, our President and Chief Executive Officer)

Base salary

The base salary paid to the Executive Committee (excluding the sole member of the Managing Board, our President and Chief Executive Officer) in financial years 2023, 2022 and 2021 is:

	2023(1)	2022	2021(2)
Executive Committee base salary	$ 6,782,818	$ 7,001,152	$ 6,310,664

(1) Including amounts paid in 2023 to our former President, Technology, Manufacturing, Quality and Supply Chain, Orio Bellezza.
(2) Including amounts paid in 2021 to our former President, Analog, MEMS and Sensors Group, Benedetto Vigna.

Short-term incentive

The amounts paid in financial years 2023, 2022 and 2021 to the Executive Committee (excluding the sole member of the Managing Board, our President and Chief Executive Officer) pursuant to the short-term incentive are further detailed below:

	Bonus paid in 2023 (2022 performance)(1)	Bonus paid in 2022 (2021 performance)	Bonus paid in 2021 (2020 performance)(2)
Short-term incentive (cash) amount	$8,553,348	$6,647,780	$5,063,522
Ratio short-term incentive / (base salary + Short-term incentive)	56%	49%	45%

(1) Including amounts paid in 2023 to our former President, Technology, Manufacturing, Quality and Supply Chain, Orio Bellezza.
(2) Including amounts paid in 2021 to our former President, Analog, MEMS and Sensors Group, Benedetto Vigna.

Long-term incentive

The amounts paid in financial years 2023, 2022 and 2021 to the Executive Committee (excluding the sole member of the Managing Board, our President and Chief Executive Officer) pursuant to the long-term incentive are further detailed below:

	Long-term incentives paid in 2023(1)	Long-term incentives paid in 2022	Long-term incentives paid in 2021(2)
Long-term incentive amount	$21,024,493	$15,336,113	$18,947,917
Ratio long-term incentive / base salary	310%	219%	300%
Ratio long-term incentive / (short-term incentive + long-term incentive)	71%	70%	79%

(1) Including amounts paid in 2023 to our former President, Technology, Manufacturing, Quality and Supply Chain, Orio Bellezza.
(2) Including amounts paid in 2021 to our former President, Analog, MEMS and Sensors Group, Benedetto Vigna.

Total Compensation

The following table sets forth the total amount paid as compensation in financial years 2023, 2022 and 2021, to the Executive Committee (excluding the sole member of the Managing Board, our President and Chief Executive Officer) as of December 31, before applicable withholding taxes and social contributions:

		Variable components		Other components(1)					
Year	Base salary	Short-term Incentives	Long-term Incentives	Benefits	Social security contributions	Pensions	Termination benefits	Total	Fixed/ Variable remuneration
2023(2)	$6,782,818	$8,553,348	$21,024,493	$879,991	$3,612,613	$1,038,655	$2,638,475	$44,530,393	34% fixed/ 66% variable
2022	$7,001,152	$6,647,780	$15,336,113	$958,896	$2,723,709	$1,046,598	$283,494	$33,997,741	35% fixed/ 65% variable
2021(3)	$6,310,664	$5,063,522	$18,947,917	$884,063	$3,219,179	$330,770	$293,822	$35,049,937	31% fixed/ 69% variable

(1) There were no miscellaneous allowances in the years 2023, 2022, and 2021.
(2) Including amounts paid in 2023 to our former President, Technology, Manufacturing, Quality and Supply Chain, Orio Bellezza.
(3) Including amounts paid in 2021 to our former President, Analog, MEMS and Sensors Group, Benedetto Vigna.

4.9.3.4. Compensation paid to the Executive Vice Presidents

The base salary paid to the Executive Vice Presidents in financial years 2023, 2022 and 2021 is:

	2023(1)	2022(2)	2021(3)
Executive Vice Presidents base salary	$11,228,661	$12,596,266	$7,418,440

(1) Including amounts paid in 2023 to our former Executive Vice President Front-End Manufacturing, Analog and Power, Michael Hummel and former Executive Vice President, MEMS Sub-Group Analog, MEMS and Sensors Group, Andrea Onetti.
(2) Including amounts paid in 2022 to our former Executive Vice President, Digital & Smart Power Technology and Digital Front-End Manufacturing, Joel Hartmann, and former Executive Vice President, General Manager, Sales & Marketing, Americas Region, Paul Cihak.
(3) Including amounts paid in 2021 to Executive Vice President Europe and France Public Affairs, Thierry Tingaud.

Short-term incentive

The amounts paid in financial years 2023, 2022 and 2021 to the Executive Vice Presidents pursuant to the short-term incentive are further detailed below:

	Bonus paid in 2023 (2022 performance)(1)	Bonus paid in 2022 (2021 performance)(2)	Bonus paid in 2021 (2020 performance)(3)
Short-term incentive (cash) amount	$8,282,397	$8,403,357	$4,506,101
Ratio short-term incentive / (base salary + Short-term incentive)	42%	40%	38%

(1) Including amounts paid in 2023 to our former Executive Vice President Front-End Manufacturing, Analog and Power, Michael Hummel and former Executive Vice President, MEMS Sub-Group Analog, MEMS and Sensors Group, Andrea Onetti.
(2) Including amounts paid in 2022 to our former Executive Vice President, Digital & Smart Power Technology and Digital Front-End Manufacturing, Joel Hartmann, and former Executive Vice President, General Manager, Sales & Marketing, Americas Region, Paul Cihak.
(3) Including amounts paid in 2021 to our former Executive Vice President Europe and France Public Affairs, Thierry Tingaud.

Long-term incentive

The amounts paid in financial years 2023, 2022 and 2021 to the Executive Vice Presidents pursuant to the long-term incentive are further detailed below:

	Long-term incentives paid in 2023(1)	Long-term incentives paid in 2022(2)	Long-term incentives paid in 2021(3)
Long-term incentive amount	$27,147,593	$23,620,775	$20,849,377
Ratio long-term incentive / base salary	242%	188%	281%
Ratio long-term incentive / (short-term incentive + long-term incentive)	77%	74%	82%

(1) Including amounts paid in 2023 to our former Executive Vice President Front-End Manufacturing, Analog and Power, Michael Hummel and former Executive Vice President, MEMS Sub-Group Analog, MEMS and Sensors Group, Andrea Onetti.

(2) Including amounts paid in 2022 to our former Executive Vice President, Digital & Smart Power Technology and Digital Front-End Manufacturing, Joel Hartmann, and former Executive Vice President, General Manager, Sales & Marketing, Americas Region, Paul Cihak.

(3) Including amounts paid in 2021 to our former Executive Vice President Europe and France Public Affairs, Thierry Tingaud.

Total Compensation

The following table sets forth the total amount paid as compensation in financial years 2023, 2022 and 2021, to the Executive Vice Presidents as of December 31 of each year, before applicable withholding taxes and social contributions:

		Variable components		Other components(1)				
Year	**Base salary**	**Short-term Incentives**	**Long-term Incentives**	**Benefits**	**Social security contributions**	**Termination benefits**	**Total**	**Fixed/ Variable remuneration**
2023(2)	$11,228,661	$8,282,397	$27,147,592	$661,911	$6,066,240	$3,565,132	$56,951,933	38% fixed / 62% variable
2022(3)	$12,596,266	$8,403,357	$23,620,775	$639,879	$6,887,522	$2,001,414	$54,149,213	41% fixed / 59% variable
2021(4)	$7,418,440	$4,506,101	$20,849,377	$409,581	$5,502,272	$2,994,893	$41,680,664	39% fixed / 61% variable

(1) There were no miscellaneous allowances in the years 2023, 2022, and 2021.

(2) Including amounts paid in 2023 to our former Executive Vice President Front-End Manufacturing, Analog and Power, Michael Hummel and former Executive Vice President, MEMS Sub-Group Analog, MEMS and Sensors Group, Andrea Onetti.

(3) Including amounts paid in 2022 to our former Executive Vice President, Digital & Smart Power Technology and Digital Front-End Manufacturing, Joel Hartmann, and former Executive Vice President, General Manager, Sales & Marketing, Americas Region, Paul Cihak.

(4) Including amounts paid in 2021 to our former Executive Vice President Europe and France Public Affairs, Thierry Tingaud.

4.9.4. Remuneration comparison between the Managing Board, the Executive Committee (excluding the sole member of the Managing Board, our President and Chief Executive Officer), the Executive Vice Presidents and employees

Set forth in the following table is the annual change over the last five years of (i) the remuneration of the sole member of the Managing Board, our President and Chief Executive Officer, (ii) the remuneration of the Executive Committee (excluding the sole member of the Managing Board, our President and Chief Executive Officer, (iii) the remuneration of the Executive Vice Presidents, (iv) the average remuneration of all our indirect employees other than the members of our Senior Management, including the sole member of the Managing Board, our President and Chief Executive Officer, and (v) the performance of the Company (based on US GAAP where relevant). 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. The table below also shows the pay ratio between our Managing Board, the Executive Committee (excluding the sole member of the Managing Board, our President and Chief Executive Officer), the Executive Vice Presidents and our indirect employees.

	2023	2022	2021	2020	2019
Managing Board remuneration					
Total remuneration of the sole member of the Managing Board, our President and Chief Executive Officer (A) (amounts in millions)(1)	$7,302	$7,218	$7,559	$5,739	$7,795
Evolution of the remuneration of the sole member of the Managing Board, our President and Chief Executive Officer remuneration	1%	(5)%	32%	(26)%	(30)%
Executive Committee (excluding the sole member of the Managing Board, our President and Chief Executive Officer) remuneration					
Average remuneration of the Executive Committee (excluding the sole member of the Managing Board, our President and Chief Executive Officer) (B) (amounts in millions)(2)(3)	$4,948	$4,250	$4,381	$3,555	$2,539
Evolution of average remuneration of the Executive Committee (excluding the sole member of the Managing Board, our President and Chief Executive Officer) (9)	16%	(3)%	23%	40%	13%
Ratio A versus B	1.48	1.70	1.73	1.61	3.07
Executive Vice Presidents remuneration					
Average remuneration of the Executive Vice Presidents (C) (amounts in millions)(4)(5)(6)	$2,373	$2,256	$2,779	$2,066	$1,603
Evolution of the average remuneration of the Executive Vice Presidents	5%	(19)%	34%	29%	8%
Ratio A versus C	3.08	3.2	2.72	2.78	4.86
Employee remuneration(7)					
Average remuneration of all global indirect employees (FTE basis) (D)(8)	$114,100	$109,600	$111,200	$98,500	$97,300
Evolution of the average remuneration of all global indirect employees (FTE basis)(8)	4%	(1)%	13%	1%	(3)%
Ratio A versus D	64.0	65.9	68.0	58.2	80.2
Ratio B versus D	43.4	38.8	39.4	36.1	26.1
Ratio C versus D	20.8	20.6	25.0	21.0	16.05
Company's performance					
Net revenues (amounts in millions)	$17,286	$16,128	$12,761	$10,219	$9,556
Evolution of the revenues	7%	26%	25%	7%	(1)%
Operating income (amounts in millions)	$4,611	$4,439	$2,419	$1,323	$1,203
Evolution of the Operating income	4%	84%	83%	10%	(14)%

(1) Total Managing Board remuneration for 2019 includes a one-off contractually obligated deferred compensation paid to Mr. Bozotti.

(2) Average remuneration of our Executive Committee includes amounts paid in 2023 to our former President, Technology, Manufacturing, Quality and Supply Chain, Orio Bellezza.

(3) Average remuneration of our Executive Committee includes amounts paid in 2021 to our former President, Analog, MEMS and Sensors Group, Benedetto Vigna.

(4) Average remuneration of our Executive Vice Presidents includes amounts paid in 2023 to our former Executive Vice President Front-End Manufacturing, Analog and Power, Michael Hummel and former Executive Vice President, MEMS Sub-Group Analog, MEMS and Sensors Group, Andrea Onetti.

(5) Average remuneration of our Executive Vice Presidents includes amounts paid in 2022 to our former Executive Vice President, Digital & Smart Power Technology and Digital Front-End Manufacturing, Joel Hartmann, and former Executive Vice President, General Manager, Sales & Marketing, Americas Region, Paul Cihak.

(6) Average remuneration of our Executive Vice Presidents includes amounts paid in 2021 to our former Executive Vice President Europe and France Public Affairs, Thierry Tingaud.

(7) Employee remuneration is defined as all remuneration paid to our indirect 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.

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

(9) Variation in 2023 is mainly driven by the termination benefits granted in that specific year and share price increase for long-term incentive pay-out. For further detail reference is made to section 4.9.3.3.

4.9.5 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.

4.9.6. 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. Since 2005, we have adopted long-term incentive plans based on stock awards for our 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.

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 2023 unvested stock award allocation under the 2021 Unvested Stock Award Plan, including restriction criteria linked to our performance (for selected employees);
- approved conditions relating to our 2022 unvested stock award allocation under the 2021 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 sale or purchase of shares of our stock by the members or professionals of our Supervisory Board, the sole member of our Managing Board, our President and Chief Executive Officer, and all our employees are subject to an internal policy which involves, inter alia, certain blackout periods.

5. Corporate Governance

5.1. Commitment to the principles of good corporate governance

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

- Our corporate organization under Dutch law that entrusts our management to a Managing Board acting under the supervision and control of a Supervisory Board totally independent from the Managing Board. Members of our Managing Board and of our Supervisory Board are appointed and dismissed by our shareholders;
- Our early adoption of policies on important issues such as business ethics and conflicts of interest and strict policies to comply with applicable regulatory requirements concerning financial reporting, insider trading and public disclosures;
- Our compliance with Dutch securities laws, because we are a company incorporated under the laws of The Netherlands, and, as applicable, our compliance with American, French and Italian securities laws, 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, 2023;
- 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, our policies, or the law (including, without limitations, any concerns regarding accounting, internal controls or auditing matters). Our Speak Up Policy is communicated to all employees and includes, in addition to internal local and corporate reporting channels, an independent multilingual ethics 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 & Ethics Officer, who reports to our Chief Executive Officer, also acts as Executive Secretary to our Supervisory Board, and is jointly responsible with our Chief Audit and Risk Executive for our ethics hotline and related investigations; and
- Our Chief Audit and Risk Executive, who reports directly to our Audit Committee for Internal Audit and directly to our Chief Financial Officer for Enterprise Risk Management and Resilience (business continuity and crisis management), is also jointly responsible with our Chief Compliance & Ethics Officer for our ethics hotline and related investigations.

As a Dutch listed company, we are subject to the Dutch Corporate Governance Code, which is publicly available at www.mccg.nl. 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 April 2022 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 (investors.st.com), and these documents are available in print to any shareholder who may request them.

As required by article 2:391(5) jo. article 3(1) of the Decree on the content of the management report and the Dutch Corporate Governance Code, our Corporate Governance Charter includes information on the broad outline of our corporate governance structure and our compliance with the Dutch Corporate Governance Code.

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 the Company and its business, taking into consideration the interests of all our shareholders and other stakeholders, 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 New York Stock Exchange.

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 New York Stock Exchange, 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 corporate governance standards of the New York Stock Exchange, to the extent possible for a Dutch company listed on Euronext Paris, Borsa Italiana, as well as the New York Stock Exchange.

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.

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.

5.2. General meeting of shareholders

Our ordinary general meetings of shareholders are held at least annually, within six months after the close of each financial year, in Amsterdam, Haarlemmermeer (Schiphol Airport), Rotterdam or The Hague, The Netherlands. Extraordinary general meetings of shareholders 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 general meetings of shareholders 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. If the Managing Board or the Supervisory Board does not convene the general meeting of shareholders within six weeks of such a request, the aforementioned shareholders or individuals may be authorized by a competent judicial authority.

Notice of general meetings of shareholders shall be given by our Managing Board or by our Supervisory Board or by those who according to the law or our Articles of Association are entitled thereto. The notice shall be given in such manner as shall be authorized or required by law (including but not limited to a written notice, a legible and reproducible message sent by electronic means and an announcement published by electronic means), as well as in accordance with the regulations of a stock exchange where our shares are officially listed at our request. In addition, shareholders and other persons entitled to attend our General Meetings of Shareholders that are registered in our share register shall be notified by letter that the meeting is being convened. The notice convening our general meeting of shareholders shall be given with due observance of the statutory notice period, which is currently 42 days prior to the meeting.

The notice of our general meeting of shareholders states the business to be transacted as well as other information prescribed by law and our Articles of Association. The agenda is fixed by the author of the notice of the meeting; however, one or more shareholders or other persons entitled to attend general meetings of shareholders 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 that proposals be included on the agenda. Notwithstanding the previous sentence, proposals of persons who are entitled to attend general meetings of shareholders will be included on the agenda, if such proposals are made in writing to our Managing Board within a period of sixty days before that meeting by persons who are entitled to attend our General Meetings of Shareholders who, solely or jointly, represent at least 1% of our issued share capital or a market value of at least €50 million. The requests referred to in the previous two sentences may not be submitted electronically. The aforementioned requests 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). We are required to disclose this interest on our website.

Dutch law prescribes a fixed registration date of 28 days prior to the date of the General Meeting of Shareholders, which means that shareholders and other persons entitled to attend our General Meetings of Shareholders are those persons who have such rights at such date 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 our general meeting of shareholders at the time of the meeting if a registration date would not be applicable.

Unless otherwise required by our Articles of Association or Dutch law, resolutions of our General Meetings of Shareholders require the approval of a majority of the votes cast at a meeting at which at least fifteen percent of the issued and outstanding share capital is present or represented. If a quorum is not present, a further meeting can be convened which shall be entitled, irrespective of the share capital represented, to pass a resolution. We may not vote our shares held in treasury. Blank and invalid votes shall not be counted.

In general, the most important items of our General Meetings of Shareholders are:

- the adoption of our annual accounts;
- the adoption of a dividend;
- the discharge of the members of our Managing Board and Supervisory Board;
- the adoption of the compensation policy of our Managing Board;
- the determination of the compensation of the members of our Supervisory Board;
- the appointment, suspension and dismissal of the sole member of our Managing Board;
- the appointment, suspension and dismissal of the members of our Supervisory Board;
- the appointment of our auditors;
- the authorization to our Managing Board to repurchase shares;
- the issuance of shares and the granting of rights to subscribe for shares (option rights) as well as the delegation of these authorities to our Supervisory Board;
- approving resolutions of our Managing Board as referred to below under “Managing Board”; and
- resolutions regarding the amendment of our Articles of Association, our liquidation, legal merger and legal demerger.

Under Dutch law, our general meeting of shareholders has the authority to adopt our statutory annual accounts as prepared by our Managing Board. Our general meeting of shareholders does not have the authority to amend our statutory annual accounts as prepared by our Managing Board. Our general meeting of shareholders can:

i. either adopt our statutory annual accounts in the form as prepared by our Managing Board; or

ii. instruct our Managing Board to amend our statutory annual accounts before adopting these annual accounts; or

iii. not adopt the statutory annual accounts.

If our general meeting of shareholders instructs our Managing Board to amend our statutory annual accounts, our Managing Board is required to make the necessary amendments, unless the instruction contravenes the provisions of reasonableness and fairness (redelijkheid en billijkheid). Furthermore, the instruction must not contravene with the applicable presentation rules for the statutory annual accounts, including requirements of consistency and balance continuity. If there are multiple options, our general meeting of shareholders is authorized to decide with due observance of said limits.

If there are doubts regarding the correctness of our statutory annual accounts, the annual report and the other information, a petition for revision of our statutory annual accounts can be filed with the Enterprise Chamber (Ondernemingskamer) of the Amsterdam Court of Appeal in The Netherlands by each interested party on the basis of non-compliance with the applicable presentation requirements for the statutory annual accounts, the annual report and/or the other information prescribed by the EU IFRS regime, Title 9 of Book 2 of the Dutch Civil Code and/or the Dutch Financial Markets Supervision Act (Wet op het financieel toezicht). The petition must state in which respect the documents require revision. The petition can also be filed by the Advocate General (advocaat-generaal) of the Amsterdam Court of Appeal on the basis of public interest as well as the AFM with due observance of Section 4 of the Dutch Financial Markets Supervision Act.

5.3. 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 general meeting of shareholders upon a non-binding proposal of our Supervisory Board, with a minimum of six members. Decisions by our shareholders 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.

Under Dutch law, certain statutory provisions limit the number of supervisory positions that members of our Supervisory Board may hold. A member of our Supervisory Board can only be appointed as such if he/she does not hold more than four supervisory positions at other so-called “large” Dutch entities. In this connection, the position of chairman equals two positions. The term supervisory position means the position of supervisory director or non-executive director. Supervisory positions at several entities belonging to the same group constitute one position, and supervisory positions at non-Dutch entities are not taken into account. Furthermore, an appointment by the Enterprise Chamber (*Ondernemingskamer*) of the Amsterdam Court of Appeal as part of corporate inquiry proceedings is not taken into account. For purposes of the foregoing, ”large” Dutch entities are Dutch limited liability companies, private companies with limited liability and foundations which meet at least two of the following three criteria (“‘Large Dutch Entities”): (i) the value of the assets according to the consolidated statement of financial position with explanatory notes exceeds €20 million; (ii) the net turnover for the financial year exceeds €40 million; or (iii) there are, on average, 250 or more employees during the financial year.

In The Netherlands, companies such as ours are expected to pursue a policy of having a balanced participation by men and women in supervisory boards. 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.

In accordance with the criteria as reflected in our Supervisory Board charter and diversity policy, members of our Supervisory Board are selected on the basis of their specific business, financial, technical and/or legal expertise, prior professional experience, soundness of judgment, ability to make analytical enquiries and willingness to devote the time required to adequately perform their activities as Supervisory Board members. The object of our diversity policy is to have a diverse composition of our Supervisory Board in the areas that are relevant to us, such as nationality, experience, background, gender and age. Our Supervisory Board endorses the principle of a diversified Supervisory Board, including the aforementioned statutory gender balance rules, within the scope of the criteria as reflected in our Supervisory Board charter and diversity policy. We will continue to ensure an appropriate balance as recommended by the aforementioned statutory gender balance rules. The Supervisory Board meets the other criteria as set forth in their Charter as well, resulting in a diversified composition of the Supervisory Board.

The responsibilities of our Supervisory Board include (but are not limited to):

- supervising, monitoring, and advising our Managing Board on: (i) our performance, (ii) our strategy and risks inherent to our business activities, (iii) the structure and management of the internal risk management and control systems, and (iv) compliance with legislation and regulations;
- disclosing, complying with and enforcing our corporate governance structure;
- selecting and recommending the appointment of the member(s) of the Managing Board;
- proposing the compensation policy for the member(s) of our Managing Board (such policy to be adopted by our General Meeting of Shareholders), fixing the compensation annually and the contractual terms and conditions of employment of the member(s) of our Managing Board (in accordance with the said compensation policy);
- electing and recommending the appointment of the members of our Supervisory Board and proposing their remuneration;

- evaluating and assessing the functioning of our Managing Board, our Supervisory Board, and their individual members (including the evaluation of our Supervisory Board’s profile and the introduction, education and training program);
- handling, and deciding on, potential reported conflicts of interest between us on the one hand and members of our Supervisory Board, our Managing Board, our external auditor and our (major) shareholder(s) on the other hand;
- selecting and recommending the appointment of our external auditor upon proposal by our Audit Committee;
- reviewing and approving our whistle-blower procedures upon approval by the Audit Committee;
- handling, and deciding on, reported alleged irregularities that relate to the functioning of our Managing Board;
- approving decisions by our Managing Board as referred above under “Managing Board”;
- supervising the adoption and implementation by our Managing Board on a consolidated basis of strategic pluri-annual plans and annual budgets in line with the decisions of our Supervisory Board;
- on an annual basis, the renewal of the authorization by our Managing Board to issue guarantees to companies whose accounts are consolidated by us, as well as guarantees granted to third parties including nonconsolidated subsidiaries of us; and
- declaring independently as well as proposing to our general meeting of shareholders to declare, distributions out of our share premium reserve and other reserves available for shareholder distributions under Dutch law.

Our Supervisory Board charter, as posted on our website, contains detailed provisions on the reporting and handling of (potential) conflicts of interest.

For information on the identity of our Supervisory Board members, including its committees, as well as the compensation of the members of our Supervisory Board, see the report of our Supervisory Board. We believe that at least one member of our Supervisory Board can be regarded as a financial expert.

For information on the role and identity of the committees of our Supervisory Board, see the report of our Supervisory Board.

5.4. 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 is currently the sole member of our Managing Board with the function of President and Chief Executive Officer. Under our Articles of Association, the sole member of our Managing Board is appointed for a three-year term, upon a non-binding proposal by our Supervisory Board, at our AGM (by a simple majority of the votes cast, provided quorum conditions are met), which term may be renewed one or more times.

In The Netherlands, companies such as ours are expected to pursue a policy of having a balanced participation by men and women in managing boards. Where seats on a managing board are to be divided among individuals, balanced participation is deemed to exist if at least 30% of the seats are taken by men and at least 30% by women. Since its creation in 1987, our Managing Board has always been comprised of a sole member and therefore we have not put in place a diversity policy for our Managing Board.

Our shareholders 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 our Company. Our Managing Board must seek prior approval from our shareholders 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 our 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 pursuant to Dutch law. We are not aware of any potential conflicts of interests between the private interest or other duties of our sole Managing Board member and our senior managers and their duties to us.

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

Senior Management

General management of our business

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

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

- Executive Committee, which meets once every month and oversees the general strategy and is responsible for the risk management of the Company.
- Corporate Operations Review, which meets twice per quarter to review monthly results, short-term forecasts and monthly business results.
- Corporate Staff Meeting, which meets once per quarter to review the business in its entirety and to plan and forecast for the next quarter and beyond.

Executive Committee

The Executive Committee 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 our President and Chief Executive Officer and he thus serves as the primary interface between the Executive Committee and the Supervisory Board. Members of the Executive Committee are appointed by the Managing Board subject to the approval of the Supervisory Board. Members of the Executive Committee can be suspended and dismissed by the Managing Board without prior approval by the Supervisory Board.

The Executive Committee was composed of the following nine members as of December 31, 2023, 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	39	39	63
Marco Cassis	President, Analog, MEMS and Sensors Group	36	36	60
Rajita D'Souza	President, Human Resources, Corporate Social Responsibility	3	3	51
Remi El-Ouazzane	President, Microcontrollers and Digital ICs Group	2	26	50
Lorenzo Grandi	Chief Financial Officer (CFO) and President, Finance, Purchasing, Enterprise Risk Management (ERM) & Resilience	36	36	62
Fabio Gualandris	President, Quality, Manufacturing and Technology	35	36	64
Marco Monti	President, Automotive and Discrete Group	37	37	62
Steven Rose	President, Legal Counsel and Public Affairs	32	32	61
Jerome Roux	President, Sales & Marketing	32	36	58

(1) Fabio Gualandris has, in August 2023, replaced Orio Bellezza as President, Quality, Manufacturing and Technology and as announced on January 10, 2024 Marco Monti will leave the Company.

Detailed biographies of our Executive Committee members are available on our website www.st.com.

Executive Vice Presidents

The group of Executive Vice Presidents consisted of the following people as of December 31, 2023:

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 (EMEA)	25	33	55
Christophe Ayela	Executive Vice President, Analog & Power Front-End Manufacturing	33	33	57
Alexandre Balmefrezol	Executive Vice President and General Manager of the Imaging sub-group within ST’s Analog, MEMS and Sensors Group	26	26	49
Stefano Cantù	Executive Vice President, Smart Power Solutions Sub-Group within ST’s Automotive and Discrete Group (ADG), Automotive Business Deputy	29	29	55
Henry Cao	Executive Vice President, Sales & Marketing, China Region	3	3	50
Alessandro Cremonesi	Executive Vice President, Chief Innovation Officer and General Manager System Research and Applications (SRA) Group	39	39	65
Alberto Della Chiesa	Executive Vice President Supply Chain	35	35	59
Ricardo De Sa Earp	Executive Vice President, General-Purpose Microcontroller sub-group within ST's Microcontrollers and Digital ICs Group	26	26	60
Franck Freymond	Executive Vice President, Chief Audit & Risk Executive	13	13	55
Fabrice Gomez	Executive Vice President, Head of Back-End Manufacturing & Technology	11	11	55
Frédérique Le Grevès	Executive Vice President, Europe and France Public Affairs	3	3	56
Claudia Levo	Executive Vice President, Integrated Marketing & Communications	12	14	58
Matteo Lo Presti	Executive Vice President, General Manager, Analog sub-group within ST's Analog, MEMS and Sensors Group	30	33	59
Laurent Malier	Executive Vice President Digital Front-End Manufacturing and Technology	8	29	56
Edoardo Merli	Executive Vice President, Power Transistor sub-group within ST's Automotive and Discrete Group	25	25	61
Hiroshi Noguchi	Executive Vice President, Sales & Marketing, Asia Pacific Region excluding China (APeC)	16	16	48
Giuseppe Notarnicola	Executive Vice President, Treasury, Insurance, M&A, IP BU, and Italy Public Affairs	18	18	62
Rino Peruzzi	Executive Vice President, Sales & Marketing, Americas and Global Key Account Organization	25	25	58
Chouaib Rokbi	Executive Vice President, Digital Transformation and Information Technology, Corporate Development	23	23	52
Bertrand Stoltz	Executive Vice President Finance, Global Shared Services and Systems, Asia Public Affairs	29	29	53
Geoff West	Executive Vice President, Chief Procurement Officer	30	38	60
Nicolas Yackowlew	Executive Vice President, Product Quality & Reliability	28	29	54

(1) Michael Hummel left his position in November 2023, and Christophe Ayela was appointed as Executive Vice President, Analog & Power Front-End Manufacturing. Alexandre Balmefrezol was appointed in January 2023 as Executive Vice President and General Manager of the

Imaging sub-group replacing Eric Aussedat. Fabrice Gomez has replaced in July 2023 Fabrio Gualandris as Executive Vice President, Head of Back-End Manufacturing & Technology. Andrea Onetti left his position as Executive Vice President, MEMS Sub-Group in 2023. Geoff West was appointed as Executive Vice President, Chief Procurement Officer in 2023.

Detailed biographies of our Executive Vice Presidents are available on our website www.st.com.

5.5. Indemnification of members of our Managing Board and Supervisory Board

To the extent permitted by Dutch law, members of our Managing Board and Supervisory Board as well as our officers or agents shall be indemnified by us against expenses, such as the reasonable costs of defending claims, as stated in our Articles of Association. Under certain circumstances, there will be no entitlement to this reimbursement. We hold a Director & Officer liability insurance for the members of our Managing Board and Supervisory Board as well as our officers.

5.6. Risk Management and Control Systems

For our statement on the main features of our risk management and control systems and of the group of which the financial data are included in our annual accounts, please refer to section 3.3. (Risk Management and Internal Control).

5.7. Required information Article 10 Takeover Directive

The EU Takeover Directive requires that listed companies publish additional information providing insight into defensive structures and mechanisms which they apply. The relevant provision has been implemented into Dutch law by means of the Decree on Article 10 of the Takeover Directive of April 5, 2006. Pursuant to this decree, Dutch companies whose securities have been admitted to trading on a regulated market have to include information in their annual report which could be of importance for persons who are considering taking an interest in the company.

This information comprises amongst other things:

- the capital structure of the company;
- restrictions on the transfer of securities and on voting rights;
- special powers conferred upon the holders of certain shares;
- the rules governing the appointment and dismissal of board members and the amendment of the Articles of Association;
- the rules on the issuing and the repurchasing of shares by the company;
- significant agreements to which the company is a party and which contain change of control rights (except where their nature is such that their disclosure would be seriously prejudicial to the company); and
- agreements between the Company and its board members or employees providing for a “golden parachute”.

Capital structure

The authorized share capital of STMicroelectronics N.V. is €1,810 million consisting of 1,200,000,000 common shares and 540,000,000 preference shares, each with a nominal value of €1.04. As of December 31, 2023, the number of common shares issued was 911,281,920 shares (December 31, 2022: 911,281,920 shares).

As of December 31, 2023, the number of common shares outstanding was 902,771,081 shares (December 31, 2022: 903,865,763 shares). There were no preference shares issued as of December 31, 2023, and December 31, 2022, respectively.

Restrictions on the transfer of shares

We do not have restrictions on the transfer of our common and preference shares, provided that Stichting Continuïteit ST, if it holds preference shares, requires our consent to sell or otherwise dispose of preference shares or voting rights attached thereto.

Holdings in us that are subject to a disclosure obligation

For information on holdings in us that are subject to a disclosure obligation pursuant to chapter 5.3 of the Dutch Financial Markets Supervision Act (“Wet op het financieel toezicht”), please refer to section 5.11. (Major Shareholders).

Special controlling rights

We do not have special controlling rights attached to our common or preference shares.

Control of employees share/option schemes

We do not have any scheme granting rights to employees to subscribe for or acquire shares in our share capital or the share capital of one of our subsidiaries where the control is not directly exercised by the employees. However, key employees as determined by our unvested share award plans are granted share awards (as part of their compensation) with a staggered vested schedule pursuant to our determined criteria. For more information on employees share/option schemes, see the remuneration report in section 4.9. (Remuneration Report).

Restrictions on voting rights

We do not have any restrictions on voting rights nor have we cooperated in the issuance of depositary receipts for shares.

Agreements with shareholders that may give rise to restrictions on the transfer of shares or restrictions of voting rights

We do not have any agreements with shareholders that may give rise to restrictions on the transfer of shares or restrictions of voting rights. However, please see below in section 5.12. (Shareholders’ Agreements) for certain information on shareholders’ agreements regarding us to which we are not a party.

Provisions on appointment and dismissal of members of our Managing Board and Supervisory Board and amendment of our Articles of Association

Please see the information included above in section 5.3. (Supervisory Board) and section 5.4. (Managing Board) with respect to the appointment and dismissal of the members of our Managing Board and Supervisory Board.

Our Articles of Association can be amended by our general meeting of shareholders, upon the proposal of our Supervisory Board, by a simple majority of the votes cast at a meeting where at least 15% of the issued and outstanding share capital is present or represented. If a quorum is not present, a further meeting can be convened which shall, irrespective of the share capital represented, to pass a resolution. If the relevant amendment affects the rights of holders of common shares or holders of preference shares, the approval of the meeting of holders of common shares and the meeting of holders of preference shares, respectively, is required.

Authority of the Managing Board and Supervisory Board regarding the issuance and repurchase of shares

Pursuant to our Articles of Association, our Managing Board does not have the authority to issue shares or grant rights to subscribe for shares. Our Supervisory Board has this authority. Our 2023 AGM authorized our Supervisory Board, until the conclusion of the 2024 AGM, to resolve upon: (i) the issuance of common shares or the granting of rights to subscribe for common shares in our share capital, up to a maximum of 10% of our issued common share capital as per December 31, 2022, but not exceeding the limits of the authorized share capital, (ii) the terms and conditions of an issuance of common; and (iii) the limitation and/or exclusion of pre-emptive rights of existing shareholders upon issuance of common shares or rights to subscribe for it.

Pursuant to a shareholders’ resolution adopted at our 2023 AGM, our Managing Board, subject to the approval of our Supervisory Board, was authorized, until the conclusion of the 2024 AGM, to acquire common shares and/or preference shares subject to the limits of Dutch law and our Articles of Association and in accordance with the acquisition price conditions set forth in such shareholders’ resolution. Furthermore, 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 general meeting of shareholders.

Significant agreements to which we are a party and which contain change of control rights

On August 4, 2020, we issued senior unsecured bonds, in two tranches, one of $750 million with a maturity of 5 years and one of $750 million with a maturity of 7 years, convertible into new or existing common shares in our share capital. Pursuant to the terms and conditions of the senior bonds (the "Conditions"), bondholders have certain conversion rights and redemption rights upon a change of control, all as provided in the Conditions.

Agreements with the sole member of our Managing Board regarding distributions upon the termination of their employment contract in connection with a public offer on us

The employment agreements with the sole member of our Managing Board, our President and Chief Executive Officer, Mr. Jean-Marc Chery, provide for distributions upon termination of his employment agreements upon a change of control, amongst others, pursuant to a takeover bid, as further described in section 4.9.2.g. (Managing Board remuneration - Compensation provisions in the event of termination or departure of the sole member of our Managing Board, our President and Chief Executive Officer - Table of the compensation in the event of termination or departure of the sole member of our Managing Board, our President and Chief Executive Officer).

Stichting Continuïteit ST — our preference shares

We have an option agreement with an independent foundation, Stichting Continuïteit ST (the "Stichting"), regarding our preference shares. This is a common practice used by a majority of publicly traded Dutch companies. Our Managing Board and our Supervisory Board, along with the board of the Stichting, have declared that they are jointly of the opinion that the Stichting is independent of us. 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 Stichting would have the option, which it shall exercise in its sole discretion, to take up the preference shares. The shares would be issuable 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 offer for our common shares are not supported by our Managing Board and Supervisory Board. The preference shares may remain outstanding for no longer than two years.

No preference shares have been issued to date. The effect of the preference shares may be to deter potential acquirers from effecting an unsolicited acquisition resulting in a change of control as well as to create a level-playing field in the event actions which are considered to be hostile by our Managing Board and our 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.

The board of the Stichting is currently comprised of the following three members:

- Professor S.C.J.J. Kortmann, a well-known professor at law at the Radboud University in Nijmegen, The Netherlands, as Chairman of the Board;
- Mr. F. Ago, a well-known and experienced attorney at law in Italy; and
- Mr. E.G. Alphandéry, a professor of economics and former French Minister of Economy.

All members of the board of the Stichting are independent from the Company.

5.8. Shares without voting rights and shares which do not give any or only a limited right to share in the profits or reserves

We do not have any shares without voting rights or shares which do not give any or only a limited right to share in the profits or reserves of the Company.

5.9. Code of Conduct

Our Code of Conduct is 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 have adapted and will amend our Code of Conduct and related policies, as appropriate, to raise awareness, ensure effectiveness and compliance, and to reflect regulatory or other changes. Our Code of Conduct also encourage our employees (or any interest third-party) to speak up and express any concern they may have in good faith, without fear of retaliation. Our Code of Conduct provides that if any employee or senior manager 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 https://www.st.com/codeofconduct.

5.10. Deviations from the Dutch Corporate Governance Code

According to the Dutch Corporate Governance Code, we are required to publish a list of current deviations from the Dutch Corporate Governance Code, and an explanation why we do not comply, the so-called comply-or-explain-principle. Because we are listed on the New York Stock Exchange, we are required to comply with the U.S. Sarbanes-Oxley Act of 2002, as well as listing rules of the New York Stock Exchange, and the rules and regulations promulgated by the U.S. Securities and Exchange Commission ("SEC"). For the full text of (i) the U.S. Sarbanes-Oxley Act of 2002, please see www.govinfo.gov, (ii) the listing rules of the New York Stock Exchange, please see nyseguide.srorules.com/listed-company-manual and (iii) the rules and regulations promulgated by the SEC, please see www.sec.gov.

We comply with such principles and best practice provisions or by explaining why we deviate from such provisions. We comply such principles and best practice provisions, with the exception of the following best practice provisions:

- Best practice provision 1.1.4: A detailed explanation of the sustainability relevant information on (i) the management board's view on sustainable long-term value creation and the strategy to realise this and (ii) the description of the contributions made to sustainable long-term value creation in the past financial year is included in our Sustainability Report. Sustainability has been a guiding principle for ST for 30 years. During the first half of 2024, the 27th edition of our Sustainability Report will be issued, which outlines the sustainability strategy, programs and performance of the Company during financial year 2023. The Sustainability Report contains extensive information about our commitment and approach to sustainability as well as the contributions made thereto and the results so far. The information to be reported under best practice provision 1.1.4 that is sustainability related can be found, accordingly, in the Sustainability Report. We are currently preparing for required sustainability disclosures under the CSRD as of financial year 2024 to be integrated into the management report of our annual report. Part of this process is a thorough preparation regarding the collection of the necessary information and the streamlining of the integration process of the Sustainability Report and the Dutch annual report. We are aiming for integration of sustainability information in the management report as per financial year 2024.

- Best practice provisions 1.1.5 and 2.1.5.: As referenced in our Sustainability Report, our corporate social responsibility policy addresses, amongst others, the topics of diversity, equity and inclusion and stakeholder engagement. This policy is available on our website: https://www.st.com/resource/en/policy_statement/st-corporate-social-responsibility-policy.pdf. Similar to the Dutch Corporate Governance Code, the CSRD requires us to draw up and/or amend specific policies on various sustainability topics. We are preparing for the applicability of the CSRD as per financial year 2024 and, in compliance with the CSRD and therewith the Dutch Corporate Governance Code, we will have updated/drawn up required dedicated policies on the prescribed sustainability topics during 2024.

- Best practice provision 2.1.7: As explained in the report of our Supervisory Board, our criteria deviate from the independence criteria as included in best practice provision 2.1.7 of the Dutch Corporate Governance Code, specifically item iii. of such best practice provisions (and therewith also best practice provision 2.1.10 of the Dutch Corporate Governance Code), but are in conformity with governance listing standards of the New York Stock Exchange and our Corporate Governance Charter as approved by our shareholders in the 2004 AGM. This departure is expected to continue for more than one financial year.

- Best practice provision 2.2.2: The term of office of Supervisory Board members may from time to time exceed the maximum term mentioned in the Dutch Corporate Governance Code. However, if the maximum term is exceeded, this is always approved by our shareholders as members of our Supervisory Board are appointed by our general meeting of shareholders. As mentioned in our Supervisory Board charter, we consider that it may not always be in our best interests to limit the number of terms members may serve on our Supervisory Board. However, none of the current members of our Supervisory Board currently exceed the maximum term mentioned in the Dutch Corporate Governance Code.

- Best practice provision 2.2.8: Provision 2.8.8: The main findings and conclusions of the evaluations; and what has been or will be done with the conclusions from the evaluations have not been included in the report of the Supervisory Board as the evaluations are still ongoing at the time of this report.
- Best practice provision 2.6.1: we have published an outline of our Speak Up Policy on our website (www.st.com), as well as in our Code of Conduct, and access to the ethics hotline is available on our website (www.st.com). The complete text of our Speak Up Policy is available on our internal portal. We will publish the complete text of our Speak Up Policy on our website in the first half of 2024.
- Best practice provision 3.1.2. vi.: No specific holding term of five years apply to the unvested stock awards granted to the sole member of our Managing Board, our President and Chief Executive Officer, under the long-term incentive plan. This element is part of the employment conditions on the basis of which the sole member of our Managing Board, our President and Chief Executive Officer, accepted his responsibilities in 2005. Those conditions are among others based on the international context in which we operate, industry standards and applicable laws, and in line with our remuneration policy adopted by our 2021 AGM.
- Best practice provision 3.2.3: As described in section 3.9.2.g. (Managing Board remuneration -Compensation provisions in the event of termination or departure of the sole member of our Managing Board, our President and Chief Executive Officer), the remuneration in the event of dismissal of the sole member of our Managing Board, our President and Chief Executive Officers, exceeds one year's salary. The remuneration in the event of dismissal shall be paid only if the employment agreement is terminated by us. This element is part of the employment conditions on the basis of which the sole member of the Managing Board, our President and Chief Executive Officer accepted his responsibilities in 2005. Those conditions were among others based on the international context in which we operate, industry standards and applicable laws, and in line with our, at that time, remuneration policy as approved by our 2005 AGM and the remuneration policy adopted by our 2021 AGM. This departure is expected to continue for more than one financial year.
- Best practice provision 3.4.1: We believe we comply with most elements of this best practice provision but do not disclose certain select compensation information, among others, to the extent that we believe it is competitively sensitive information that if disclosed could harm our ability to attract and retain executives and other key personnel.
- Best practice provision 3.4.1. iv.: The pay ratio disclosed in section 4.9.4. uses the calculation methodology in line with our previous years' disclosure. As per financial year 2023, the Dutch Corporate Governance Code prescribes an alternate calculation methodology compared to that used for our previous years and the CSRD, applicable as per financial year 2024, prescribes yet another alternate calculation methodology which will also differ from the calculation methodology in the Dutch Corporate Governance Code. In order to safeguard clarity and consistency of disclosures of the pay ratio within the Company, for financial year 2023, we report on the pay ratio in line with previous years' disclosure and we will report in line with the pay ratio calculation methodology of the CSRD as per financial year 2024.

5.11. Major Shareholders

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.

The following table sets forth certain information with respect to the ownership of our issued common shares as of December 31, 2023, based on information available to us:

	Common Shares Owned	
Shareholders	Number	%
STMicroelectronics Holding N.V. ("ST Holding")	250,704,754	27.5
Public [(1)]	652,066,327	71.6
Treasury shares	8,510,839	0.9
Total	**911,281,920**	**100.0**

(1) According to the report available on Schedule 13G filed with the SEC on February 12, 2024, we understand that as of December 31, 2023 BlackRock, Inc. is the beneficial owner of 76,018,157 of our common shares (representing approximately 8.3% of our issued 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.

According to the report on Schedule 13G ("2024 ST Holding 13G") jointly filed with the SEC on February 14, 2024, by ST Holding, Bpifrance Participations S.A., a successor to its former wholly-owned subsidiary FT1CI, ("Bpifrance"), the Italian Ministry of the Economy and Finance (the "MEF" and together with Bpifrance hereinafter the "STH Shareholders"), Caisse des d'epots et consignations ("CDC"), EPIC BpiFrance ("EPIC") and Bpifrance S.A., the Italian Government and the French Government, each indirectly through the MEF and Bpifrance, respectively, held 13.9% of our share capital as of December 31, 2023. The ownership percentages of each the MEF and Bpifrance are based on 902,771,081 shares outstanding as of December 31, 2023. Bpifrance is 99.9% owned by Bpifrance S.A., in which CDC and EPIC each hold a 49.2% participation. Below is a brief summary of certain details from the 2024 ST Holding 13G.

All transactions with major shareholders were in compliance with provisions of the Dutch Corporate Governance Code.

5.12. Shareholders' Agreements

5.12.1. STH Shareholders' Agreement

The filers of the 2020 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 2020 ST Holding 13G.

5.12.1.1. Standstill

The STH Shareholders' Agreement contains a standstill provision that precludes any of the parties and the parties' affiliates from acquiring, directly or indirectly, any of our common shares or any instrument providing for the right to acquire any of our common shares other than through ST Holding. The standstill is in effect for as long as such party holds our common shares through ST Holding. The parties agreed to continue to hold their stakes in us at all times through the current holding structure of ST Holding, subject to certain limited exceptions.

5.12.1.2. Corporate Governance

The STH Shareholders' Agreement provides for a balanced corporate governance between the STH Shareholders for the duration of the "Balance Period", despite actual differences in indirect economic interest in us. The "Balance Period" lasts as long as each STH Shareholder owns at any time a voting stake in ST Holding equal to at least 47.5% of the total voting stakes of ST Holding.

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 we are 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.

The STH Shareholders furthermore agreed that during the Balance Period, any other decision, to the extent that a resolution of ST Holding is required, must be pursuant to the unanimous approval of the shareholders of ST Holding.

At the end of the Balance Period i.e., once a shareholder's voting stake in ST Holding has decreased under the 47.5% threshold, such STH Shareholder being thereafter referred to as "minority shareholder" and the other one being referred to as "majority shareholder", the members of our Supervisory Board and those of ST Holding designated by the minority shareholder of ST Holding will, pursuant to the Shareholders' Agreement, immediately resign upon request of ST Holding's majority shareholder.

After the end of the Balance Period, unanimous approval by the shareholders of ST Holding remains required to approve:

i. As long as any of the STH Shareholders indirectly owns at least the lesser of 3% of our issued and outstanding share capital or 10% of the STH Shareholders' aggregate stake in us at such time, with respect to ST Holding, any changes to the articles of association, any issue, acquisition or disposal of shares in ST Holding or change in the rights of its shares, its liquidation or dissolution and any legal merger, de-merger, acquisition or joint venture agreement to which ST Holding is proposed to be a party.

ii. As long as any of the STH Shareholders indirectly owns at least 33% of the STH Shareholders' aggregate stake in us, certain changes to our Articles of Association (including any alteration in our authorized share capital, or any issue of share capital and/or financial instrument giving the right to subscribe for our common shares, changes to the rights attached to our shares, changes to the preemptive rights, issues relating to the form, rights and transfer mechanics of the shares, the composition and operation of the Managing and Supervisory Boards, matters subject to the Supervisory Board's approval, the Supervisory Board's voting procedures, extraordinary General Meetings of Shareholders and quorums for voting at General Meetings of Shareholders).

iii. Any decision to vote our shares held by ST Holding at our general meeting of shareholders with respect to any substantial and material merger decision. In the event of a failure by the STH Shareholders to reach a common decision on the relevant merger proposal, our shares attributable to the minority shareholder and held by ST Holding will be counted as present for purposes of a quorum of shareholders at one of our

General Meeting of Shareholders, but will not be voted (i.e., will be abstained from the vote in a way that they will not be counted as a negative vote or as a positive vote).

iv. In addition, the minority shareholder will have the right to designate at least one member of the list of candidates for the Supervisory Board to be proposed by ST Holding if that shareholder indirectly owns at least 3% of our total issued and outstanding share capital, with the majority STH Shareholder retaining the right to appoint that number of members to the Supervisory Board that is at least proportional to such majority shareholder's voting stake.

Finally, at the end of the Balance Period, the unanimous approval required for other decisions taken at the STMicroelectronics N.V. level shall only be compulsory to the extent possible, taking into account the actual power attached to the direct and indirect shareholding together held by the STH Shareholders in our Company.

5.12.1.3. Ownership of ST Shares

The STH Shareholders Agreement provides that each STH Shareholder retains the right to direct 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.

5.12.1.4. 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, 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, to any of their respective affiliates, which could include entities ultimately controlled by the Italian Government or the French Government.

5.12.1.5. Deadlock

In the event of a disagreement that cannot be resolved between the parties as to the conduct of the business and actions contemplated by the STH Shareholders' Agreement, each party has the right to offer its interest in ST Holding to the other, which then has the right to acquire, or to have a third-party acquire, such interest. If neither party agrees to acquire or have acquired the other party's interest, then together the parties are obligated to try to find a third-party to acquire their collective interests, or such part thereof as is suitable to resolve the deadlock.

5.12.1.6. Duration

The STH Shareholders' Agreement will remain in force as long as the MEF, on the one hand and Bpifrance, on the other hand, are shareholders of ST Holding.

6. 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 24, 2023, 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 2023 and will also be distributed in the first quarter of 2024. 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, see Note 7.6.20.7 of our consolidated financial statements.

7. Consolidated financial statements

7.1. Consolidated income statement

In millions of U.S. dollars, except per share amount	Notes	Year ended December 31, 2023	Year ended December 31, 2022
Sales	**7.6.25**	17,239	16,083
Other revenues	**7.6.25**	47	45
Total revenues		**17,286**	**16,128**
Cost of sales	**7.6.27**	(9,355)	(8,797)
Gross profit		**7,931**	**7,331**
Selling, general and administrative expenses	**7.6.27**	(1,638)	(1,428)
Research and development expenses	**7.6.27**	(1,750)	(1,485)
Other income	**7.6.28**	224	203
Other expenses	**7.6.28**	(157)	(87)
Operating profit		**4,610**	**4,534**
Finance income	**7.6.29**	242	354
Finance costs	**7.6.29**	(337)	(42)
Profit before income tax		**4,515**	**4,846**
Income tax expense	**7.6.31**	(519)	(517)
Net profit		**3,996**	**4,329**
Attributable to:			
The equity holders of the parent		3,985	4,323
Noncontrolling interest		11	6
Net profit		**3,996**	**4,329**
Earnings per share attributable to the equity holders of the parent			
Earnings per share (Basic)	**7.6.32**	4.41	4.77
Earnings per share (Diluted)	**7.6.32**	4.38	4.74

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

7.2. Consolidated statement of comprehensive income

		Year ended	
In millions of U.S. dollars	**Notes**	December 31, 2023	December 31, 2022
Net profit		**3,996**	**4,329**
Other comprehensive income (loss), net of tax:			
Items that will not be reclassified to profit or loss			
Re-measurements of employee benefit obligations		(25)	101
Income tax effect		6	(23)
Re-measurements of employee benefit obligations, net of tax		**(19)**	**78**
Total items that will not be reclassified to profit or loss		**(19)**	**78**
Items that may be subsequently reclassified to profit or loss			
Exchange differences on translation of foreign operations		**132**	**(146)**
Cash flow hedges	**7.6.30**	24	40
Income tax effect		(3)	(5)
Net movement on cash flow hedges		**21**	**35**
Changes in Fair value of debt instruments at FVOCI (1)	**7.6.14.1**	6	(16)
Income tax effect		(1)	2
Net changes in Fair value of debt instruments at FVOCI (1)		**5**	**(14)**
Total items that may be subsequently reclassified to profit or loss		**158**	**(125)**
Other comprehensive income (loss), net of tax		**139**	**(47)**
Total comprehensive income, net of tax		**4,135**	**4,282**
Attributable to:			
The equity holders of the parent		4,124	4,276
Noncontrolling interest		11	6
Total comprehensive income, net of tax		**4,135**	**4,282**

(1) FVOCI: Fair Value through Other Comprehensive Income

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

7.3. Consolidated statement of financial position

In millions of U.S. dollars	**Notes**	December 31, 2023	December 31, 2022
Non-current assets			
Property, plant and equipment	**7.6.10**	10,594	8,272
Goodwill	**7.6.13**	285	279
Intangible assets	**7.6.12**	1,465	1,465
Other non-current financial assets	**7.6.14.1**	54	69
Deferred tax assets	**7.6.31**	414	471
Other non-current assets	**7.6.15**	760	613
Total non-current assets		**13,572**	**11,169**
Current assets			
Inventories	**7.6.16**	2,696	2,583
Trade accounts receivable	**7.6.17**	1,731	1,970
Other current financial assets	**7.6.14.1**	1,741	748
Other receivables and assets	**7.6.18**	1,237	678
Short-term deposits	**7.6.14.1**	1,226	581
Cash and cash equivalents	**7.6.19**	3,222	3,258
Total current assets		**11,853**	**9,818**
Total assets		**25,425**	**20,987**
Equity			
Equity attributable to the equity holders of the parent		17,242	13,440
Noncontrolling interest		122	64
Total equity	**7.6.20**	**17,364**	**13,504**
Non-current liabilities			
Interest-bearing loans and borrowings	**7.6.14.3**	1,159	1,687
Other non-current financial liabilities	**7.6.14.2**	263	377
Employee benefits	**7.6.22**	466	417
Deferred tax liabilities	**7.6.31**	60	139
Other non-current liabilities	**7.6.21**	434	197
Total non-current liabilities		**2,382**	**2,817**
Current liabilities			
Interest-bearing loans and borrowings – current portion	**7.6.14.3**	1,640	885
Trade accounts payable	**7.6.23**	1,856	2,122
Other payables and accrued liabilities	**7.6.23**	552	511
Employee benefits – current portion	**7.6.22**	968	844
Current provisions		4	5
Other current financial liabilities	**7.6.14.2**	581	204
Income tax payable	**7.6.31**	78	95
Total current liabilities		**5,679**	**4,666**
Total equity and liabilities		**25,425**	**20,987**

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

7.4. Consolidated statement of changes in equity

For the year ended December 31, 2023

In millions of U.S. dollars	**Notes**	Ordinary shares	Capital surplus	Treasury shares	Other reserves	Retained earnings	Equity attributable to the equity holders of the parent	Non controlling interest	Total equity
As of January 1, 2023		**1,157**	**2,283**	**(268)**	**1,901**	**8,367**	**13,440**	**64**	**13,504**
Net profit		—	—	—	—	3,985	3,985	11	3,996
Other comprehensive income, net of tax		—	—	—	139	—	139	—	139
Total comprehensive income		**—**	**—**	**—**	**139**	**3,985**	**4,124**	**11**	**4,135**
Capital contribution from noncontrolling interest		—	—	—	—	—	—	52	52
Transfer of cash flow hedge reserve to inventories		—	—	—	(2)	—	(2)	—	(2)
Repurchase of common stock		—	—	(346)	—	—	(346)	—	(346)
Employee share award scheme	**7.6.20.6**	—	—	237	243	(237)	243	1	244
Dividends		—	—	—	—	(217)	(217)	(6)	(223)
As of December 31, 2023		**1,157**	**2,283**	**(377)**	**2,281**	**11,898**	**17,242**	**122**	**17,364**

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

For the year ended December 31, 2022

In millions of U.S. dollars	**Notes**	Ordinary shares	Capital surplus	Treasury shares	Other reserves	Retained earnings	Equity attributable to the equity holders of the parent	Non controlling interest	Total equity
As of January 1, 2022		**1,157**	**2,283**	**(200)**	**1,738**	**4,539**	**9,517**	**64**	**9,581**
Net profit		—	—	—	—	4,323	4,323	6	4,329
Other comprehensive income, net of tax		—	—	—	(47)	—	(47)	—	(47)
Total comprehensive income		**—**	**—**	**—**	**(47)**	**4,323**	**4,276**	**6**	**4,282**
Transfer of cash flow hedge reserve to inventories		—	—	—	1	—	1	—	1
Repurchase of common stock		—	—	(346)	—	—	(346)	—	(346)
Employee share award scheme	**7.6.20.6**	—	—	278	209	(278)	209	—	209
Dividends		—	—	—	—	(217)	(217)	(6)	(223)
As of December 31, 2022		**1,157**	**2,283**	**(268)**	**1,901**	**8,367**	**13,440**	**64**	**13,504**

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

7.5. Consolidated statement of cash flows

In millions of U.S. dollars	Note	Year ended December 31, 2023	 December 31, 2022
Cash flows from operating activities			
Net profit		**3,996**	**4,329**
Items to reconcile net profit and cash flows from operating activities:			
Depreciation and amortization		1,864	1,509
Interest and amortization of issuance costs on convertible bonds		25	25
Change in fair value of embedded non-equity derivative instruments		234	(283)
Share-based compensation		236	215
Other non-cash items		(206)	(146)
Deferred income tax		(2)	—
Impairment, restructuring charges and other related closure costs, net of cash payments		189	126
Changes in net working capital:			
Movement of trade receivables, net		229	(231)
Movement of inventories, net		(72)	(650)
Movement of trade payables		(238)	240
Movement of other assets and liabilities, net		456	825
Interests paid		(42)	(7)
Interests received		186	43
Income tax paid		(489)	(416)
Net cash from operating activities		**6,366**	**5,579**
Cash flows used in investing activities			
Payments for purchases of tangible assets		(4,439)	(3,549)
Proceeds from capital grants and other contributions		320	21
Proceeds from sale of tangible assets		8	4
Net proceeds from (investments in) short-term deposits	**7.6.14.1**	(645)	(293)
Payment for purchase of marketable securities	**7.6.14.1**	(1,653)	(687)
Proceeds from matured marketable securities	**7.6.14.1**	750	—
Payment for purchase of intangible assets		(458)	(450)
Payment for purchase of financial assets		(10)	—
Payment for deferred consideration on business acquisitions		—	(25)
Net cash used in investing activities		**(6,127)**	**(4,979)**
Cash flows used in financing activities			
Proceeds from interest-bearing loans and borrowings	**7.6.14.3**	329	200
Repayment of interest-bearing loans and borrowings	**7.6.14.3**	(169)	(134)
Payment of lease liabilities	**7.6.14.3**	(67)	(58)
Repurchase of ordinary shares		(346)	(346)
Dividends paid to equity holders of the parent		(223)	(212)
Dividends paid to noncontrolling interest		(6)	(6)
Proceeds from advances on capital grants		152	—
Proceeds from noncontrolling interest		52	—
Other financing activities		(2)	—
Net cash used in financing activities		**(280)**	**(556)**
Effect of changes in exchange rates		5	(11)
Net cash increase (decrease)		**(36)**	**33**
Cash and cash equivalents at the beginning of the period		3,258	3,225
Cash and cash equivalents at the end of the period		3,222	3,258

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

7.6. Notes to the consolidated financial statements

7.6.1. Corporate information

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

The Group is a global semiconductor group of companies that designs, develops, manufactures and markets a broad range of products, including discrete and general purpose components, ASICs, full-custom devices and semi-custom devices and ASSPs for analog, digital and mixed-signal applications. In addition, the Group participates in the manufacturing value chain of smartcard products, which includes the production and sale of both silicon chips and smartcards.

The Group’s products are used in a wide variety of applications for the four end-markets the Group addresses: automotive, industrial, personal electronics and communications equipment, computers and peripherals. For the automotive and industrial markets, the Group addresses a wide customer base, particularly in industrial, with a broad and deep product portfolio. In personal electronics and communications equipment, computers and peripherals, the Group has a selective approach both in terms of the customers the Group serves, as well as in the technologies and products it offers.

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

These consolidated financial statements have been approved by the Supervisory Board on March 20, 2024 for submission to the AGM.

7.6.2. Basis of preparation

The consolidated financial statements have been prepared on a historical cost basis, except for derivative financial instruments, debt and equity financial assets that have been measured at fair value. The consolidated financial statements are presented in dollars of the United States of America and all values are rounded to the nearest million ($ million) except when otherwise stated. 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.

7.6.3. Statement of compliance

These consolidated financial statements are prepared for Dutch statutory purposes in accordance with IFRS as adopted by the European Union. These consolidated financial statements also comply with article 362.9 of Book 2 of the Dutch Civil Code. For internal and external financial reporting purposes, the Group uses generally accepted accounting principles in the United States (“U.S. GAAP”) as its primary set of reporting standards.

7.6.4. Basis of consolidation

The consolidated financial statements comprise the financial statements of the Group for the year ended December 31, 2023.

Subsidiaries are fully consolidated from the date of acquisition, being the date on which the Group obtains control and continues to be consolidated until the date that such control ceases. Subsidiaries are all entities over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power to direct the activities of the entity. If the Group loses control over a subsidiary, it:

- Derecognizes the assets (including goodwill) and liabilities of the subsidiary
- Derecognizes the amount of any non-controlling interest
- Derecognizes the cumulative translation differences recorded in equity

- Recognizes the fair value of the consideration received
- Recognizes the fair value of any investment retained
- Recognizes any surplus or deficit in profit or loss
- Reclassifies the parent’s share of components previously recognized in other comprehensive income to profit or loss

The financial statements of the subsidiaries are prepared for the same reporting period as the parent company, using consistent accounting policies. All intra-group assets and liabilities, equity, income, expenses and cash flows resulting from intra-group transactions are eliminated in full on consolidation.

Non-controlling interest is the share of equity in a subsidiary not attributable, directly or indirectly, to the parent company. Non-controlling interest is presented separately in the consolidated income statement, consolidated statement of comprehensive income, consolidated statement of financial position and consolidated statement of changes in equity respectively.

Changes in a parent’s ownership interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions.

7.6.5. Changes in accounting policies

The accounting policies adopted are consistent with those followed in the preparation of the Group’s annual financial statements for the year ended December 31, 2022. The following new or amended standards were effective and adopted on January 1, 2023 with no material effect on the Group’s consolidated financial statements.

Amendments to IAS 1, Presentation of Financial Statements and IFRS Practice Statement 2: Disclosure of Accounting Policies: the amendments require entities to disclose their material accounting policy information rather than their significant accounting policies. The narrow-scope amendments to IAS 1 have not generated any modification to the Group's disclosures related to its consolidated accounting policies.

Amendments to IAS 8, Accounting Policies, Changes in Accounting Estimates and Errors: Definition of Accounting Estimates: the amendments introduce the definition of accounting estimates (defined as monetary amounts in financial statements that are subject to measurement uncertainty) and clarify the distinction between changes in accounting estimates and changes in accounting policies. The Group adopted these amendments on January 1, 2023, with no material impact upon adoption.

Amendments to IAS 12, Income Taxes: Deferred Tax Related to Assets and Liabilities Arising from a Single Transaction: the amendments require the recognition of deferred tax on transactions that, on initial recognition, give rise to equal amounts of taxable and deductible temporary differences. The Group adopted the amended standard on January 1, 2023 and recognized a $51 million deferred tax asset and a $50 million deferred tax liability for all temporary differences arising from lease right-of-use assets and the corresponding lease financial liabilities, reported as a net $1 million deferred tax asset against retained earnings on the consolidated statement of financial position. The impact of first adoption being not material, no further disclosures on first adoption were provided in the consolidated financial statements for the year ended December 31, 2023.

Amendments to IAS 12, Income Taxes: International Tax Reform - Pillar Two Model Rules: in response to the accounting complexities arising from the international tax reform initiative initiated by the Organization for Economic Cooperation and Development (OECD) through the implementation of the Base Erosion and Profit Sharing (BEPS) 2.0 framework, the amendments to IAS 12 provide a temporary mandatory exception from accounting for deferred tax that arises from legislation implementing the "global anti-base erosion" (GloBE) model rules (including top-up tax). The temporary exception is effective as of May 23, 2023 and applies retrospectively. In addition, the amendments require new disclosures for reporting periods ending on or after December 31, 2023. The Group applies the amendments for the reporting year ended December 31, 2023 and have included the required disclosures in Note 7.6.31.

Finally, IFRS 17: Insurance Contracts, including Amendments to IFRS 17 Insurance contracts: Initial Application of IFRS 17 and IFRS 9 – Comparative information did not have any material impact on the accounting policies, financial position or performance of the Group for the year ended December 31, 2023.

7.6.6. Standards and amendments issued but not yet effective

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

Amendments to IAS 1, Presentation of Financial Statements: the amendments specify the requirements for classifying liabilities as current or non-current by clarifying the requirements of IAS 1 when an entity expects to refinance or roll over an obligation under an existing loan facility. The amendments also have implications on the requirements related to covenant breaches. The amendments clarify: what is meant by a right to defer settlement; that a right to defer must exist at the end of the reporting period and that the classification is not affected by the likelihood that an entity will exercise its deferral right and that only if an embedded derivative in a convertible liability is itself an equity instrument would the terms of a liability not impact its classification. The amendments will be effective for annual reporting periods beginning on or after 1 January 2024. The presentation on the consolidated statement of financial position of the convertible bonds issued by the Group is in the scope of the amended guidance, which is not expected to have a material impact upon adoption.

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

- Amendments to IFRS 16: Leases: Lease Liability in a Sales and Leaseback, effective for annual reporting periods beginning on or after 1 January 2024
- Amendments to IAS 7: Statement of Cash Flows and IFRS 7 Financial Instruments: Disclosures: Supplier Finance Arrangements, effective for annual reporting periods beginning on or after 1 January 2024 but not endorsed by the European Union yet
- Amendments to IAS 21: The Effects of Changes in Foreign Exchange Rates: Lack of Exchangeability, effective for annual reporting periods beginning on or after 1 January 2025 but not endorsed by the European Union yet

7.6.7. Summary of material accounting policies

7.6.7.1. Business combinations and goodwill

The Group applies the acquisition method to account for business combinations. The consideration transferred in a business combination (including any deferred and contingent consideration) is measured at fair value. Acquisition-related costs are expensed as incurred.

Each identifiable asset and liability are, with limited exceptions as set forth in the purchase accounting method, measured initially at the acquisition-date fair value. Only components of noncontrolling interest that constitute a present ownership interest and entitle their holder to a proportionate share of the entity's net assets in the event of liquidation are measured at either fair value or at the present ownership interests' proportionate share of the acquiree's net identifiable assets. All other components of noncontrolling interest are measured at their acquisition date fair value.

Goodwill arises when there is a positive difference between:

- The aggregate of consideration transferred, any noncontrolling interest in the acquiree and, in a business combination achieved in stages, the acquisition-date fair value of the acquirer's previously held equity interest in the acquiree; and
- The fair value of the net identifiable assets acquired.

Goodwill is initially recorded at cost. If the acquirer has made a gain from a bargain purchase, that gain is recognized in the consolidated income statement.

After initial recognition, goodwill is not subject to amortization but is tested at least annually for impairment. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Group's cash generating units ("CGU") that are expected to benefit from the synergies of the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units.

A cash-generating unit is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets.

Goodwill impairment tests are undertaken annually or more frequently if events or changes in circumstances indicate a potential impairment. The impairment test determines whether the recoverable amount of each cash-generating unit, which is the higher of its assets' fair value less costs of disposal and its value in use, is lower than its total carrying amount. If lower, an impairment loss is recognized for the excess of the carrying amount over the recoverable amount. If the impairment loss exceeds the book value of goodwill, allocation is made on a pro rata basis over the remaining assets of the CGU. In determining the value in use of a cash-generating unit, the Group usually estimates the expected discounted future cash flows associated with the unit. Significant management judgments and estimates are used in forecasting the future discounted cash flows, including: the applicable industry's sales volume forecast and selling price evolution, the cash-generating unit's market penetration and its revenue evolution, the market acceptance of certain recent technologies and products, or the relevant cost structure. The pre-tax discount rates applied are based on various scenarios incorporating a weighted average cost of capital and the perpetuity rates used in calculating cash flow terminal values.

7.6.7.2. Foreign currency translation

The U.S. dollar is the functional currency for the Company and the presentation currency for the Group, which is the currency of the primary economic environment in which the Group operates. 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 Group's transactions are denominated in U.S. dollars, and revenues from external sales in U.S. dollars largely exceed revenues in any other currency. However, certain significant costs are largely incurred in the countries of the Eurozone and other non-U.S. dollar currency areas.

The functional currency of each subsidiary throughout the Group is either the local currency or the U.S. dollar, determined on the basis of the economic environment in which each subsidiary operates. For consolidation purposes, assets and liabilities included in the statement of financial position of the Group's subsidiaries having the local currency as functional currency are translated into the presentation currency of the Group at current rates of exchange at the reporting date. Income and expense items and cash flow items are translated at the monthly exchange rate in which they are recognized. The currency translation adjustments ("CTA") generated by the conversion of the financial position and results of operations from local functional currencies are reported as a component of other comprehensive income in the consolidated statement of comprehensive income and the consolidated statement of changes in equity.

Goodwill and fair value adjustments arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity and translated into the presentation currency of the Group at closing rate. Exchange differences arising are recognized in other comprehensive income.

Assets, liabilities, revenues, expenses, gains or losses arising from transactions denominated in foreign currency are recorded in the functional currency of the recording entity at the prevailing exchange rate. At each reporting date, monetary assets and liabilities denominated in a currency other than the recording entity's functional currency are re-measured into the functional currency at the exchange rate prevailing at the reporting date. The related exchange gains and losses are recorded in the consolidated income statement as "Other income" or "Other expenses".

7.6.7.3. 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 the consideration is probable. The Group 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. The Group may also enter into several multi-annual capacity reservation and volume commitment arrangements with certain customers. These agreements constitute a binding commitment for the customers to purchase and for the Group to supply allocated commitment volumes in exchange for additional consideration. The consideration related to commitment fees is reported as revenues from sale of products as it is usually based on delivered quantities.

In certain circumstances, the Group may enter into arrangements 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 Group expects to be entitled in exchange for transferring the promised goods or services to the customer. The payment terms typically range between 30 to 90 days. Certain customers require the Group 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 the Group satisfies 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 the Group's products to compensate them for changes in market prices. The Group 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 Group to reliably estimate price protection provisions at period-end. The Group records the accrued amounts as a deduction of "Sales" in the consolidated income statement at the time of the sale.

The Group's customers occasionally return the Group's products for technical reasons. The Group's standard terms and conditions of sale provide that if the Group determines that products do not conform, the Group 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. The Group records the accrued amounts as a deduction of "Sales" in the consolidated income statement, using contractual and historical information.

The Group records a provision for warranty costs as a charge against "Cost of sales" in the consolidated income statement, 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 Group's determination that the Group 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 Group's contractual terms and conditions typically limit its liability to the sales value of the products which gave rise to the claims.

The Group'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 Group 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 income statement.

7.6.7.4. Other significant categories of income

Funding

The Group receives funding mainly from governmental entities and income is recognized when all contractual conditions for receipt of these funds are fulfilled and eligible expenditures incurred. Such funding is generally provided to encourage research, development and other innovation activities, industrialization deployment and local economic development. The conditions to receive government funding may include eligibility restrictions, approval by the local governmental authorities, annual budget appropriations, compliance with 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 of time. There could be penalties if these objectives are not fulfilled. Other contracts contain penalties 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 Group's funding programs are classified under two general categories: funding for research, development and other innovative activities, and capital investments. The Group also benefits from tax credits for R&D activities in several countries (primarily in France and Italy) as they are generally available to all companies.

Funding for research, development and other innovative activities

Funding for research, development and innovative activities is the most common form of funding that the Group receives. Public funding for such activities is recorded as "Other income" in the Group's consolidated income statement. 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. Other government assistance, such as funding received for industrialization deployment and local economic development in certain regions, are reported as a deduction of cost of sales or other operating expenses according to the underlying costs eligible to the grants.

The Group receives certain specific project-related research tax credits – "Crédit Impôt Recherche" and "Credito d'Imposta Ricerca e Sviluppo" – in the French and Italian tax jurisdictions, respectively. The Group considers the tax credits received as government grants based on the fact that the tax credits are received independently from tax payments of the Group. The Group recognizes these credits as long-term or short-term receivables depending on the expected time of collection. These credits are deducted from "Research and development" in the consolidated income statement or recorded as a reduction of intangible assets, as described in Note 7.6.7.5.

Capital investments

Capital investment funding is recorded as a reduction of "Property, plant and equipment" in the consolidated statement of financial position when the Group has incurred the eligible capital expenditures and when all conditions for eligibility have been fulfilled. Advances from capital grants received on capital investments that have not been incurred yet are reported in the line "Other non-current liabilities" in the consolidated statement of financial position. Capital investment funding is recognized in the Group's consolidated income statement by offsetting the depreciation charges of the funded assets during their useful lives. The Group also receives funding, which can be recovered through the reduction of various government liabilities, including income tax, value-added tax and employee-related social charges.

When the funding has been classified as a long-term receivable with no tax attribute or legal restriction, it is reflected in the consolidated statement of financial position at its discounted net present value. The subsequent accretion of the discount is recorded as a non-operating income in "Finance income".

Finance income

Finance income is calculated by applying the effective interest rate to the gross carrying amount of a financial asset, except for financial assets that subsequently become credit-impaired. For credit-impaired financial assets, the effective interest rate is applied to the amortized cost of the financial asset.

7.6.7.5. Research and development

R&D expenditures include costs incurred by the Group, the Group's share of costs incurred by other R&D interest groups and costs associated with co-development contracts. Research costs are expensed as incurred.

Expenditures incurred on development projects, mainly related to the design and testing of new or improved products controlled by the Group, are recognized as "Intangible assets" in the consolidated statement of financial position when it is probable that the project will be a success considering its economic profitability and technological feasibility, and costs can be measured reliably, as described in Note 7.6.7.10. Certain research tax credits are also recognized as a reduction of intangible assets for the portion that can be reliably allocated to development projects. Development expenditures recognized as assets are amortized, when ready for their intended use, over their estimated useful lives, not exceeding three years (refer to Note 7.6.7.10). Development costs that do not meet the capitalization criteria are expensed as incurred. Development expenditures recognized as expenses are not recognized as assets in a subsequent period. Amortization expense recognized on capitalized development costs in use is recorded as "Cost of sales" in the consolidated income statement. Amortization expense on technologies and licenses purchased by the Group from third parties or acquired in a business combination to facilitate the Group's R&D activities is recorded as "Research and development" in the consolidated income statement.

An impairment test is performed whenever a triggering event questions the future recoverability, or at least annually, for the capitalized development projects still not in use. A loss is recognized in the consolidated income statement as "Cost of sales" for the amount by which the asset's carrying amount exceeds its recoverable amount.

7.6.7.6. Current and deferred income tax

Income tax in the consolidated income statement for the period comprises current and deferred income tax. Income tax expense represents the income tax expected to be paid related to the current year taxable profit in each tax jurisdiction. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. The Group determines whether it is probable that the taxing authorities will accept an uncertain tax treatment that has been taken or is expected to be taken on a tax return and the accounting for income tax is determined consistently with that tax treatment. If the Group concludes it is not probable that the treatment will be accepted, the effect of the uncertainty is reflected in its income tax accounting in the period in which that determination is made. The Group measures the impact of the uncertainty using the method that best predicts the resolution of the uncertainty; either the most likely amount method or the expected value method. In most cases, the Group applies the most likely amount method to determine the amount of uncertainty to be reflected in the consolidated financial statements, as the assessment generally relies on probabilities of possible outcomes that are either binary or concentrated on one value.

Deferred tax assets and liabilities are recorded for temporary differences arising between the book and tax bases of assets and liabilities and for the benefits of tax credits and operating loss carry-forwards. However, deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that, at the time of the transaction, affects neither accounting nor taxable profit or loss. With the adoption in 2023 of the amended guidance on deferred tax related to assets and liabilities arising from a single transaction, the Group recognizes deferred tax on transactions that, on initial recognition, give rise to equal amounts of taxable and deductible temporary differences. Moreover, deferred tax liabilities are not recognized if they arise from the initial recognition of goodwill. Deferred income tax is determined using tax rates and laws that have been enacted or substantively enacted by the reporting date and are expected to apply when the related deferred income tax asset is realized or the deferred income tax liability is settled. Deferred income tax assets are recognized to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilized.

The Group has determined that the global minimum top-up tax, which it may be required to pay under the OECD Pillar Two provisions as enacted in the tax legislation where the Group operates is an income tax under the scope of IAS 12. The Group applies the exception to recognizing and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes, as provided in the amendments to IAS 12 issued in May 2023.

Items recognized in other comprehensive income or directly in equity are recognized net of tax. Income taxes are recognized as cash flows from operating activities in the consolidated statement of cash flows.

7.6.7.7. Earnings per share

Basic earnings per share are computed by dividing net earnings attributable to the equity holders of the parent by the weighted average number of ordinary shares outstanding during the period. Diluted earnings per share are computed by dividing net earnings attributable to the equity holders of the parent (adding-back finance costs, net of tax effects, related to convertible debt if determined to be dilutive) by the weighted average number of ordinary shares and potential ordinary shares outstanding during the period. The weighted average shares used to compute diluted earnings per share include the incremental shares of ordinary shares relating to unvested shares or stock options granted and convertible debt to the extent such incremental shares are dilutive. Unvested shares with performance conditions are included in the computation of diluted earnings per share if their conditions have been satisfied at the reporting date and if the awards are dilutive. If all the conditions have not been satisfied by the end of the period, the number of contingently issuable shares included in the diluted earnings per share calculation is based on the number of shares that would be issuable if the end of the period were the end of the contingency period.

7.6.7.8. 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 effective 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 equivalents with maturity beyond three months and below one year are reported as current assets in the line “Short-term deposits” of the consolidated statement of financial position.

7.6.7.9. Inventories

Inventories are stated at the lower of cost and net realizable value. Actual cost is based on an adjusted standard cost, which approximates cost on a first-in, first-out basis for all categories of inventory (raw materials, work-in-process, finished products). Actual cost is therefore dependent on the Group’s manufacturing performance and is based on the normal utilization of its production capacity. In 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 price in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation.

As described in Note 7.6.7.15, the Group hedges a portion of its Euro-denominated front-end manufacturing costs of semi-finished goods as well as certain Singapore dollar-denominated forecasted transactions. The Group adjusts the initial carrying amount of inventory by the cumulative amount of the hedging instrument fair value changes recorded as other comprehensive income for settled hedging transactions.

Inventory reserve is estimated for excess uncommitted inventory based on historical sales data, order backlog and production plans. The Group performs, on a continuous basis, write-offs of inventories, which have the characteristics of slow-moving, old production dates and technical obsolescence. The Group 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 Group estimates the inventory will eventually be written-off. Inventory associated with obsolete or uncommitted inventory is expensed to “Cost of sales” in the consolidated income statement.

7.6.7.10. Intangible assets with definite useful lives

Intangible assets acquired separately are recognized at cost in the consolidated statement of financial position and include technologies and licenses purchased from third parties and purchased software. The cost of intangible assets acquired in a business combination is the acquisition-date fair value.

Expenditures incurred on development projects, mainly related to the design and testing of new or improved products controlled by the Group, and internally generated software developed for the Group’s internal use are recognized as intangible assets when the Group can demonstrate all of the following:

- The technical feasibility of completing the item under development so that it will be available for use or sale;
- Its intention to complete the item under development and ability to use it or sell it;
- How the item under development will generate probable future economic benefits;
- The availability of adequate technical, financial and other resources to complete the development and to use or sell the item under development; and
- Its ability to measure reliably the expenditures attributable to the project during its development.

Refer to Note 8.3.12 for composition of Company's legal reserves, which includes capitalized development costs and internally developed software.

Expenditures incurred on development projects that do not meet these criteria and all research activities are recognized as expenses when incurred.

Development costs are amortized, when the development is complete, on a straight-line basis over the period of their expected benefits, not exceeding three years.

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 asset over the estimated useful life. The amortization period and the amortization method for an intangible asset with a definite useful life are reviewed at least at each financial year end.

A summary of the policies applied to the Group's intangible assets is as follows:

	Technologies and licenses	Purchased software	Internally developed software	Capitalized development costs
Useful lives	Definite	Definite	Definite	Definite
Amortization method used	Straight line basis over estimated useful life / 3-11 years	Straight line basis over estimated useful life / Max 4 years	Straight line basis over estimated useful life / Max 4 years	Straight line basis over estimated useful life / Max 3 years
Internally generated or acquired	Acquired	Acquired	Internally generated	Internally generated

Intangible assets not ready to use, such as some capitalized development expenditures, are tested annually for impairment. The carrying value of intangible assets with definite useful lives and subject to amortization is assessed for impairment at the level of a CGU whenever there is an indication that intangible assets may be impaired. An impairment loss is recognized in the consolidated income statement for the amount by which the carrying amount exceeds the recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal and value in use. In determining recoverability, the Group usually estimates the value in use based on the projected discounted future cash flows associated with the intangible assets. The Group makes maximum use of market inputs and minimizes the use of unobservable inputs when measuring fair value. Prior impairment charges on intangible assets other than goodwill are reviewed for possible reversal at each reporting date.

7.6.7.11. Property, plant and equipment

Property, plant and equipment are stated at historical cost, net of public funding, accumulated depreciation and any impairment losses. Property, plant and equipment acquired in a business combination are recognized at fair value at the acquisition date. Major additions and improvements are capitalized, while minor replacements and repairs are expensed and reported as "Cost of sales", "Selling, general and administrative", or "Research and development" in the consolidated income statement according to their intended use.

Land is not depreciated. Depreciation on fixed assets is computed using the straight-line method over the following estimated useful lives:

Nature of tangible asset	Estimated useful life
Buildings	33 years
Facilities & leasehold improvements	5-10 years
Machinery and equipment	2-10 years
Computer and R&D equipment	3-6 years
Other	2-5 years

The Group evaluates in each period whether the assets' useful lives should be reviewed, and adjusted if appropriate, at the end of each reporting period. The Group also evaluates in each period whether there is a reason to suspect that tangible assets or groups of assets might not be recoverable. Several impairment indicators exist for making this assessment such as: restructuring plans, significant changes in the technology, market, economic or legal environment in which the Group operates, available evidence of obsolescence of the asset, or indication that its economic performance is, or will be, worse than expected. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units). An impairment loss is recognized in the consolidated income statement for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal and value in use. The fair value is usually estimated by the Group based on independent market appraisals and the value in use by applying the income approach. The Group makes maximum use of market inputs and minimizes the use of unobservable inputs when measuring fair value.

When property, plant and equipment are retired or otherwise disposed of, the net book value of the assets is removed from the Group's books and the net gain or loss is included in "Other income" or "Other expenses" in the consolidated income statement.

7.6.7.12. Leases

The Group assesses at contract inception whether a contract implying the use of an asset is, or contains, a lease, which is the case if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. The Group recognizes right-of-use assets at the commencement date of the lease as a category of "Property, plant and equipment" in the consolidated statement of financial position. The corresponding lease liabilities are reported on the line "Other non-current financial liabilities" on the consolidated statement of financial position when payment is expected beyond twelve months, and in the line "Other current financial liabilities" for the current portion of the lease obligations. Lease arrangements with a sum of lease payments not exceeding $5,000 or a total duration lower than twelve months without a purchase option are excluded from capitalization.

The right-of-use asset is initially measured at cost, and subsequently at cost less accumulated depreciation and any impairment losses or adjusted for certain re-measurements of the lease liability when deemed necessary. For income statement purposes, the depreciation charge on right-of-use assets is recorded on a straight-line basis over the lease period and reported as "Cost of sales", "Selling, general and administrative expenses", or "Research and development expenses" in the consolidated income statement according to the intended use of the leased asset.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Group's incremental borrowing rate. Generally, the Group uses its incremental borrowing rate as the discount rate. The lease liability is subsequently increased by the interest cost of the lease liability and decreased by the lease payments. The interest cost is reported in the line "Finance costs" of the consolidated income statement. The Group has applied judgment to determine the lease term for some lease contracts with renewal options. The assessment of whether the Group is reasonably certain to exercise such options impacts the lease term, which affects the amount of reported lease liabilities and corresponding right-of-use assets. The carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the lease payments or a change in the assessment of an option to purchase the underlying asset. Variable lease payments based on an index or a rate are initially measured using the index or rate as of the commencement date. Potential future increases in variable lease payments based on an index or rate are not included in the lease liability until they take effect. When adjustments to lease payments based on an index or rate take effect, the lease liability is reassessed and adjusted against the right-of-use asset.

For cash flow presentation purposes, cash payments for the principal portion of the lease liabilities are reported as cash flows used in financing activities. The interest expense recorded on the subsequent measurement of lease liabilities are reported within cash flows from operations, consistent with the Group's cash flow presentation for interest paid. Short-term lease payments and payments for leases of low-value assets are reported as operating outflows.

7.6.7.13. Financial Assets

7.6.7.13.1. Offsetting financial instruments

Financial assets and liabilities are offset and the net amount reported in the consolidated statement of financial position when there is a legally enforceable right to offset the recognized amounts and there is an intention to settle on a net basis or realize the asset and settle the liability simultaneously.

7.6.7.13.2. Classification

The Group classifies its financial assets according to the following measurement categories:

- Those measured at fair value, either at fair value through other comprehensive income ("FVOCI") or at fair value through profit or loss ("FVPL");
- Those measured at amortized cost.

Publicly traded equity securities are measured at FVPL while the Group has made the irrevocable election to measure equity securities with no readily determinable fair value at FVOCI, with subsequent changes in fair value not recycled through earnings. Derivative instruments that are not designated as hedging instruments are measured at FVPL. Debt instruments, loans and receivables are measured at amortized cost or FVOCI, depending on the Group's business model in managing the assets. When the contractual terms of cash flows do not solely correspond to payments of principal and interest (the "SPPI criterion"), the financial asset is mandatorily measured at FVPL.

7.6.7.13.3. Recognition and measurement

Regular purchases and sales of financial assets are recognized on the trade date — the date on which the Group commits to purchase or sell the asset. Investments are initially recognized at fair value plus transaction costs for all financial assets not carried at fair value through profit or loss. Financial assets carried at fair value through profit or loss are initially recognized at fair value, and transaction costs are expensed in the consolidated income statement. Financial assets are derecognized when the rights to receive cash flows from the investments have expired or have been transferred and the Group has transferred substantially all risks and rewards of ownership.

Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and its cash flow characteristics. The contractual cash flows related to all debt instruments held by the Group meet the SPPI criterion. There are two measurement categories into which the Group classifies its debt instruments:

- Amortized cost: Assets that are held for collection of contractual cash flows are measured at amortized cost. These assets typically correspond to trade accounts receivable, other receivables, long-term loans and long-term receivables. They are reported as current, except for maturities greater than twelve months after the reporting date, which are classified as non-current.
- FVOCI: Assets that are held for collection of contractual cash flows or for selling are measured at FVOCI. Movements in the carrying amount are taken through OCI, except for the recognition of impairment losses, interest income and foreign exchange gains and losses, which are recognized in the consolidated income statement. When the financial asset is derecognized, the cumulative gain or loss previously recognized in OCI is recycled from equity to earnings, within "Other income" or "Other expenses" in the consolidated income

statement, when the transactions for such instruments are related to the Group's operating activities. Gains and losses arising from financial assets not related to the operating activities of the Group are presented within "Finance income" and "Finance costs" in the consolidated income statement. Debt instruments measured at FVOCI are included in non-current assets unless management intends to dispose of the investment within twelve months after the reporting date or if they represent investments of funds available for current operations.

Equity securities

The Group subsequently measures all equity securities at fair value. The Group has elected to irrevocably measure equity securities with no readily determinable fair value at FVOCI, with no subsequent reclassification of fair value gains and losses, including impairment, from equity to earnings following the derecognition of the financial assets.

Gains and losses arising from changes in the fair value of publicly traded equity securities, which are measured at FVPL, are presented in the consolidated income statement within "Other income" or "Other expenses" in the period in which they arise, when the transactions for such instruments are related to the Group's operating activities. Gains and losses arising from changes in fair value of these financial assets not related to the operating activities of the Group were presented within "Finance income" and "Finance costs" in the consolidated income statement.

The Company did not hold any material equity securities as of December 31, 2023 and December 31, 2022.

7.6.7.13.4. Impairment of financial assets

The Group assesses on a forward-looking basis the expected credit losses associated with its debt instruments carried at amortized cost and FVOCI. The impairment methodology applied depends on whether there has been a significant increase in credit risk. The impairment methodology by category of financial assets is further described in Note 7.6.35.

For trade receivables, the Group applies the simplified approach required by IFRS 9, which requires expected lifetime credit losses to be recognized from initial recognition of the receivables as further described in Note 7.6.17.

7.6.7.14. Trade accounts receivable

Trade accounts receivable are amounts due from customers for goods sold or services rendered to third parties in the ordinary course of business. The accounts receivable are recognized initially at transaction price and subsequently measured at amortized cost using the effective interest method, less provision for expected credit losses. The carrying amount of the asset is reduced through the use of a credit loss allowance, and the amount of the credit loss is recognized as "Selling, general and administrative expenses" in the consolidated income statement. When a trade receivable is uncollectible, it is written-off against the impairment account for trade receivables. Subsequent recoveries of amounts previously written off are credited against "Selling, general and administrative expenses" in the consolidated income statement. The impairment policies on trade receivables are further described in Note 7.6.17 and 7.6.35.

In the event of sales of receivables and factoring, the Group derecognizes the receivables and accounts for them as a sale only to the extent that the receivables have been transferred outside the consolidated group and the Group has transferred substantially all the risks and rewards of ownership of the receivables.

7.6.7.15. Derivative financial instruments and hedging activities

Derivative financial instruments are classified as financial instruments measured at FVPL unless they are designated as effective hedging instruments. All derivatives are carried as assets when their fair values are positive and as liabilities when their fair values are negative.

Derivative financial instruments not designated as a hedge

The worldwide operations of the Group lead to an exposure to adverse movements in foreign currency exchange rates. The Group 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 Group's subsidiaries. In addition, forward contracts and currency options, including collars, are also used by the Group to reduce its exposure to U.S. dollar fluctuations in Euro-denominated forecasted intercompany transactions that cover a large part of R&D expenditures and certain corporate expenses incurred by subsidiaries on behalf of STMicroelectronics International N.V. These intercompany transactions are not closely linked to ultimate transactions with third parties and consequently, these derivatives do not qualify as hedging instruments under the requirements of IFRS 9.

These derivative financial instruments are initially and subsequently recorded at fair value. Fair value adjustments and realized gains and losses are recognized in the consolidated income statement in the line "Other income" or "Other expenses".

Derivative financial instruments designated as hedge

These instruments correspond to forward currency contracts and currency options, including collars, which are entered into by the Group to hedge exposure to foreign currency fluctuations.

For the purpose of hedge accounting, the hedging transactions are classified as cash flow hedge as they hedge exposure to variability in cash flows of highly probable forecasted transactions.

The following criteria must be in place before the Group applies hedge accounting:

- At the inception of the transaction, the Group formally documents the economic relationship between hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking the hedge;
- The Group 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 of cash flows of hedged items; and
- The highly probable forecasted transactions designated as hedged items will ultimately affect the consolidated income statement.

To further reduce its exposure to U.S. dollar exchange rate fluctuations, the Group hedges a portion of its Euro-denominated forecasted purchases of products with underlying front-end manufacturing production costs of semi-finished goods incurred in Euros, since these transactions are considered highly probable to occur and are closely linked to ultimate transactions with third parties. Additionally, the Group hedges certain Singapore dollar-denominated manufacturing forecasted transactions.

These derivative financial instruments are initially recognized at fair value. The effective portion of the gain or loss on the hedging instrument is recognized in other comprehensive income. The Group has elected to designate the full change in fair value, including the time value of options or combination of options, as the hedging instrument.

7.6.7.16. Employee benefits

The Group operates various post-employment schemes, including both defined benefit and defined contribution pension plans.

Pension obligations

The Group sponsors various pension schemes for its employees. These schemes conform to local regulations and practices of the countries in which the Group operates. Defined benefit pension plans define amounts of pension benefits that employees will receive on retirement, usually dependent on one or more factors such as age, years of service and compensation. The liability recognized in the line "Employee benefits" in the consolidated statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the reporting date less the fair value of plan assets. Significant estimates are used in determining the assumptions incorporated in the calculation of the pension obligations, which is supported by input from independent actuaries. The defined benefit obligation is calculated annually using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using in most cases interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating the terms of the related pension obligation.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to equity in other comprehensive income in the period in which they arise. Past service costs are recognized immediately in profit or loss.

For defined contribution plans, the Group pays contributions to publicly or privately administered pension insurance plans on a mandatory, contractual or voluntary basis. The Group 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.

Other long-term employee benefits

The Group provides long-term employee benefits such as seniority awards in certain countries. The entitlement to these benefits is usually conditional on the employee completing a minimum service period. The expected costs of these benefits are accrued over the period of employment. Actuarial gains and losses arising from experience adjustments, and changes in actuarial assumptions, are charged or credited to earnings in the period of change. These obligations are valued annually with the assistance of independent qualified actuaries.

Termination benefits

Termination benefits are payable when employment is terminated by the Group before the normal retirement date, or whenever an employee accepts voluntary termination in exchange for these benefits. The Group recognizes termination benefits at the earlier of the following dates: (a) when the Group can no longer withdraw the offer of those benefits; and (b) when the entity recognizes costs for a restructuring that is within the scope of IAS 37 and involves the payment of termination benefits. In the case of an offer made to encourage voluntary leaves, the Group bases the measurement of termination benefits on the number of employees accepting the offer. Benefits falling due more than twelve months after the reporting date are discounted to present value.

Profit-sharing and bonus plans

The Group recognizes a liability and an expense for bonuses and profit-sharing plans when it is contractually obliged or where there is a past practice that has created a constructive obligation.

Share-based compensation

All the share plans of the Group are equity settled.

The fair value of the employee services received in exchange for the grant of share-based awards is recognized as an expense and as a corresponding increase in shareholders' equity. The total amount to be expensed over the vesting period, which is the period over which all of the specified vesting conditions are to be satisfied, is determined by reference to the fair value of the awards granted at the date of grant, reduced by the present value of the dividends expected to be paid on the shares during the requisite service period. Non-market performance and service conditions are included in assumptions about the number of instruments that are expected to vest. Any applicable employee social charges are also expensed ratably over the same period as the share-based compensation expense.

At the end of each reporting period, the Group revises its estimates of the number of instruments that are expected to vest based on the non-market vesting conditions. It recognizes the impact of the revision to original estimates, if any, in the consolidated income statement, with a corresponding adjustment to equity.

7.6.7.17. Financial Debt

Bank loans

Bank loans are recognized initially at fair value, net of transaction costs incurred, if any. They are subsequently stated at amortized cost; any difference between the proceeds (net of transaction costs) and the redemption value is recognized within “Finance costs” in the consolidated income statement over the period of the borrowings using the effective interest method.

Borrowings are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least twelve months after the reporting date.

Hybrid financial instruments

The Group issued in 2020 convertible bonds that can be converted to share capital at the option of the holder and that are callable by the Group, in certain events and circumstances, but for which the number of shares to be issued does vary.

The issuer’s call option and the bondholder’s conversion option are embedded non-equity derivative instruments and are recognized separately from the debt host contract. Upon initial recognition, the derivatives are measured at fair value, and the debt is measured as a residual amount. The debt is subsequently measured at amortized cost using the effective interest method. The embedded derivatives are measured at fair value through profit and loss, with changes in fair value reported in the line “Finance costs” or “Finance income” in the consolidated income statement.

7.6.7.18. Equity

Ordinary share capital

The Company has issued ordinary shares that are classified as equity. Incremental external costs that are directly attributable to the issuance of these shares are recognized in equity, net of tax.

Treasury shares

Own equity instruments which are acquired (treasury shares) are deducted from equity for the consideration paid including any directly attributable incremental costs (net of taxes). No gain or loss is recognized in the income statement on the purchase, sale, issue or cancellation of the Company’s own equity instruments.

Dividends on ordinary share capital

Dividends on ordinary shares are recognized as a liability and deducted from equity when they are approved by the Company’s shareholders.

Dividends for the year that are approved after the reporting date are dealt with as an event after the reporting date.

7.6.7.19. Trade payables

Trade accounts payable are obligations to pay for goods or services that have been acquired in the ordinary course of business from suppliers. Trade payables are recognized initially at fair value and subsequently measured at amortized cost using the effective interest method when maturity of the payables exceeds one year.

7.6.7.20. Provisions

Provisions for restructuring costs and legal claims are recognized when: the Group has a present legal or constructive obligation as a result of past events; it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation; and the amount has been reliably estimated. Provisions are not recognized for future operating losses.

If the effect of time value of money is material, provisions are discounted using a current pre-tax rate that reflects current market assessments of the time value of money and, when appropriate, the risk specific to the obligation. The increase in the provision due to passage of time is recognized as finance cost.

7.6.7.21. Contingencies

The Group is subject to the possibility of loss contingencies arising in the ordinary course of business. These include but are not limited to: warranty cost on the products of the Group, breach of contract claims, claims for unauthorized use of third-party IP, tax claims and provisions for specifically identified income tax exposures as well as claims for environmental damages. In determining loss contingencies, the Group considers the likelihood of a loss of an asset or the incurrence of a liability as well as the ability to reasonably estimate the amount of such loss or liability. The Group regularly evaluates claims to determine whether provisions need to be recorded based on the most current information available to the Group. Changes in these evaluations could result in adverse, material impact on the Group's results of operations, cash flows or its financial position for the period in which they occur.

7.6.7.22. Segment reporting

Operating segments are defined as a component of the entity that (i) engages in business activities from which it may earn revenues and incur expenses, (ii) whose operating results are regularly reviewed by the entity's Chief Operating Decision Maker (Sole member of Managing Board), under the extensive oversight of the Company's Supervisory Board, to make decisions about resources to be allocated to the segments and assess its performance and (iii) for which discrete financial information is available.

For the computation of the segments' internal financial measurements, the Group uses certain internal rules of allocation for the costs not directly chargeable to the segments, including cost of sales, SG&A expenses, and part of R&D expenses. In compliance with the Group'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 pandemic and incidents leading to power outage, impairment, restructuring charges and other related closure costs, management reorganization expenses, start-up and phase-out costs of certain manufacturing facilities, and other unallocated income (expenses) such as: strategic and 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, they cannot be isolated in cost of sales. Finally, public grants are allocated to the Group's segments proportionally to the incurred R&D expenses on the sponsored projects.

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

7.6.8. Critical accounting estimates and judgments

Estimates and judgments are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under current circumstances. The Group operates on a worldwide basis in an economic environment impacted by many risk factors, which generates uncertainties on future economic conditions. These risk factors include, but are not limited to, macro-economic factors such as inflationary trends and geopolitical uncertainties, with a direct impact on the Group's forward-looking growth and financial outlook. The Group operated in 2023 with solid fundamentals and a strong capital structure. There are no conditions and events which raise substantial doubt about the Group's ability to continue as a going concern, in light with: its current financial condition, including its liquidity sources; its obligations – due or anticipated; the funds necessary to maintain the Group's operations; and other conditions and events, if any.

The uncertainties arisen from these business conditions have been factored in the critical accounting estimates and judgements made in preparing these consolidated financial statements, on the basis of all known facts and circumstances and reasonable and supportable forecast of future conditions. However, the impact on future economic performance cannot be fully determined and is closely monitored on an on-going basis by means of different scenarios.

No events or changes in circumstances indicated in 2023 that the carrying amount of major tangible assets, including lease right-of-use assets, might not be recoverable or that useful lives might not be appropriate. The Group also reviewed the recoverability of its intangible assets, including capitalized development costs. On the latter, the Group recorded a total impairment charge of $125 million in 2023. Refer to Note 7.6.12 for further details on amounts capitalized, amortized and impaired during the year.

There is no major contingency to be reported as of December 31, 2023. The tax loss carryforwards capitalized as deferred tax assets are deemed recoverable in all major tax jurisdictions. To consider any potentially increased risk of default on accounts receivable, the Group adjusted the expected credit loss assumptions to reflect current conditions, reasonable and supportable forecast of future conditions and how current uncertainties may impact customers' and other debtors' future credit quality. This reassessment did not have any material effect on the expected credit loss allowances reported by the Group on its major categories of financial assets as of December 31, 2023.

The Group makes estimates and assumptions concerning the future. The resulting accounting estimates will, by definition, seldom equal the related actual results. Estimates and assumptions that have a significant risk of causing material adjustments to the carrying amounts of assets and liabilities within the next financial year are described below.

7.6.8.1. Right-of-use assets and lease liabilities

Significant assumptions and judgements may be made in applying the requirements of lease accounting, such as the exercise of extension or renewal options and the determination of applicable discount rates.

The Group determines the lease term as the non-cancellable term of the lease, together with any periods covered by an option to extend the lease if it is reasonably certain to be exercised, or any periods covered by an option to terminate the lease, if it is reasonably certain not to be exercised.

The Group has elected not to recognize right-of-use assets and lease liabilities for some leases of low-value and for leases which term ends within 12 months with no purchase option at the date of initial application (primarily for certain office and IT small equipment). The Group leases land, buildings, cars and certain equipment (including IT equipment) which have remaining lease terms between less than one year and 50 years. Certain lease contracts contain options to extend the leases by up to 30 years. The Group applies judgement in evaluating if and when it is reasonably certain for the Group to exercise that option. In addition, the Group made an accounting policy election for all the asset classes to not account for short-term leases, as described in Note 7.6.7.12. The Group considers all relevant factors that create an economic incentive to exercise any existing option to extend or renew a lease arrangement. After the commencement date, the Group reassesses the lease term if there is a significant event or change in circumstances that is within its control and affects its ability to exercise or not exercise the option. In most cases, the Group has included the extension or renewal option as part of the lease term of plants, buildings and equipment when the controlled use of the leased assets is significant and critical to its operations. These leases generally include a non-cancellable period and there will be a significant negative effect on the normal course of the Group's business, should a replacement not be readily available.

In calculating the present value of lease payments, the rate implicit in the lease should be used whenever that rate is readily determinable. In most cases, this rate is not readily determinable and the Group uses its incremental borrowing rate, which is derived from information available at the lease commencement date. The Group gives consideration to its recent debt issuance as well as publicly available data for instruments with similar characteristics when calculating its incremental borrowing rates. Due to immateriality of any intra-quarter discount rate changes, the Group determines the discount rate based on the mid-quarter date.

Lease term and discount rate are as follows:

	As of December 31, 2023	As of December 31, 2022
Weighted average remaining lease term (in years)	9	10
Weighted average discount rate	3.65%	3.29%

7.6.8.2. Income taxes

The Group is required to make estimates and judgments in determining income tax for the period, comprising current and deferred income tax. The Group needs to assess the income tax expected to be paid or the income tax benefit expected to be received related to the current year earnings in each tax jurisdiction and recognizes deferred income tax for temporary differences arising between the tax bases of assets and liabilities and their carrying amount in the consolidated financial statements, except when the initial recognition exception applies, as described in Note 7.6.7.6. Furthermore, the Group is required to assess all material open income tax positions in all tax jurisdictions to determine any uncertain tax positions, and to record a provision for those, if any.

The Group is also required to assess the likelihood of recovery of its deferred tax assets originated by the net operating losses carried forward. This assessment requires the exercise of judgment with respect to, among other things, benefits that could be realized from available tax strategies and future taxable income, as well as other positive and negative factors. The ultimate realization of deferred tax assets is dependent upon, among other things, the Group's ability to generate future taxable income that is sufficient to utilize loss carry-forwards or tax credits before their expiration or the Group's ability to implement prudent and feasible tax planning strategies.

As of December 31, 2023, the Group reported deferred tax assets of $414 million (2022: $471 million) on the consolidated statement of financial position. A significant portion of these deferred tax assets was recorded in relation to net operating losses incurred in certain tax jurisdictions. These net operating losses may not be realizable before their expiration, unless the Group is capable of identifying favorable tax strategies.

The Group could reduce the amount of total deferred tax assets, resulting in a decrease in the total assets and, consequently, in equity, if the estimates of projected future taxable income and benefits from available tax strategies are reduced as a result of a change in the assessment or due to other factors, or if changes in current tax regulations are enacted that impose restrictions on the timing or extent of the Group's ability to utilize net operating losses and tax credit carry-forwards in the future. In 2023, the Group recorded a $3 million income tax expense resulting from changes in the recognition of unrecognized tax losses. 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 the future tax provisions in the periods in which these changes could occur.

The Group operates in many jurisdictions with highly complex and varied tax regimes. Management applies professional judgement in assessing whether relevant tax authorities will accept reported tax treatments under tax law. Those uncertainties may arise when tax laws are not clear or not consistently understood, which generates ambiguity in the tax law interpretations and application. Those uncertainties are particularly present in tax jurisdictions or tax regimes where the expected amount to be paid or the expected tax benefit to be recognized arise from complex, lengthy and technical negotiations or require possible settlements involving a high degree of subjectivity and discretion.

Assumptions and estimates used in the assessment of uncertainties over income tax treatments include, but are not limited to: whether certain income tax treatments are considered jointly or separately when assessing their degree of uncertainty; the assumptions the Group makes about the examination of tax treatments by taxing authorities; how the Group determines taxable profits, deductions taken on tax returns, unused tax losses, unused tax credits, applicable tax rates, the probability of acceptance of these income tax treatments by the relevant taxing authorities or on the contrary to what extent the income tax treatments as applied by the Group may be disallowed, including the outcome of unresolved disputes or settlements on existing tax audits; and consideration of changes in facts and circumstances requiring a reassessment of applied judgments and assumptions.

As of December 31, 2023 and December 31, 2022, the Group reported unrecognized tax benefits for uncertain tax treatments totaling $55 million and $61 million, respectively. It is reasonably possible that certain of these uncertainties over tax treatments could increase or decrease within the next 12 months due to changes in facts and circumstances, such as ongoing tax audits or taxing authority new decisions. The Group is not able to make an estimate of the range of the reasonably possible change. Accrued interest and penalties amounted to $6 million as of December 31, 2023 ($6 million as of December 31, 2022). The tax years that remain open for review in the Group's major tax jurisdictions are from 1997 to 2023.

7.6.8.3. Impairment of non-financial assets

An impairment exists when the carrying value of an asset or cash generating unit exceeds its recoverable amount, which is the higher of its fair value less costs of disposal and its value in use. The fair value less costs of disposal calculation is based on observable market prices less incremental costs of disposing the asset, in order to measure the price at which the asset could be sold in an orderly transaction between market participants at the measurement date. In case observable market prices are not available, fair value less costs of disposal could be measured based on data from binding sales transactions in arm's length transactions of similar assets. For the current year's annual impairment test, the recoverable amount of the CGUs was determined based on value-in-use calculations. Non-financial assets are tested or reviewed for impairment in accordance with accounting policies stated in Notes 7.6.7.1, 7.6.7.10, 7.6.7.11 and 7.6.7.12. Considerable management judgment is necessary to identify impairment indicators and to estimate future sales and expenses, which underlie the discounted future cash flow projections. Factors such as changes in the planned use of property, plant and equipment, the closure of facilities, the change in the use or in the market acceptance of certain new technologies, could result in shortened useful lives or impairment charges to be recognized in the period in which such determination is made.

7.6.8.4. Pension obligations

The Group sponsors various pension schemes for its employees. The expense incurred under the defined benefit pension plans is based upon statistical and actuarial calculations and is impacted by assumptions on discount rates used to reach the present value of future pension liabilities, expected return that will be made on existing pension assets, future salary increases as well as future pension increases and statistical-based assumptions covering future withdrawals of participants from the plan and estimates of life expectancy. Refer to Note 7.6.22.

The actuarial assumptions used may differ materially from actual results due to changes in market and economic conditions, higher or lower withdrawal rates or longer or shorter life spans of participants and may significantly impact the amount of pension costs and pension liabilities to be recognized in the period in which such determination is made.

7.6.8.5. Capitalized development costs

Development costs are capitalized in accordance with the accounting policy described in notes 7.6.7.5. and 7.6.7.10. Initial capitalization of costs is based on management's judgment that economic profitability and technological feasibility are confirmed, usually when a product or technology has reached a certain maturity level in product life cycle model used by the Group. In determining the projects to be capitalized, management makes assumptions regarding the expected future cash generation of the project and the expected period of benefits. As of December 31, 2023, the carrying amount of capitalized development costs was $1,098 million (2022: $1,060 million). Refer to Note 7.6.12 for disclosure of amounts capitalized, amortized and impaired during the period.

7.6.8.6. Inventory obsolescence reserves and normal manufacturing capacity thresholds

Inventory is stated at the lower of cost or net realizable value. Actual cost is based on an adjusted standard cost which approximates cost on a first-in, first-out basis for all categories of inventory (raw materials, work-in-process, finished products). Actual cost is therefore dependent on the Group's manufacturing performance and is based on the normal utilization of its production capacity. In 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. For the year ended December 31, 2023, the unused capacity charges amounted to $120 million compared to $22 million for the year ended December 31, 2022. Net realizable value is the estimated selling price in the ordinary course of business, less predictable costs of completion, disposal and transportation. Refer to Note 7.6.16.

Reserve for obsolescence is estimated for excess uncommitted inventory based on historical sales data, order backlog and production plans. The Group performs, on a continuous basis, inventory write-offs of inventories, which have the characteristics of slow-moving, old production dates and technical obsolescence. The Group 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 Group estimates the inventory will eventually be written off.

7.6.8.7. Control assessment and consolidation

An entity is fully consolidated and considered as a subsidiary when the Group controls the investee, which is when the Group has all of the following: (i) power over the investee, (ii) exposure, or rights, to variable returns from its involvement with the investee and; (iii) the ability to use its power over the investee to affect the amount of the investor's returns. In most cases, it is clear that the Group has control through a major equity stake conferring the majority of voting rights, requiring consolidation. Investments in subsidiaries are listed in Note 7.6.9.

In 2023, the Group and Sanan Optoelectronics jointly created SANAN, STMicroelectronics Co., Ltd ("SST JV") for high-volume 200mm SiC device manufacturing activities in China. The purpose of the joint venture is to support the rising demand for the Group's SiC devices for car electrification and industrial power and energy applications in China. With the creation and future operations of SST JV, the Company seeks to create a fully integrated vertical value chain aiming at serving the Chinese electrification market. Sanan Optoelectronics will build a separate 200mm SiC substrate manufacturing facility to fulfill SST JV's needs. SST JV will produce SiC devices exclusively for the Group, using the Group's proprietary SiC manufacturing process technology and know how and serving as a dedicated foundry to support the Group's demand for Chinese customers.

The Group fully consolidates SST JV, with the recognition of 51% non-controlling interest. Non-controlling interest amounted to $52 million as of December 31, 2023, which corresponds to the capital contribution received from Sanan Optoelectronics upon creation and first consolidation of SST JV. No gain or loss was recognized on the initial consolidation of the joint venture as no fair value measurement was required, the joint venture being a newly incorporated entity. Profit and loss reported by SST JV for the year ended December 31, 2023 was not material. The carrying amount of SST JV's assets and liabilities, together with their classification in the consolidated statement of financial position as of December 31, 2023, are separately disclosed in Note 7.6.10 and Note 7.6.21.

7.6.9. Investments in subsidiaries

The following table lists the Company's consolidated subsidiaries and its percentage ownership as of December 31, 2023:

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	STMicroelectronics Ltda	100
Canada, Ottawa	STMicroelectronics (Canada), Inc.	100
China, Beijing	STMicroelectronics (Beijing) R&D Co. Ltd	100
China, Chongqing	SANAN, STMicroelectronics Co., Ltd.	49
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	STMicroelectronics (Grenoble 2) SAS	100
France, Le Mans	STMicroelectronics (Grand Ouest) SAS	100
France, Montrouge	STMicroelectronics France 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
Malaysia, Muar	STMicroelectronics Services Sdn.Bhd.	100
Malta, Kirkop	STMicroelectronics (Malta) Ltd	100
Mexico, Guadalajara	STMicroelectronics Marketing, S. de R.L. de C.V.	100
Morocco, Casablanca	STMicroelectronics (MAROC) SAS, a associé unique	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 Re S.A.	100
Switzerland, Geneva	STMicroelectronics S.A.	100
Taiwan, Tapei City	Exagan Taiwan Ltd.	100
Thailand, Bangkok	STMicroelectronics (Thailand) Ltd	100
United Kingdom, Bristol	STMicroelectronics (Research & Development) Limited	100
United Kingdom, Marlow	STMicroelectronics Limited	100
United States, Coppell	STMicroelectronics Inc.	100
United States, Coppell	STMicroelectronics (North America) Holding, Inc.	100

7.6.10. Property, plant and equipment

Property, plant and equipment consisted of the following:

In millions of U.S. dollars	As of December 31, 2023 Gross value	Accumulated depreciation	Net value
Land	118	—	118
Buildings	1,311	(608)	703
Lease right-of-use assets	517	(184)	333
Facilities and leasehold improvements	4,361	(3,123)	1,238
Machinery and equipment	21,751	(15,370)	6,381
Computer and R&D equipment	423	(332)	91
Other tangible assets	115	(97)	18
Construction in progress	1,712	—	1,712
Total	**30,308**	**(19,714)**	**10,594**

In millions of U.S. dollars	As of December 31, 2022 Gross value	Accumulated depreciation	Net value
Land	83	—	83
Buildings	1,123	(565)	558
Lease right-of-use assets	386	(144)	242
Facilities and leasehold improvements	3,893	(2,900)	993
Machinery and equipment	19,004	(14,216)	4,788
Computer and R&D equipment	400	(321)	79
Other tangible assets	113	(95)	18
Construction in progress	1,511	—	1,511
Total	**26,513**	**(18,241)**	**8,272**

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

In millions of U.S. dollars	Land	Buildings	Lease Right-of-use assets	Facilities and leasehold improvements	Machinery and equipment	Computer and R&D equipment	Other tangible assets	Construction in progress	Total
Balance as of December 31, 2021	**84**	**394**	**195**	**567**	**3,404**	**62**	**13**	**1,059**	**5,778**
Additions	3	4	115	33	908	33	8	2,768	3,872
Transfers	—	194	—	506	1,546	12	2	(2,260)	—
Disposals	(1)	—	(5)	—	(3)	—	—	—	(9)
Impairment	—	—	—	—	(11)	—	—	—	(11)
Depreciation expense	—	(27)	(60)	(99)	(994)	(27)	(5)	—	(1,212)
Foreign currency translation	(3)	(7)	(3)	(14)	(62)	(1)	—	(56)	(146)
Balance as of December 31, 2022	**83**	**558**	**242**	**993**	**4,788**	**79**	**18**	**1,511**	**8,272**
Additions	26	1	159	44	645	35	7	2,881	3,798
Transfers	6	178	—	328	2,193	7	1	(2,713)	—
Disposals	—	—	(1)	—	(2)	—	—	—	(3)
Impairment	—	—	(1)	(2)	(19)	—	—	—	(22)
Depreciation expense	—	(34)	(71)	(159)	(1,265)	(33)	(7)	—	(1,569)
Foreign currency translation	3	—	5	34	41	3	(1)	33	118
Balance as of December 31, 2023	**118**	**703**	**333**	**1,238**	**6,381**	**91**	**18**	**1,712**	**10,594**

In 2023, the Group transferred from construction in progress to definitive long-lived assets, approximately $131 million corresponding to assets dedicated to its new silicon carbide substrates plant in Catania, Italy, where operations started in December 2023.

In the year ended December 31, 2023, capital investment funding totaled $709 million (2022: $25 million) and were accounted for as a reduction of the gross value of the related tangible assets. The impact of capital funding on depreciation expense for the year ended December 31, 2023 was a reduction of $33 million (2022: $16 million). In 2023, the Group sold owned property, plant and equipment for cash proceeds of $8 million. In 2022, property, plant and equipment sold amounted to $4 million.

The Group reported $620 million of capital grants as a reduction of "Property, plant and equipment" on the consolidated statement of financial position as December 31, 2023, in relation to two new funding schemes associated with the expansion in one of its manufacturing facilities in France and its new silicon carbide manufacturing activities in Italy, of which $239 million was received in cash in 2023 and reported as cash inflows from investing activities in the consolidated statement of cash flows for the year ended December 31, 2023. A $12 million grant income was recognized as compensation of depreciation expense in 2023 as part of these capital funding schemes.

In 2023, the Group and Sanan Optoelectronics jointly created SANAN, STMicroelectronics Co., Ltd ("SST JV"). for high-volume 200mm SiC device manufacturing in China, as described in Note 7.6.8.7. As of December 31, 2023, a total amount of $38 million was reported as "Property, plant and equipment" on the consolidated statement of financial position as December 31, 2023.

7.6.11. Leases

The Group leases land, buildings, cars and certain equipment (including IT equipment) which have remaining lease terms between less than one year and 50 years.

The consolidated statement of financial position shows the following amounts relating to leases:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Right-of-use assets		
Land	69	34
Buildings	206	149
Machinery and equipment	38	38
Computer and R&D equipment	4	7
Other	16	14
Total	**333**	**242**

Additions to the right-of-use assets during the 2023 financial year were $159 million (2022: $115 million). Expenses related to short-term and low-value leases were not significant in 2023 and 2022. Interest expense (included in finance cost described in Note 7.6.29) was $11 million as of December 31, 2023 (2022: $5 million). Cash outflows for leases totaled $78 million for the year ended December 31, 2023 (2022: $63 million).

Maturities of lease liabilities are as follows:

In millions of U.S. dollars	December 31, 2023
2024	76
2025	55
2026	41
2027	54
2028	24
Thereafter	137
Total future undiscounted cash outflows	**387**
Effect of discounting	(76)
Total lease liabilities	**311**

In millions of U.S. dollars	December 31, 2022
2023	65
2024	45
2025	32
2026	24
2027	40
Thereafter	109
Total future undiscounted cash outflows	**315**
Effect of discounting	(65)
Total lease liabilities	**250**

Depreciation expense in the consolidated income statement shows the following amounts relating to leases:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Depreciation expense on right-of-use assets		
Land	2	2
Buildings	49	43
Machinery and equipment	6	1
Computer and R&D equipment	6	7
Other	8	7
Total	**71**	**60**

Reported amounts related to lease arrangements are further described in Notes 7.6.10, 7.6.14 and 7.6.29.

7.6.12. Intangible assets

Intangible assets consisted of the following:

	As of December 31, 2023		
In millions of U.S. dollars	Gross value	Accumulated amortization	Net value
Purchased technologies and licenses	764	(547)	217
Purchased software	291	(207)	84
Internally developed software	218	(208)	10
Capitalized development costs	3,423	(2,325)	1,098
Technologies and software in progress	56	—	56
Total	**4,752**	**(3,287)**	**1,465**

	As of December 31, 2022		
In millions of U.S. dollars	Gross value	Accumulated amortization	Net value
Purchased technologies and licenses	776	(507)	269
Purchased software	386	(304)	82
Internally developed software	216	(203)	13
Capitalized development costs	3,494	(2,434)	1,060
Technologies and software in progress	41	—	41
Total	**4,913**	**(3,448)**	**1,465**

Fully amortized intangible assets that are no longer in use have been removed from the above tabular presentation. Comparative periods have been adjusted accordingly.

In the year ended December 31, 2023, specific project-related funding totaled $25 million (2022: $26 million) and were accounted for as a reduction of the gross value of related capitalized development costs.

Changes in the net carrying amount are detailed as follows:

In millions of U.S. dollars	Purchased technologies and licenses	Purchased software	Internally developed software	Capitalized development costs	Technologies and software in progress	Total
Balance as of December 31, 2021	**304**	**66**	**16**	**969**	**52**	**1,407**
Additions	60	4	—	362	49	475
Impairment / Write-offs	(38)	—	—	(77)	—	(115)
Transfer	15	40	4	—	(59)	—
Amortization expense	(68)	(28)	(7)	(194)	—	(297)
Foreign currency translation	(4)	—	—	—	(1)	(5)
Balance as of December 31, 2022	**269**	**82**	**13**	**1,060**	**41**	**1,465**
Additions	22	10	—	361	69	462
Impairment / Write-offs	(42)	—	—	(125)	—	(167)
Transfer	25	26	3	—	(54)	—
Amortization expense	(57)	(34)	(6)	(198)	—	(295)
Balance as of December 31, 2023	**217**	**84**	**10**	**1,098**	**56**	**1,465**

For the year ended December 31, 2023, additions of intangible assets amounted to $462 million (2022: $475 million).

The 2023 amortization expense included $222 million (2022: $213 million) in costs of sales, $44 million (2022: $57 million) in R&D and $29 million (2022: $27 million) in selling, general and administrative.

Development cost capitalized on projects that are still in progress and therefore not yet amortized amounted to $757 million as of December 2023 (2022: $738 million). Following the annual impairment test performed in the second half of 2023, no impairment was recorded on intangible assets not ready for use, excluding capitalized development costs as detailed below, for any of the Group's CGUs. The key-assumptions used for value-in-use calculations are based on the most recent budget of each CGU tested. Management determined budgeted gross margin based on past performance, and its expectations for the market development.

The impairment and write-offs for 2023 amounted to $167 million, of which, $142 million recorded in costs of sales and $25 million recorded in R&D. Amounts reported in cost of sales correspond to write-offs of capitalized development costs related to certain projects that were cancelled ($125 million) and to certain technologies acquired as part of the Group's recent business combinations ($17 million). The $25 million amount recorded in R&D relates to certain technologies acquired as part of the Group's recent business combinations. The impairment and write-offs for 2022 amounted to $115 million, recorded in costs of sales for $77 million, resulting from write-offs of capitalized development costs related to certain projects that were cancelled, and in R&D for $38 million of acquired licenses and technologies with no alternative future use.

7.6.13. Goodwill

Goodwill split by operating segment is as follows:

In millions of U.S. dollars	Automotive and Discrete Group (ADG)	Analog, MEMS and Sensors Group (AMS)	Microcontrollers and Digital ICs Group (MDG)	Total
As of January 1, 2023	**74**	**2**	**203**	**279**
Foreign currency translation	2	—	4	6
As of December 31, 2023	**76**	**2**	**207**	**285**

As of December 31, 2023, the gross value of goodwill was $330 million (2022: $324 million) and the accumulated impairment was $45 million (2022: $45 million).

Goodwill is allocated to the Group's CGUs. The recoverable amount of a CGU is determined based on value-in-use calculations. These calculations use cash flow projections based on financial budgets and management's best estimates about future developments, as well as market and customer assumptions.

The Group tests whether goodwill has suffered any impairment on an annual basis during the second half of each year. In the 2023 and 2022 reporting periods, no goodwill impairment was recorded for any of the Group's CGUs. For the annual impairment test, the key-assumptions used for value-in-use calculations are based on the most recent five-year plan of each CGU tested. The average perpetuity growth rate was 1.5% (2022: 1.5%) and discount rate was from 15% (2022: 15%) pre-tax and inferred from the observable volatility of share prices for comparable companies in the semiconductor industry. These assumptions have been used, as applicable, for the analysis of each CGU within the operating segments. Management determined budgeted gross margin based on past performance, and its expectations for the market development. The average yearly growth rates used are consistent with the forecast included in industry reports. The discount rates used are pre-tax and reflect specific risks relating to the relevant CGUs. No reasonably possible change in key assumptions would lead to a significant impairment loss.

7.6.14. Other financial assets and financial liabilities

7.6.14.1. Other financial assets

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Other financial assets (including derivatives)		
Other financial assets		
Quoted debt securities at FVOCI (1)	1,635	679
Unquoted equity securities at FVOCI (1)	22	10
Quoted equity securities at FVPL (2)	13	12
Other trading financial assets at FVPL (2)	18	14
Total other financial assets	**1,688**	**715**
Current	1,635	679
Non-current	53	36
Derivative financial instruments		
Cash flow hedges		
Foreign exchange forward contracts	33	30
Currency collars	5	8
Derivatives not designated as hedges		
Foreign exchange forward contracts	19	25
Currency collars	2	6
Embedded call option - Senior unsecured convertible bonds issued on August 4, 2020 (Tranche A)	14	13
Embedded call option - Senior unsecured convertible bonds issued on August 4, 2020 (Tranche B)	34	20
Total derivatives financial instruments	**107**	**102**
Current	106	69
Non-current	1	33
Total other financial assets (including derivatives)	**1,795**	**817**
Total current	1,741	748
Total non-current	54	69

(1) FVOCI: Fair Value through Other Comprehensive Income
(2) FVPL: Fair Value through P&L

Risk management policies relating to credit risk exposure to derivatives counterparties are further described in Note 7.6.35.

Movements in other financial assets (excluding derivatives) recorded in 2023 are summarized as follows:

In millions of U.S. dollars	Jan 1, 2023	Change in fair value included in OCI*	Change in fair value included in income statement	Purchase	Proceeds at maturity	Accretion	Dec 31, 2023
Government bonds issued by the U.S. Treasury	679	6	—	1,653	(750)	47	1,635
Quoted equity instruments at FVPL	12	—	1	—	—	—	13
Sub-total Quoted debt and equity securities	**691**	**6**	**1**	**1,653**	**(750)**	**47**	**1,648**
Unquoted equity securities at FVOCI	10	2	—	10	—	—	22
Other trading financial assets at FVPL	14	—	4	—	—	—	18
Total other financial assets (excluding derivatives)	**715**	**8**	**5**	**1,663**	**(750)**	**47**	**1,688**

*OCI: Other comprehensive income

Movements in other financial assets (excluding derivatives) recorded in 2022 are summarized as follows:

In millions of U.S. dollars	Jan 1, 2022	Change in fair value included in OCI*	Change in fair value included in income statement	Purchase	Proceeds at maturity	Accretion	Dec 31, 2022
Debt securities issued by the U.S. Treasury	—	(16)	—	687	—	8	679
Quoted equity instruments at FVPL	13	—	(1)	—	—	—	12
Sub-total Quoted debt and equity securities	**13**	**(16)**	**(1)**	**687**	**—**	**8**	**691**
Unquoted equity securities at FVOCI	10	—	—	—	—	—	10
Other trading financial assets at FVPL	16	—	(2)	—	—	—	14
Total other financial assets (excluding derivatives)	**39**	**(16)**	**(3)**	**687**	**—**	**8**	**715**

*OCI: Other comprehensive income

Investments held in debt securities

As of December 31, 2023, the Group held $1,635 million of U.S. Treasury debt securities. The debt securities have an average rating of Aaa/AA+/AA+ from Moody's, S&P and Fitch, respectively and an average maturity of 1.6 years. The debt securities were reported as current assets on the line "Other current financial assets" on the consolidated statement of financial position as of December 31, 2023, since they represented investments of funds available for current operations.

Marketable securities totaling $750 million at principal amount were transferred to financial institutions as part of short-term securities lending transactions, in compliance with corporate policies. The Group, acting as the securities lender, does not hold any collateral in this unsecured securities lending transaction. The Group retains effective control on the transferred securities.

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

Investments held in equity securities

As of December 31, 2023, the Group also had investments in quoted equity securities for an aggregate value of $13 million, measured at FVPL (December 31, 2022: $12 million).

As of December 31, 2023, the Group also reported other trading financial assets for an aggregate value of $18 million (December 31, 2022: $14 million).

The Group irrevocably elected to measure at FVOCI unquoted equity securities for an aggregate value of $22 million (December 31, 2022: $10 million). Since these are strategic investments, the Group considers this classification, which implies that changes in fair value are not subsequently recycled to earnings, to be more relevant.

The changes in fair value reported on the Group's investments held in equity securities for the years ended December 31, 2023 and December 31, 2022 were immaterial.

Short-term deposits

To optimize the return yield on its short-term investments, the Group invested $1,226 million of available cash in short-term deposits as of December 31, 2023, compared to $581 million as of December 31, 2022. These short-term deposits had a maturity beyond three months and no significant risk of changes in fair value. They are reported in the line "Short-term deposits" of the consolidated statement of financial position.

7.6.14.2. Other financial liabilities

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Lease financial liabilities	311	250
Deferred and contingent consideration on business acquisitions	20	31
Derivative financial instruments		
Cash flow hedges		
Foreign exchange forward contracts	1	17
Currency collars	—	6
Derivatives not designated as hedges		
Foreign exchange forward contracts	2	12
Currency collars	—	4
Embedded conversion option - Senior unsecured convertible bonds issued on August 4, 2020 (Tranche A)	229	110
Embedded conversion option - Senior unsecured convertible bonds issued on August 4, 2020 (Tranche B)	281	151
Total other financial liabilities (including derivatives)	**844**	**581**
Total current	581	204
Total non-current	263	377

Risk management policies relating to credit risk exposure to derivatives counterparties are further described in Note 7.6.35. Lease financial liabilities are further described in Note 7.6.11.

7.6.14.3. Interest-bearing loans and borrowings

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Funding program loans from European Investment Bank ("EIB"):		
4.72% due 2028, floating interest rate at Euribor + 0.589%	141	163
4.52% due 2029, floating interest rate at Euribor + 0.564%	162	183
4.47% due 2031, floating interest rate at Euribor + 0.473%	296	322
4.54% due 2031, floating interest rate at Euribor + 0.550%	146	159
4.52% due 2033, floating interest rate at Euribor + 0.558%	332	—
Credit Facility from Cassa Depositi e Prestiti SpA ("CDP SpA")		
4.64% due 2027, floating interest rate at Euribor + 0.690%	97	120
4.49% due 2028, floating interest rate at Euribor + 0.550%	92	107
4.79% due 2029, floating interest rate at Euribor + 0.850%	95	107
Dual tranche senior unsecured convertible bonds:		
Zero-coupon, due 2025 (Tranche A)	730	717
Zero-coupon, due 2027 (Tranche B)	702	690
Other Funding program loans:		
0.29% (weighted average), due 2024-2028, fixed interest rate	6	4
Total interest-bearing loans and borrowings	**2,799**	**2,572**
Total current	1,640	885
Total non-current	1,159	1,687

Interest-bearing loans and borrowings are denominated in the following currencies:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
U.S. Dollar	1,432	1,407
Euro	1,367	1,165
Total	**2,799**	**2,572**

The European Investment Bank’s loans denominated in Euros, but drawn in U.S. dollars, are classified as U.S. dollar denominated debt.

Aggregate contractual maturities of interest-bearing loans and borrowings outstanding, excluding repayments of coupons and interests, are as follows:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
2023	—	168
2024	207	168
2025	957	918
2026	207	167
2027	942	903
2028	178	140
Thereafter	376	201
Total	**2,867**	**2,665**

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.

Senior convertible bonds

On August 4, 2020, the Company issued $1,500 million in principal amount of dual tranche senior unsecured convertible bonds (Tranche A for $750 million and Tranche B for $750 million), due 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 Group.

The issuer's call option and the holder's conversion option have been identified as embedded non-equity derivative instruments, resulting in the recognition of the options separately from the debt host contract. Upon initial recognition, the derivatives were measured at fair value based on the income approach, the debt being determined as a residual amount of the $1.5 billion total proceeds. The value of the issuer's call option was deemed to be nil at initial recognition. The value of the holder's conversion option was estimated at $219 million at issuance date, which determined the initial recognition of the liability component at $1,358 million before allocation of issuance costs. The fair value measurement of the embedded derivative instruments corresponded to a Level 3 fair value hierarchy measurement, which is further described in Note 7.6.14.5. The Group elected to allocate issuance costs, totaling $10 million, to the debt component. The debt was subsequently measured at amortized cost using the effective interest method.

Starting August 2023 and August 2024 for Tranche A and Tranche B convertible bonds, respectively, the bondholders have and will have full conversion rights. Consequently, for both tranches, non-equity embedded derivative instruments and liability component were reported on the line Other current financial assets for an amount of $48 million, on the line Other current financial liabilities for an amount of $510 million and on the line Interest-bearing loans and borrowings – current portion for an amount of $1,432 million, respectively, of the consolidated statement of financial position as of December 31, 2023.

Reconciliation of liabilities arising from financing activities

The reconciliation for the year ended December 31, 2023 is as follows:

In millions of U.S. dollars	Interest-bearing loans and borrowings	Other non-current financial liabilities*	Interest-bearing loans and borrowings – current portion	Other current financial liabilities**	Total
December 31, 2022	**1,687**	**342**	**885**	**169**	**3,083**
Cash flows	329	—	(169)	(78)	82
Non-cash changes:					
New leases	—	87	35	35	157
Accreted finance costs	—	—	25	—	25
Fair value changes	—	130	—	119	249
Reclassification	(858)	(320)	858	331	11
Foreign currency translation	1	4	6	2	13
December 31, 2023	**1,159**	**243**	**1,640**	**578**	**3,620**

* "Other non-current financial liabilities" reported above do not include deferred and contingent consideration, as they relate to business acquisitions.

** "Other current financial liabilities" reported above correspond to the current portion of the lease liability for an amount of $68 million and Tranche A and Tranche B bondholder's conversion option for an amount $510 million as of December 31, 2023. Derivatives are not reported in the above table as they relate to operating activities. Lease financial liabilities are further described in Note 7.6.11 and convertible bonds are further described in Note 7.6.14.3.

The reconciliation for the year ended December 31, 2022 is as follows:

In millions of U.S. dollars	Interest-bearing loans and borrowings	Other non-current financial liabilities*	Interest-bearing loans and borrowings – current portion	Other current financial liabilities**	Total
December 31, 2021	**2,391**	**685**	**143**	**55**	**3,274**
Cash flows	200	—	(134)	(58)	8
Non-cash changes:					
New leases	—	112	—	3	115
Accreted finance costs	25	—	—	—	25
Fair value changes	—	(276)	—	—	(276)
Reclassification	(885)	(169)	885	169	—
Foreign currency translation	(44)	(10)	(9)	—	(63)
December 31, 2022	**1,687**	**342**	**885**	169	**3,083**

* ”Other non-current financial liabilities” and “Other current financial liabilities” reported above do not include deferred and contingent consideration, as they relate to business acquisitions.

** ”Other current financial liabilities” reported above correspond to the current portion of the lease liability for an amount of $59 million and Tranche A on bondholder’s conversion option for an amount $110 million as of December 31, 2022. Derivatives are not reported in the above table as they relate to operating activities. Lease financial liabilities are further described in Note 7.6.11 and convertible bonds are further described in Note 7.6.14.3

The Group’s long-term debt contained standard conditions but does not impose minimum financial ratios. The Group had unutilized committed medium-term credit facilities with core relationship banks totaling $1,030 million as of December 31, 2023.

As of December 31, 2023 the Group also had three long-term amortizing credit facilities with EIB as part of R&D funding programs and two long-term facilities with CDP SpA.

EIB facilities

The first credit facility, 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 $303 million was outstanding as of December 31, 2023 (December 31, 2022: $346 million). The second one, signed in 2020, is a €500 million credit facility agreement to support R&D and capital expenditure programs in Italy and France. It was fully drawn in Euros in 2021, representing $442 million outstanding as of December 31, 2023 (December 31, 2022: $481 million). In 2022, the Group signed a third long-term amortizing credit facility with EIB of €600 million loan, out of which, €300 million was withdrawn in Euros during 2023, representing $332 million outstanding as of December 31, 2023. In January 2024, an amount of $300 million was withdrawn under this credit facility.

CDP SpA facilities

The first credit facility, signed in 2021, is a €150 million loan, fully drawn in Euros, of which $97 million were outstanding as of December 31, 2023 (December 31, 2022: $120 million). The second one, signed in 2022, is a €200 million loan, fully drawn in Euros, of which $187 million was outstanding as of December 31, 2023 (December 31, 2022: $214 million).

As of December 31, 2022 the Group had three long-term amortizing credit facilities with the EIB as part of R&D funding programs and two long-term facility with CDP SpA.

7.6.14.4. Hedging activities and derivatives

Derivative instruments not designated as hedge

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

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

The notional amount of these financial instruments amounted to $1,731 million in 2023 (2022: $2,041 million). The principal currencies covered at the end of the year 2023 are the Euro, China Yuan Renminbi, the Singapore dollar, the Japanese yen, the Swiss franc, the Indian rupee, the Malaysian ringgit, the Moroccan dirham, the Philippines peso, the Swedish krona, the Taiwan dollar, and the South Korean won.

Foreign currency forward contracts and currency options, including collars, not designated as cash flow hedge outstanding as of December 31, 2023 had remaining terms of 3 days to 12 months, maturing on average after 79 days.

Foreign currency forward contracts and currency options, including collars, not designated as cash flow hedge outstanding as of December 31, 2022 had remaining terms of 4 days to 20 months, maturing on average after 144 days.

Derivative instruments designated as cash flow hedge

To reduce its exposure to U.S. dollar exchange rate fluctuations, the Group hedges certain Euro-denominated forecasted transactions that cover at reporting date a portion of its front-end manufacturing costs of semi-finished goods through the use of currency forward contracts and currency options, including collars. The Group also hedges certain manufacturing transactions denominated in Singapore dollars.

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

These derivative instruments are designated and qualified as cash flow hedges. Hedge effectiveness is determined at the inception of the hedge relationship, and through periodic prospective effectiveness assessments to ensure that an economic relationship exists between the hedged item and the hedging instrument. The Group enters into hedge relationships where the critical terms of the hedging instrument match with the terms of the hedged item, which ensures a 1:1 hedge ratio on a monthly basis. The Group therefore performs a qualitative assessment of effectiveness. If changes in circumstances affect the terms of the hedged item such that the critical terms no longer match with the critical terms of the hedging instrument, the Group uses the hypothetical derivative method to assess effectiveness. Ineffectiveness may arise if the timing of the forecast transaction changes from what was originally estimated, which cannot occur as the Group designates as hedged items forecasted intercompany transactions denominated in foreign currency over which the Group has full oversight, control, and visibility. Ineffectiveness may arise only if there are changes in the credit risk of the counterparty.

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

For the year ended December 31, 2023, the Group recorded a decrease in cost of sales of $1 million (2022: increase of $129 million) related to the realized gain incurred on such hedged transactions. No significant ineffective portion of the hedge was recorded on the lines "Other income" or "Other expenses" for the years ended December 31, 2023 and 2022.

The notional amount of foreign currency forward contracts and currency options, including collars, designated as cash flow hedge amounted to $1,924 million (2022: $2,081 million). The forecasted transactions hedged at December 31, 2023 were determined to be highly probable of occurring.

As of December 31, 2023, the amount of net deferred gains on derivative instruments included in the cash flow hedge reserve in equity was $38 million (2022: net deferred gains of $15 million), of which $37 million were expected to be reclassified as earnings during the next 12 months based on the monthly forecasted semi-finished manufacturing costs.

Foreign currency forward contracts and currency options, including collars, designated as cash flow hedge outstanding as of December 31, 2023, had remaining terms of 4 days to 12 months, maturing on average after 111 days.

Foreign currency forward contracts and currency options, including collars, designated as cash flow hedge outstanding as of December 31, 2022, had remaining terms of 4 days to 19 months, maturing on average after 228 days.

As of December 31, 2023, the Group had the following outstanding derivative instruments that were entered into to hedge Euro-denominated and Singapore-Dollar-denominated forecasted transactions:

	Notional amount for hedge on forecasted manufacturing costs transactions	
	In millions of Euros	In millions of Singapore Dollars
Forward contracts	951	219
Currency collars	640	—

As of December 31, 2022, the Group had the following outstanding derivative instruments that were entered into to hedge Euro-denominated and Singapore-Dollar-denominated forecasted transactions:

	Notional amount for hedge on forecasted manufacturing costs transactions	
	In millions of Euros	In millions of Singapore Dollars
Forward contracts	986	247
Currency collars	791	—

Cash flow and fair value interest rate risk

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

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

Other market risk

As part of its ongoing investing activities, the Group may invest in publicly traded equity securities and be exposed to equity security price. In order to hedge the exposure to this market risk, the Group may enter into certain derivative hedging transactions.

Credit risk and the Group's impairment policies on financial assets are further described in Note 7.6.7.13 and Note 7.6.35.

Offsetting financial assets and financial liabilities

The Group entered into currency collars as combinations of two options, which are reported, for accounting purposes, on a net basis. As of December 31, 2023, the fair value of these collars represented assets for a net amount of $7 million (composed of $8 million assets offset with a $1 million liability). In addition, the Group 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 $52 million and liabilities of $3 million as of December 31, 2023.

Risk management policies relating to credit risk exposure to derivatives counterparties is further described in Note 7.6.35.

7.6.14.5. Fair values

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

In millions of U.S. dollars	Carrying amount		Fair value	
	December 31, 2023	December 31, 2022	December 31, 2023	December 31, 2022
Financial assets				
Short-term deposits	1,226	581	1,226	581
Trade accounts receivable	1,731	1,970	1,731	1,970
Other receivables and assets	1,237	678	1,237	678
Quoted financial instruments	1,666	705	1,666	705
Unquoted equity securities	22	10	22	10
Embedded call option - Senior unsecured convertible bonds issued on August 4, 2020 (Tranche A)	14	13	14	13
Embedded call option - Senior unsecured convertible bonds issued on August 4, 2020 (Tranche B)	34	20	34	20
Derivative financial assets	59	69	59	69
Cash equivalents (1)	2,879	2,996	2,879	2,996
Financial liabilities				
Interest-bearing loans and borrowings (excluding senior unsecured convertible bonds)	1,367	1,165	1,367	1,165
Senior unsecured convertible bonds issued on August 4, 2020 (2)	1,432	1,407	1,814	1,561
Embedded conversion option - Senior unsecured convertible bonds issued on August 4, 2020 (Tranche A) (2)	229	110	—	—
Embedded conversion option - Senior unsecured convertible bonds issued on August 4, 2020 (Tranche B) (2)	281	151	—	—
Finance leases	311	250	311	250
Contingent consideration on business acquisitions	20	31	20	31
Trade accounts payable	1,856	2,122	1,856	2,122
Other payables and accrued liabilities	552	511	552	511
Derivative financial liabilities	3	39	3	39

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

(2) The carrying amount of the senior unsecured convertible bonds issued on August 4, 2020 and outstanding at December 31, 2023 and December 31, 2022 corresponds to the liability component only, since, at initial recognition, an amount of $219 million was separately recognized as embedded derivative financial instruments.

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

- For trade accounts receivable, cash equivalents, short-term deposits, trade accounts payable, other payables and accrued liabilities, the carrying amounts reflected in the consolidated financial statements are reasonable estimates of fair value due to the relatively short period of time between the origination of the instruments and their expected realization.

- Other receivables and assets approximate their carrying amounts due either to their short-term maturities or to the fact that they are recorded at their net present value.
- Financial investments (debt and equity securities):
    - The fair value quoted debt and equity securities is determined based upon quoted market prices for identical instruments.
    - The fair value of unquoted equity securities is based on the valuation of the underlying instruments on a new round of third-party financing or upon liquidation.
- The fair value of interest-bearing loans and borrowings, including lease liabilities but excluding senior unsecured convertible bonds, is determined by estimating future cash flows on a borrowing-by-borrowing basis and discounting these future cash flows using the Group's incremental borrowing rates for similar types of arrangements.
- The senior unsecured convertible bonds issued on August 4, 2020, and outstanding as of December 31, 2023, and December 31, 2022, have been trading on the open market segment on the Frankfurt Stock Exchange since issuance. The fair value of these instruments is the observable price of the bonds on that market.
- The fair value of derivative instruments is determined based upon quoted market prices for similar instruments.
- The bondholders' conversion option and the issuer's soft call embedded in the senior unsecured convertible bonds are measured at fair value based on the income approach using Bloomberg's option pricing model, which can be assimilated to a Black & Scholes model for pricing stock options. This model was elected as the best indication of fair value since it maximized the use of observable market-based inputs.

Fair value hierarchy

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

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

As of December 31, 2023, the Group held the following assets and liabilities measured at fair value:

In millions of U.S. dollars	December 31, 2023	Level 1	Level 2	Level 3
Assets measured at fair value				
Financial assets at FVPL				
Trading derivatives				
Foreign exchange forward contracts	19	—	19	—
Currency collars	2	—	2	—
Quoted equity securities at FVPL	13	13	—	—
Other trading financial assets at FVPL	18	18	—	—
Embedded call options	48	—	—	48
Cash flow hedges				
Foreign exchange forward contracts	33	—	33	—
Currency collars	5	—	5	—
Quoted debt securities measured at FVOCI				
Government bonds issued by the U.S. Treasury	1,635	1,635	—	—
Unquoted equity securities measured at FVOCI	22	—	—	22
Short-term deposits	1,226	1,226	—	—
Total assets	**3,021**	**2,892**	**59**	**70**
Liabilities measured at fair value				
Derivative instruments				
Foreign exchange forward contracts	2	—	2	—
Currency collars	—	—	—	—
Cash flow hedges				
Foreign exchange forward contracts	1	—	1	—
Currency collars	—	—	—	—
Embedded conversion options	510	—	—	510
Contingent consideration on business acquisitions	20	—	—	20
Total liabilities	**533**	**—**	**3**	**530**

During the reporting period ending December 31, 2023, there was no transfer between Level 1 and Level 2 fair value measurements, and no transfer into and out of Level 3 fair value measurements.

As of December 31, 2022, the Group held the following assets and liabilities measured at fair value:

In millions of U.S. dollars	December 31, 2022	Level 1	Level 2	Level 3
Assets measured at fair value				
Financial assets at FVPL				
Trading derivatives				
Foreign exchange forward contracts	25	—	25	—
Currency collars	6	—	6	—
Quoted equity securities at FVPL	12	12	—	—
Other trading financial assets at FVPL	14	14	—	—
Embedded call options	33	—	—	33
Cash flow hedges				
Foreign exchange forward contracts	30	—	30	—
Currency collars	8	—	8	—
Quoted debt securities measured at FVOCI				
Government bonds issued by the U.S. Treasury	679	679	—	—
Unquoted equity securities measured at FVOCI	10	—	—	10
Short-term deposits	581	581	—	—
Total assets	**1,398**	**1,286**	**69**	**43**
Liabilities measured at fair value				
Derivative instruments				
Foreign exchange forward contracts	12	—	12	—
Currency collars	4	—	4	—
Cash flow hedges	—			
Foreign exchange forward contracts	17	—	17	—
Currency collars	6	—	6	—
Embedded conversion options	261	—	—	261
Contingent consideration on business acquisitions	31	—	—	31
Total liabilities	**331**	**—**	**39**	**292**

During the reporting period ending December 31, 2022, there was no transfer between Level 1 and Level 2 fair value measurements, and no transfer into and out of Level 3 fair value measurements.

Financial instruments in Level 1

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

Financial instruments in Level 2

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

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

Financial instruments in Level 3

For financial assets (liabilities) measured at fair value using significant unobservable inputs (Level 3), the reconciliation between January 1, 2023 and December 31, 2023 is presented as follows:

In millions of U.S. dollars	Fair value measurements using significant unobservable inputs (Level 3)
As of January 1, 2023	**(249)**
Change in fair value of the embedded conversion option of the senior unsecured convertible bonds issued on August 4, 2020 (Tranche A and Tranche B)	(249)
Change in fair value of the embedded call option of the senior unsecured convertible bonds issued on August 4, 2020 (Tranche A and Tranche B)	15
Change in fair value of the contingent consideration on business acquisitions	12
Currency translation adjustment	1
Purchase of equity instruments	10
As of December 31, 2023	**(460)**
Amount of net gains included in the 2023 income statement attributable to assets (liabilities) still held at the reporting date	(222)

The following table shows the impact on the income statement of the valuation of the embedded derivative instruments outstanding as of December 31, 2023:

In millions of U.S. dollars	
Asset (liability) value as of December 31, 2022	**(228)**
Gains (losses) recognized in the consolidated income statement	(234)
Asset (liability) value as of December 31, 2023	**(462)**

Contingent consideration reported as liabilities on the consolidated statement of financial position as of December 31, 2023 and December 31, 2022 is based on the probability that the milestones defining the variable components of the consideration will be achieved. In 2023, the probability of achievement of these variable components was reassessed, resulting in a reduction of $12 million of the fair value of the contingent consideration related to the 2020 acquisitions. The Group reported this change in fair value in the line “Research and development expenses” of the consolidated statement of income.

The change in fair value amounting to $249 million on the embedded bondholders’ conversion options was reported as “Finance costs” in the consolidated income statement ended December 31, 2023. The change in fair value amounting to $15 million on the embedded issuer’s call options was reported as “Finance income” in the consolidated income statement ended December 31, 2023.

The model used to price the derivative instruments embedded in the senior unsecured convertible bonds issued on August 4, 2020 (Tranche A and Tranche B) included the following inputs:

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

Sensitivity to the share price variations is further described in Note 7.6.35. Implied volatility should be considered an unobservable input due to the lack of market data (stock exchange listing of the bond option) for a time horizon equal to the duration of the option. The figure is, therefore, an assumption based on the volatility implied by the price of the financial instrument, as negotiated at the issue stage, and market volatility for the nearest time horizon.

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

Change in volatility of the Company's ordinary shares	-10 p.p.	- 8 p.p.	-5 p.p.	+5 p.p.	+8 p.p.	+10 p.p.
Change in the net carrying amount of the bondholders' conversion options	(83)	(67)	(42)	43	68	85
Net carrying amount of the embedded conversion options	**427**	**443**	**468**	**553**	**578**	**595**

For financial assets (liabilities) measured at fair value using significant unobservable inputs (Level 3), the reconciliation between January 1, 2022 and December 31, 2022 is presented as follows:

In millions of U.S. dollars	Fair value measurements using significant unobservable inputs (Level 3)
As of January 1, 2022	**(578)**
Change in fair value of the embedded conversion option of the senior unsecured convertible bonds issued on August 4, 2020 (Tranche A and Tranche B)	276
Change in fair value of the embedded call option of the senior unsecured convertible bonds issued on August 4, 2020 (Tranche A and Tranche B)	7
Change in fair value of the contingent consideration on business acquisitions	35
Currency translation adjustment	4
Payment of contigent consideration	7
As of December 31, 2022	**(249)**
Amount of net losses included in the 2022 income statement attributable to assets (liabilities) still held at the reporting date	318

The following table shows the impact on the income statement of the valuation of the embedded derivative instruments outstanding as of December 31, 2022:

In millions of U.S. dollars	
Asset (liability) value as of December 31, 2021	**(511)**
Gains (losses) recognized in the consolidated income statement	283
Asset (liability) value as of December 31, 2022	**(228)**

The change in fair value amounting to $276 million on the embedded bondholders' conversion option was reported as "Finance costs" in the consolidated income statement ended December 31, 2022. The change in fair value amounting to $7 million on the embedded issuer's call option was reported as "Finance income" in the consolidated income statement ended December 31, 2022.

7.6.15. Other non-current assets

Other non-current assets consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Public funding receivables	210	156
Taxes and other receivables from government agencies	22	—
French research tax credit receivable	246	294
Prepayments and deposits to third parties	224	107
Other non-current assets	58	56
Total	**760**	**613**

The Group holds long-term receivables with the objective to collect the contractual cash flows and therefore, these receivables are measured subsequently at amortized cost using the effective interest method.

Prepayments and deposits to third parties include receivables related to long-term supply agreements involving purchase of raw materials, capacity commitments, cloud-hosting arrangements, and other services.

In 2023 and 2022, the Group entered into factoring transactions to accelerate the realization in cash of certain long-term receivables. The Group sold without recourse $118 million and $110 million of these receivables in the years ended December 31, 2023 and 2022 respectively, with a financial cost of $5 million and $1 million respectively.

The major portion of other long-term receivables to which the expected credit loss model applies is long-term State receivables. Due to the existing history of zero-default on receivables originated by governments, the expected credit loss is assumed to be negligible as of December 31, 2023, and 2022. Other non-current assets presented in the table above on the line "Other non-current assets" are composed of individually not significant 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.

The carrying amounts of the Group's non-current assets are denominated in the following currencies:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
U.S. dollars	187	114
Euro	570	487
Japanese Yen	2	2
Other currencies	1	10
Total	**760**	**613**

7.6.16. Inventories

Inventories consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Raw materials	298	349
Work-in-process	1,743	1,490
Finished products	655	744
Total	**2,696**	**2,583**

Write-offs of inventories were recognized in cost of sales as an expense and amounted to $93 million in 2023 (2022: $71 million). Further impact related to inventories on the consolidated income statement is provided in Note 7.6.27.

The carrying amount of inventories is presented net of a reserve for obsolescence items of $145 million as of December 31, 2023 (2022: $98 million).

7.6.17. Trade accounts receivable

Trade accounts receivable consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Trade accounts receivable	1,750	1,991
Loss allowance	(19)	(21)
Total	**1,731**	**1,970**

Trade receivables are amounts due from customers for goods sold or services performed in the ordinary course of business. Trade receivables are non-interest bearing with credit terms from 30 up to 90 day terms. They are all classified as current. The Group holds the trade receivables with the objective to collect the contractual cash flows and, therefore, trade receivables are measured subsequently at amortized cost. The Group does not expect to have any significant contracts where the period between the transfer of the promised goods or services to the customer and payment by the customer exceeds one year. As a consequence, the Group does not adjust any of the transaction prices for the time value of money and no significant transaction with customers includes significant financing component. Due to the short-term nature of trade receivables, their carrying amount is considered to be the same as their fair value.

As described in Note 7.6.35, the Group 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. Individual risk limits are set based on internal and external ratings in accordance with limits set by management. The utilization of credit limits is regularly monitored. Sales to customers are primarily settled in cash.

The Group uses a lifetime expected loss allowance for all trade receivables based on failure rates, as applied to the gross amounts of trade accounts receivable. The model includes reasonable assumptions about future credit trends. The historical loss rates are adjusted to reflect current and forward-looking information on macro-economic factors affecting the ability of the Group's customers to settle the receivables. In addition to the factors already embedded in the failure rates, as applied on trade accounts receivable, the Group has identified cyclicality and uncertainties around continued growth for the semiconductor industry and its serviceable available market to be the most relevant factors. These macro-economic factors are weighted into different economic scenarios, in line with estimates and methodologies applied by other business entities, including financial institutions. These scenarios range from upside scenario (above-trend economic growth) to severe downside (recession). On that basis, the loss allowance as of December 31, 2023 and December 31, 2022 was determined as follows:

In millions of U.S. dollars	Total	No past-due	Past due Less than a month	Past due Between 1 and 6 months	Past due Over 6 months
December 31, 2023					
Expected loss rate		1 %	1 %	10 %	100 %
Trade receivables – Gross carrying amount	1,750	1,644	88	18	—
Loss allowance	(19)	(16)	(1)	(2)	—
Trade receivables – Net carrying amount	1,731	1,628	87	16	—
December 31, 2022					
Expected loss rate		1 %	1 %	10 %	100 %
Trade receivables – Gross carrying amount	1,991	1,904	69	17	1
Loss allowance	(21)	(18)	—	(2)	(1)
Trade receivables – Net carrying amount	1,970	1,886	69	15	—

The loss allowance for trade accounts receivable as of December 31, 2023 and December 31, 2022 reconcile to the opening loss allowance as follows:

In millions of U.S. dollars	
As of December 31, 2021	**19**
Additions	5
Reversals	(3)
As of December 31, 2022	**21**
Additions	—
Reversals	(2)
As of December 31, 2023	**19**

Trade accounts receivable are denominated in the following currencies:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
U.S. dollars	1,563	1,822
Euro	53	35
Japanese Yen	134	134
Total	**1,750**	**1,991**

The maximum exposure to credit risk was the fair value of trade accounts receivable, net of expected credit losses as of December 31, 2023 and December 31, 2022.

7.6.18. Other receivables and assets

Other receivables and assets consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Public funding receivables	651	190
Advances and prepayments	180	125
Taxes and other government receivables	241	270
Other current assets	165	93
Total	**1,237**	**678**

Public funding receivables relate to R&D contracts, industrialization contracts and capital investment projects.

Other current assets include a $28 million contribution to be received in 2024 from a third party as part of a collaborative agreement associated with the ongoing capacity expansion project for the 300mm wafer fab in Crolles, France. Total contributions received from the third party as part of this collaborative agreement totaled $54 million, reported as "Proceeds from capital grants and other contributions" in the statement of cash flows for the year ended December 31, 2023.

The Group applies a forward-looking expected credit losses model on all financial assets measured at amortized cost, excluding trade accounts receivable. The major portion of other receivables and assets to which this expected credit loss model applies corresponds to governmental receivables. Due to the short maturity of these receivables and the existing history of zero-default on receivables originated by governments, the expected credit loss is assumed to be negligible. Other receivables, excluding receivables from government agencies, are composed of individually insignificant amounts at exposure of default. Consequently, no significant loss allowance was reported on other receivables and assets as of December 31, 2023 and December 31, 2022.

Taxes and other government receivables include receivables related to value-added tax, primarily in European tax jurisdictions.

Advances and prepayments include prepaid amounts associated with multi-annual supply and service agreements.

The carrying amounts of the Group's other receivables and assets are denominated in the following currencies:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
U.S. dollars	270	245
Euro	924	401
Other currencies	43	32
Total	**1,237**	**678**

The maximum exposure to credit risk was the fair value of other receivables and assets, net of expected credit losses, as of December 31, 2023 and December 31, 2022.

7.6.19. Cash and cash equivalents

Cash and cash equivalents consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Cash at bank and on hand	343	262
Deposits at call with banks	2,879	2,996
Total	**3,222**	**3,258**

7.6.20. Equity

7.6.20.1. Outstanding shares

The authorized share capital of the Company is €1,810 million consisting of 1,200,000,000 common shares and 540,000,000 preference shares, each with a nominal value of €1.04. As of December 31, 2023, the number of common shares issued was 911,281,920 shares (December 31, 2022: 911,281,920 shares).

As of December 31, 2023, the number of common shares outstanding was 902,771,081 shares (December 31, 2022: 903,865,763 shares).

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

There were no preference shares issued as of December 31, 2023 and December 31, 2022.

7.6.20.3. Treasury shares

As of December 31, 2023, the Company owned 8,510,839 shares classified as treasury stock in the consolidated statement of equity compared to 7,416,157 shares as of December 31, 2022.

The treasury shares have been originally designated for allocation under the Company's share-based remuneration programs. As of December 31, 2023, 81,022,515 of these treasury shares were transferred to employees under the Company's share-based remuneration programs, of which 6,502,300 in the year ended December 31, 2023 and 6,587,002 shares during the year ended December 31, 2022.

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. During 2023, the Company purchased approximately 7.6 million shares of its outstanding common stock for $346 million as part of the program. The Company purchased approximately 9.2 million shares of its outstanding common stock for $346 million during 2022.

7.6.20.4. 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 (the options to acquire common shares in the share capital 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 vested and became exercisable immediately, while the shares resulting from these awards vested and therefore became available for trade evenly over three years (one third every year), with no market, performance or service conditions.

At the Company's AGM 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:

Year of Grant	Options granted and vested	Options waived at grant
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, 2023 and December 31, 2022 is presented below:

Year of grant	Outstanding as of December 31, 2021	Exercised	Expired / Cancelled	Outstanding as of December 31, 2022	Exercised	Expired / Cancelled	Outstanding as of December 31, 2023
2011	—	—	—	—	—	—	—
2012	20,000	(5,000)	(15,000)	—	—	—	—

7.6.20.5. 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 and selected employees (the "Employee Plan"). The awards are granted for services rendered 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, for which vesting is subject to performance conditions.

For plan 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 plans 2021, 2022 and 2023, the performance conditions consist 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. Sustainability and diversity performance include environment/climate, diversity and inclusions indicators, ESG investor index and carbon rating.

Stock awards are subject to three-year cliff-vesting for the Company's CEO, while they vest over a grading three-year service period for other employees (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). Applicable only to the 2023 plan, stock awards allocated to members of the Executive Committee are also subject to three-year cliff vesting. In addition, for the year 2020, a Special Bonus was granted to the Company's CEO.

The table below summarizes grants outstanding during the year 2023, as authorized by the Compensation Committee:

Date of Grant	Allocations under	Number of shares granted	Number of shares waived	Number of shares lost on performance conditions
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	—	(920,263)
December 21, 2021	2021 Employee Plan	213,270	—	(60,483)
July 27, 2022	2022 Employee Plan	6,243,670	—	—
December 22, 2022	2022 Employee Plan	287,675	—	—
July 26, 2023	2023 Employee Plan	5,154,115	—	—
December 11, 2023	2023 Employee Plan	295,020	—	—

A summary of the unvested share activity for the year December 31, 2023 is presented below:

Allocation under	Unvested as of December 31, 2022	Granted	Forfeited / waived	Vested	Unvested as of December 31, 2023
2020 CEO Special Bonus	5,334	—	—	(5,334)	—
2020 Employee Plan	2,780,796	—	(11,851)	(2,768,945)	—
2021 Employee Plan	3,699,514	—	(32,571)	(1,716,700)	1,950,243
2022 Employee Plan	6,496,525	—	(80,065)	(2,065,721)	4,350,739
2023 Employee Plan	—	5,449,135	(28,730)	—	5,420,405
Total	**12,982,169**	**5,449,135**	**(153,217)**	**(6,556,700)**	**11,721,387**

The grant date fair value of unvested shares granted to the CEO under the 2020 CEO Special Bonus Plan was $26.64, which was based on 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 has fully vested, as far as the service condition was met.

The grant date weighted average fair value of unvested shares granted to employees under the 2021 Employee Plan was $39.20. On March 23, 2022, 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 2021 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 weighted average fair value of unvested shares granted to employees under the 2022 Employee Plan was $35.92. On March 22, 2023, 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 2022 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 2023 Employee Plan was $50.96. On March 20, 2024, the Compensation Committee approved the statement that with respect to the shares subject to performance conditions, three out of three performance conditions were met. Consequently, the compensation expense recorded on the 2023 Employee Plan reflects the statement that — for the portion of the shares subject to performance conditions — three thirds of the awards granted will fully vest, as far as the service condition is met.

The following table illustrates the classification of pre-payroll tax and social contribution stock-based compensation expense included in the consolidated income statement for the year ended December 31, 2023 and 2022:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Cost of sales	40	34
Research and development expenses	71	69
Selling, general and administrative expenses	125	112
Total pre-payroll tax and social contribution compensation	**236**	**215**

The grant date fair value of the shares vested in 2023 totaled $226 million compared to $189 million in 2022.

Stock-based compensation, excluding payroll tax and social contribution, capitalized as part of inventory was $13 million as of December 31, 2023, compared to $11 million as of December 31, 2022. As of December 31, 2023, there was $265 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 10 months.

The total deferred income tax benefit recognized in the consolidated income statement related to unvested share-based compensation expense amounted to $22 million for the year ended December 31, 2023, compared to $15 million for the year ended December 31, 2022.

7.6.20.6. Other reserves

Other reserves include the following components as of December 31, 2023:

In millions of U.S. dollars	Share-based compensation reserve	Fair value reserve of financial assets at FVOCI	Cash Flow Hedge (CFH) reserve	Foreign currency translation reserve	Employee benefit plan reserve	Total other reserves
As of December 31, 2021	**1,380**	**(4)**	**(22)**	**578**	**(194)**	**1,738**
Employee share award scheme	209		—	—	—	209
Net movement recognized in the statement of comprehensive income	—	(14)	35	(146)	78	(47)
Transfer of cash flow hedge reserve to inventories	—	—	1	—	—	1
As of December 31, 2022	**1,589**	**(18)**	**14**	**432**	**(116)**	**1,901**
Employee share award scheme	243	—	—	—	—	243
Net movement recognized in the statement of comprehensive income	—	5	21	132	(19)	139
Transfer of cash flow hedge reserve to inventories	—	—	(2)	—	—	(2)
As of December 31, 2023	**1,832**	**(13)**	**33**	**564**	**(135)**	**2,281**

Share-based compensation reserve: The share-based compensation reserve is used to recognize the value of equity-settled share-based payment to employees, including key management personnel, as part of their remuneration. Refer to Notes 7.6.20.4 and 7.6.20.5 for further details on these share-based compensation programs.

Fair value reserve of financial assets at FVOCI: This reserve records fair value changes on debt and equity securities measured at FVOCI.

Cash Flow hedge reserve: The cash flow hedge reserve contains the effective portion of the cash flow hedge relationship outstanding as of year-end.

Foreign currency translation reserve: The foreign currency translation reserve is used to record exchange differences arising from the translation of the financial statements for subsidiaries which functional currency is different from the U.S. dollar.

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

7.6.20.7. Dividends

The Company is governed under the laws of the Netherlands. The Articles of Association provide that the net result for the year, after deduction of (i) any amount to set up and maintain reserves required by Dutch Law and the Articles of Association, (ii) if any of our preference shares are issued and outstanding, the dividend to be paid to the holders of preference shares and (iii) the aforementioned allocation to the reserve fund, is subject to the disposition by the General Meeting of Shareholders ("AGM").

The AGM held on May 25, 2023, 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 2023 and first quarter of 2024. An amount of $55 million corresponding to the first installment, $54 million corresponding to the second installment and $54 million corresponding to the third installment were paid as of December 31, 2023. The amount of $54 million corresponding to the last installment was presented in the line "Other payables and accrued liabilities" of the consolidated statement of financial position as of December 31, 2023.

The 2022 AGM held on May 25, 2022 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 2022 and first quarter of 2023. The amounts of $55 million corresponding to the first installment, $54 million corresponding to the second installment and $48 million corresponding to the third installment were paid in 2022. An amount of $6 million corresponding to the remaining portion of the third installment and $54 million corresponding to the fourth installment were paid in 2023.

The 2021 AGM 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. An amount 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 in 2021. An amount of $55 million corresponding to the fourth installment was paid in 2022.

7.6.20.8. Legal reserves

Refer to Note 8.3.12 for the composition of the Company's legal reserves.

7.6.21. Other non-current liabilities

Other non-current liabilities consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Liabilities related to public funding	196	51
Advances received on capital grants	152	—
Advances from customers	25	73
Others	61	73
Total	**434**	**197**

Advances received on capital grants relate to the joint venture the Group and Sanan Optoelectronics created in 2023 for high-volume 200mm SiC device manufacturing activities in China and that the Group fully consolidates. The newly incorporated entity is a party to a regional public funding program, primarily consisting in capital grants received on eligible capital expenditures (infrastructures and equipment). As of December 31, 2023, the Group received $152 million of advances on these capital grants while the capital expenditures had not been incurred yet. Consequently, these advances were reported as non-current liabilities in the consolidated statement of financial position as of December 31, 2023.

Advances from customers are primarily related to multi-annual capacity reservation and volume commitment agreements signed in 2023 with certain customers, as described in Note 7.6.23.

7.6.22. Employee benefits

Employee benefits liabilities are detailed as follows:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Retirement benefit obligation liability	357	319
Other long-term employee benefits	102	90
Other employee benefits liabilities	45	38
Salaries and wages	699	609
Social charges on salaries and wages	231	205
Total employee benefits liabilities	**1,434**	**1,261**
Current liabilities	968	844
Non-current liabilities	466	417

Pensions

The Group has a number of defined benefit pension plans covering employees in various countries. The defined benefit plans provide pension benefits based on years of service and employee compensation levels. The Group uses December 31 as measurement date for all its plans. Eligibility is generally determined in accordance with local statutory requirements. In 2023 and 2022, the major defined benefit pension plans and long-term employee benefit plans were in the USA (retirement plan closed to new entrants and future accrual), France (retirement indemnities), Switzerland (retirement pension system), U.K. (retirement benefit scheme closed to new entrants and future accrual) and Italy (termination indemnity plan ("TFR") generated before July 1, 2007).

The amounts recognized in the statement of financial position are determined as follows:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Benefit obligations wholly or partially funded	(717)	(625)
Fair value of plan assets	654	567
Benefit obligations wholly unfunded	(274)	(243)
Asset ceiling	(20)	(18)
Total pension liabilities	**(357)**	**(319)**

The movements in the pension liability are as follows:

In millions of U.S. dollars	2023	2022
Beginning of the year	**319**	**448**
Exchange difference	13	(25)
Pension expense	39	39
Contributions paid	(40)	(38)
Remeasurement (gain) / loss recognized in OCI	26	(105)
End of the year	**357**	**319**

Changes in defined benefit obligations are as follows:

In millions of U.S. dollars	2023	2022
Beginning of the year	**868**	**1,161**
Service cost	28	33
Interest cost	36	21
Employee contributions	5	4
Plan amendment	(1)	—
Actuarial (gain) loss – Experience	5	30
Actuarial (gain) loss – Demographic assumptions	(1)	(13)
Actuarial (gain) loss – Financial assumptions	35	(285)
Benefits paid	(19)	(36)
Effect of foreign exchange translation	35	(47)
End of the year	**991**	**868**

Defined benefit obligations by main geographical locations are as follows:

In millions of U.S. dollars	2023	2022
France	186	162
Italy	85	84
Switzerland	205	147
United Kingdom	123	119
United States	316	288
Other countries	76	68
End of the year	**991**	**868**

Changes in plan assets are as follows:

In millions of U.S. dollars	2023	2022
Beginning of the year	**567**	**743**
Interest income	25	16
Employer contribution	26	25
Employee contribution	5	4
Benefits paid	(4)	(23)
Actuarial gain (loss)	13	(173)
Effect of foreign exchange translation	22	(25)
End of the year	**654**	**567**

The actual return on plan assets in 2023 was a gain of $38 million (2022: loss of $157 million). In 2023, the theoretical interest income on plan assets was a gain of $25 million (2022: gain of $16 million) resulting in an actuarial gain on plan assets of $13 million (2022: loss of $173 million).

Plan assets by main geographical locations are as follows:

In millions of U.S. dollars	2023	2022
France	3	3
Switzerland	181	133
United Kingdom	139	128
United States	278	259
Other countries	53	44
End of the year	**654**	**567**

The effects of the asset ceiling are as follows:

In millions of U.S. dollars	2023	2022
Beginning of the year	**(18)**	**(30)**
Effect of asset ceiling recognized during the year	(1)	9
Effect of foreign exchange translation	(1)	3
End of the year	**(20)**	**(18)**

The amounts recognized in the income statement related to pensions are as follows:

In millions of U.S. dollars	2023	2022
Current service cost	**28**	**33**
Scheme expenses	**1**	**1**
Plan amendments cost / (credit)	**(1)**	**—**
Net interest cost	**11**	**5**
Interest cost	36	21
Interest income	(25)	(16)
Total pension costs	**39**	**39**

The Group's detailed pension plan asset allocation including the fair value measurements of those plan assets as of December 31, 2023 is as follows:

In millions of U.S. dollars	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	7	7	—	—
Equity securities	87	1	86	—
Government debt securities	69	—	69	—
Corporate debt securities	123	—	101	22
Investment funds	100	14	86	—
Real estate	9	—	9	—
Other (mainly insurance assets)	259	—	48	211
Total	**654**	**22**	**399**	**233**

The Group's detailed pension plan asset allocation including the fair value measurements of those plan assets as of December 31, 2022 is as follows:

In millions of U.S. dollars	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	95	1	94	—
Government debt securities	59	—	59	—
Corporate debt securities	120	—	98	22
Investment funds	87	1	86	—
Real estate	6	—	6	—
Other (mainly insurance assets)	194	—	38	156
Total	**565**	**6**	**381**	**178**

The majority of plans (in the United Kingdom, United States and Switzerland) are governed by an independent board of trustees, which includes employer representatives.

The majority of insurance contract plan assets relate to pension plans for the Group's employees in Switzerland. Those plans are provided by collective pension foundations and contributions are invested in fully insured assets that provide a guaranteed contractual return. As such, the fair value of such assets equals to the employees' accrued savings and calculated using total employer and employee contributions plus any accumulated interest credited, which is substantially equivalent to the related cash surrender value. The approach is consistent with prior years.

The Group’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 Group’s practice is to periodically conduct a review in each subsidiary 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 Group’s asset portfolios are managed in such a way as to achieve adapted diversity. The Group does not manage any assets internally.

After considering the funded status of the Group’s defined benefit plans, movements in the discount rate, investment performance and related tax consequences, the Group may choose to make contributions to its pension plans in any given year in excess of required amounts. In 2023, the Group’s contributions to plan assets were $26 million (2022: $25 million) and it expects to contribute cash of $27 million in 2024.

The expected benefit payments, which reflect expected future service, as appropriate, but exclude plan expenses of the defined benefit obligations at December 31, 2023, are as follows:

In millions of U.S. dollars	December 31, 2023
2024	59
2025	63
2026	86
2027	54
2028	60
Thereafter	375

Other long-term employee benefits

Other long-term employee benefits include seniority and loyalty award programs. The movements in the other long-term employee benefits liability are as follows:

In millions of U.S. dollars	2023	2022
Beginning of the year	**90**	**99**
Service cost	18	17
Interest cost	3	1
Actuarial (gain) loss – Experience	1	2
Actuarial (gain) loss – Demographic assumptions	(6)	3
Actuarial (gain) loss – Financial assumptions	2	(20)
Benefits paid	(9)	(6)
Effect of foreign exchange translation	3	(6)
End of the year	**102**	**90**

The amounts recognized in the income statement related to other long-term benefits are as follows:

In millions of U.S. dollars	2023	2022
Current service cost	**18**	**17**
Net interest cost	**—**	**(14)**
Interest cost	3	1
Immediate recognition of (gains) losses	(3)	(15)
Total other long-term benefits costs	**18**	**3**

Assumptions

The weighted average assumptions used in the determination of pension and other long-term obligations are as follows:

	2023	2022
Discount rate	3.73 %	4.19 %
Inflation rate	1.74 %	1.92 %
Future salary increase	2.03 %	2.36 %

The discount rate was determined by reference to high quality corporate bond rates applicable to the respective country of each plan and estimated terms of the defined benefit obligation. As required by IAS 19, and for pension plans with plan assets, the interest income on plan assets is set equal to the corresponding discount rate.

The average duration of Defined Benefit Obligations is 9 years in 2023 (2022: 12 years).

As of December 31, 2023, an increase of the discount rate of 0.50% would have resulted in a reduction of the Defined Benefit Obligations of $55 million and a decrease of the discount rate of 0.50% would have resulted in an increase of the Defined Benefit Obligations by $60 million. An increase of the inflation rate of 0.50% would have resulted in an increase of the Defined Benefit Obligations of $8 million and a decrease of the inflation rate of 0.50% would have resulted in a decrease of the Defined Benefit Obligations of $7 million. An increase of the life expectancy of one year would have resulted in an increase of the Defined Benefit Obligations of $6 million and a decrease of the life expectancy of one year would have resulted in a decrease of the Defined Benefit Obligations of $6 million. These sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions, the same method has been applied as when calculating the pension liability recognized within the consolidated statement of financial position.

Assumptions regarding future mortality experience are set based on advice from published statistics and experience in each territory.

Defined contribution plans

The Group has certain defined contribution plans, which accrue benefits for employees on a pro-rata basis during their employment period based on their individual salaries. In 2023, the annual cost of these plans amounted to approximately $114 million (2022: $100 million).

7.6.23. Trade accounts payable, other payables and accrued liabilities

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Trade accounts payable	**1,856**	**2,122**
Dividends due to shareholders	54	60
Taxes other than income taxes	81	68
Advances from customers	186	225
Liabilities related to public funding	96	37
Royalties	30	32
Other accrued liabilities	105	89
Total other payables and accrued liabilities	**552**	**511**

Current liabilities related to public funding included $44 million grants subject to a financial return, which depended on future cumulative sales of a certain product group over a five-year period.

Advances from customers are primarily related to multi-annual capacity reservation and volume commitment agreements signed in 2023 and 2022 with certain customers. Some of these arrangements include take-or-pay clauses, according to which the Group is entitled to receive the full amount of the contractual committed fees in case of non-compliant orders from those customers. Certain agreements include penalties in case the Group is not able to fulfill its contractual obligations. No significant provision for those penalties was reported on the consolidated statement of financial position as of December 31, 2023 and December 31, 2022.

7.6.24. Significant categories of income

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Sales of goods	17,239	16,083
License revenue and patent royalty income	47	45
Research tax credits recognized as a reduction of Research & Development expenses	101	80
Public funding recognized in Other income	201	177
Finance income	242	354
Total	**17,830**	**16,739**

7.6.25. Revenues

7.6.25.1. Nature of goods and services

The Group 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 Group participates in the manufacturing value chain of smartcard products, which includes the production and sale of both silicon chips and smartcards.

The principal activities — separated by reportable segments — from which the Group generates its revenues are described in Note 7.6.26.

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

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

7.6.25.2. Revenue recognition and disaggregation

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

In 2023 and 2022, the Group signed several multi-annual capacity reservation and volume commitment arrangements with certain customers. These agreements constitute a binding commitment for the customers to purchase and for the Company to supply allocated commitment volumes in exchange for additional consideration. The consideration related to commitment fees is reported as revenues from sale of products as it is usually based on delivered quantities. Advances from customers received as part of those agreements are described in Note 7.6.21 and 7.6.23.

The payment terms typically range between 30 to 90 days.

The Group’s consolidated total revenues disaggregated by operating segment are presented in Note 7.6.26. The following table presents the Group’s consolidated total revenues disaggregated by geographical region of shipment, nature and market channel.

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Total revenues by geographical region of shipment (1)		
EMEA	4,836	3,619
Americas	2,724	2,310
Asia Pacific	9,726	10,199
Total revenues	**17,286**	**16,128**
Total revenues by nature		
Revenues from sale of products	17,094	15,953
Revenues from sale of services	145	130
Other revenues	47	45
Total revenues	**17,286**	**16,128**
Total revenues by market channel (2)		
Original Equipment Manufacturers (“OEM”)	11,468	10,764
Distribution	5,818	5,364
Total revenues	**17,286**	**16,128**

(1) Total 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. Furthermore, the Group, among the different periods, may be affected by shifts in shipments from one location to another, as requested by customers.

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

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

In 2023, the Group’s largest customer, Apple Inc., represented 12.3% (2022: 16.8%) of consolidated net revenues, reported in ADG, AMS and MDG segments.

7.6.26. Segment information

The Group 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 Group participates in the manufacturing value chain of smartcard products, which includes the production and sale of both silicon chips and smartcards.

As of December 31, 2023 the Group's operating segments were 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, MEMS sensors and actuators, and optical sensing solutions.
- *Microcontrollers and Digital ICs Group (MDG)*, comprised of general-purpose microcontrollers and microprocessors, connected security products (e.g. embedded secured elements and NFC readers), memories (e.g. serial and page EEPROM) and RF and Communications products.

Total revenues of "Others" include revenues from sales assembly services and other revenues. For the computation of the segments' internal financial measurements, the Group uses certain internal rules of allocation for the costs not directly chargeable to the segments, including cost of sales, SG&A expenses and a part of R&D expenses. In compliance with the Group'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 and incidents leading to power outage, impairment, restructuring charges and other related closure costs, management reorganization expenses, start-up and phase-out costs, and other unallocated income (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.

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 segment information presented below under IFRS reflects the way the Chief Operating Decision Maker ("CODM") monitors the performance of each segment and how resources are allocated to segments, which is based on the Group's primary financial reporting framework (U.S. GAAP).

The following tables present the Group's consolidated total revenues and consolidated operating income by reportable segment.

Total revenues by operating segment:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
ADG	7,848	5,969
AMS	3,991	4,911
MDG	5,431	5,228
Total revenues of operating segments	**17,270**	**16,108**
Others	16	20
Total revenues	**17,286**	**16,128**

Operating profit by operating segment:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
ADG	2,491	1,464
AMS	685	1,234
MDG	1,833	1,828
Sub-total operating profit of operating segments	**5,009**	**4,526**
Impairment charges	(58)	(11)
Unused capacity charges	(120)	(22)
Unallocated manufacturing results	(72)	(46)
Start-up and phase-out cost	(134)	(13)
Strategic and other research and development programs and other non-allocated provisions (2)	(34)	(7)
IFRS/U.S. GAAP Adjustments (1):		
Net impact of capitalized development costs	38	92
Derivative instruments not designated as hedge instruments under IFRS	8	25
IFRIC 21 adjustment on levies	1	1
Employee benefits adjustments	3	24
Asset acquisition tax incentives	(36)	(40)
IFRS 16 adjustment on lease expenses	5	5
Operating profit	**4,610**	**4,534**

(1) The operating profit allocated by operating segments as reported in the above table is based on the Group's primary financial reporting framework (U.S. GAAP) and reflects the way the CODM monitors the operating performance of each segment.

(2) 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 2023 and 2022. Total revenues represent sales to third parties from the country in which each subsidiary is domiciled. The Company is incorporated under Dutch law with head offices located in the Netherlands while the Company's operational office and headquarters are located in Switzerland. 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 Group operates. As such, the Group mainly allocates capital spending resources according to geographic areas rather than along product segment areas.

Total revenues by geographical area:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Switzerland	5,755	4,569
France	158	153
Italy	54	47
USA	2,279	1,981
Singapore	8,138	8,604
Japan	890	758
Other countries	12	16
Total	**17,286**	**16,128**

Non-current assets other than other non-current financial assets and deferred tax assets:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Netherlands	4,011	2,769
Switzerland	1,596	1,616
France	2,274	2,246
Italy	2,434	1,909
USA	68	61
Singapore	1,473	896
Other countries	1,248	1,132
Total	**13,104**	**10,629**

7.6.27. Expenses by nature

Expenses recorded as cost of sales, R&D and SG&A are detailed as follows:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Depreciation and amortization	1,864	1,509
Employee benefit expenses	4,045	3,679
Purchase of materials	3,175	3,308
Power and Gas	626	380
Freight	157	203
Purchase of subcontracting services	2,248	2,559
Changes in inventories	(72)	(650)
Transportation	102	67
Impairment charges	189	126
Royalties and patents	119	120
Advertising costs	23	18
Other expenses	267	391
Total cost of sales, selling, general and administrative, and research and development expenses	**12,743**	**11,710**

Employee benefit expenses are detailed as follows:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Wages and salaries	3,044	2,800
Payroll taxes and other social contribution charges	594	522
Share-based compensation expense	236	215
Pensions and other long-term benefits expense	171	142
Total employee benefit expenses	**4,045**	**3,679**
Of which included in:		
Cost of sales	1,722	1,621
Selling, general and administrative expenses	1,126	990
Research and development expenses	1,197	1,068

7.6.28. Other income

Other expenses

Other income consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
R&D funding	201	177
Foreign exchange forward contracts and other currency derivatives	14	24
Net foreign exchange gain	3	—
Gain on sale of non-current assets	6	2
Total other income	**224**	**203**

Other expenses consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Start-up and phase-out costs	134	13
Foreign exchange forward contracts and other currency derivatives	—	44
Net foreign exchange loss	—	9
Patent costs	12	8
Sanitation and other costs incurred to prevent the spread of COVID-19	—	10
Other expenses	11	3
Total other expenses	**157**	**87**

The Group receives public funding from governmental bodies 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 body has been signed and all applicable conditions have been met.

Foreign exchange gains (losses), net of foreign exchange forward contracts and other currency derivatives, represent the portion of exchange rate changes on transactions denominated in currencies other than a subsidiary's functional currency and the changes in fair value of derivative instruments which are not designated as hedge, as described in Note 7.6.14.4.

Start-up costs represent costs incurred in the ramp-up phase of the Group's newly integrated manufacturing facilities, primarily for the new 300mm fab in Agrate, Italy. Phase-out costs are costs incurred during the closing stage of a Group's manufacturing facility.

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 were mainly composed of incremental expenses primarily related to sanitary measures undertaken to protect employees. Starting January 1, 2023, the Group no longer reports COVID-19 related expenses as a component of the line "Other Expenses" in the consolidated income statement.

7.6.29. Finance income

Finance costs

Total finance income consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Change in fair value of the call option of Tranche A convertible bonds issued on August 4, 2020	1	2
Change in fair value of the call option of Tranche B convertible bonds issued on August 4, 2020	14	5
Change in fair value of the conversion option of Tranche A convertible bonds issued on August 4, 2020	—	145
Change in fair value of the conversion option of Tranche B convertible bonds issued on August 4, 2020	—	131
Accretion on quoted debt securities	47	8
Nominal interest income on quoted debt securities	15	1
Other finance income	165	62
Total finance income	**242**	**354**

Total finance costs consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Interest on Senior Bonds	24	24
Amortization of issuance costs on Senior Bonds	1	1
Change in fair value of the conversion option of Tranche A convertible bonds issued on August 4, 2020	119	—
Change in fair value of the conversion option of Tranche B convertible bonds issued on August 4, 2020	130	—
Interests on lease liabilities	11	5
Interests on long-term loans and borrowings	47	8
Bank charges and commissions	4	4
Other finance expense	1	—
Total finance costs	**337**	**42**

No borrowing costs were capitalized in 2023 and 2022.

As described in Note 7.6.14.3, the change in fair value of the non-equity derivative instruments corresponding to the bondholders’ conversion option and the issuer’s call option embedded in the unsecured senior convertible bonds issued on August 4, 2020, generated a loss of $249 million and an income of $15 million respectively, for the year ended December 31, 2023 compared to an income of $276 million and $7 million respectively, for the year ended December 31, 2022.

Other finance income is related to cash and cash equivalents and short-term deposits.

Leases are further described in Note 7.6.11.

7.6.30. Components of other comprehensive income

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Cash flow hedges:		
Gains / (losses) arising during the year	26	(83)
Reclassification adjustments for (gains) / losses included in the income statement	(2)	123
Total	**24**	**40**

7.6.31. Income tax

The major components of income tax benefit (expense) for the years ended December 31, 2023 and 2022 are:

Consolidated income statement

In millions of U.S. dollars	December 31, 2023	December 31, 2022
The Netherlands taxes – current	—	—
Foreign taxes – current	(528)	(510)
Current taxes	**(528)**	**(510)**
The Netherlands taxes – deferred	—	—
Foreign deferred taxes	9	(7)
Deferred taxes	**9**	**(7)**
Income tax expense	**(519)**	**(517)**

Consolidated statement of other comprehensive income (deferred tax related to items charged or credited directly to equity during the year).

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Cash Flow Hedge	(3)	(5)
Re-measurements of employee benefit obligations	6	(23)
Debt instruments at FVOCI	**(1)**	**2**
Income tax credited (charged) directly to equity	**2**	**(26)**

A reconciliation between income tax benefit and the product of income before tax multiplied by The Netherlands' statutory tax rate for the years ended December 31, 2023 and 2022 is as follows:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Gain (loss) before income tax	**4,515**	**4,846**
Income tax benefit (expense) at The Netherlands' statutory tax rate of 25.8% (2022: 25.8%)	**(1,165)**	**(1,251)**
Permanent differences and other non-deductible, non-taxable items	(5)	118
Change in valuation allowances	(3)	140
Effect of changes in tax laws and similar	152	6
Current year tax credits	29	30
Other tax and credits	34	(51)
Benefits from tax holidays	45	60
Current year tax risk	(8)	(12)
Earnings (losses) of subsidiaries taxed at different rates	402	443
Income tax expense	**(519)**	**(517)**

The effect of the change in fair value measurement related to the convertible debt is reported in the line “Permanent differences and other non-deductible, non-taxable items” in the above table.

During the year ended December 31, 2023, the Group did not recognize deferred tax assets on net operating losses for an approximate amount of $9 million (2022: $4 million). In 2022, the variation on the valuation allowance was related to the assessment of the recoverability of the deferred tax assets following the improved stability of profits of the Company in various jurisdictions.

The variation in the line "Effect of changes in tax laws and similar" in 2023 mainly relates to the recognition of a net deferred tax asset of $52 million related to a tax credit granted for technological activities, as well as the impact of the conclusion in 2023 of tax authority discussions resulting in the recognition of a net deferred tax asset of $81 million for intangibles recognized for tax purposes. These will be amortized over time and result in a future cash tax benefit.

The tax holidays represent a tax exemption period aimed at attracting foreign technological investment in certain tax jurisdictions. These agreements are present in various countries and include programs that reduce up to 100% of taxes in years affected by the agreements. The Group’s tax holidays expire at various dates through the year ending December 31, 2029.

For a particular tax-paying component of the Group and within a particular tax jurisdiction, all deferred tax assets and liabilities are offset and presented as a single amount. The Group does not offset deferred tax assets and liabilities attributable to different tax-paying components or to different tax jurisdictions.

In millions of U.S. dollars	December 31, 2022	Exchange differences	Income tax charged directly to equity	Income statement benefit (expense)	December 31, 2023
Deferred tax assets					
Tax loss carryforwards, tax credits and other tax attributes	297	6	—	6	309
Fixed asset depreciation	68	5	—	(12)	61
Receivables for government funding	121	5	—	29	155
Pension	62	1	6	(1)	68
Operating lease liabilities	51	1	—	14	66
Other	114	—	(3)	43	154
Total deferred tax assets	**713**	**18**	**3**	**79**	**813**
Deferred tax liabilities					
Accelerated tax depreciation	(37)	—	—	(3)	(40)
Acquired intangible assets	(23)	—	—	(1)	(24)
Advances of government funding	(177)	(6)	—	(2)	(185)
Capitalized development cost	(68)	—	—	(55)	(123)
Operating lease right-of-use assets	(50)	(1)	—	(14)	(65)
Other	(26)	—	(1)	5	(22)
Total deferred tax liabilities	**(381)**	**(7)**	**(1)**	**(70)**	**(459)**
Net deferred tax	**332**	**11**	**2**	**9**	**354**

Following the Amendments to IAS 12, Income Taxes: Deferred Tax Related to Assets and Liabilities Arising from a Single Transaction, the deferred tax asset and liability for all temporary differences arising from lease right-of-use assets and the corresponding lease financial liabilities are disclosed in the above table.

The movement in the line "Tax losses carried forward, tax credits and other tax attributes" includes the recognition of deferred tax assets for a tax credit related to technological activities for a net amount of $52 million and the impact of the conclusion of discussions with the tax authorities for intangibles recognized for tax purposes for a net amount of $81 million, and a decrease by $126 million related to the utilization of the tax losses in several jurisdictions.
The balance represents management's assessment of the likelihood of future realization of the net DTA recognized in the period against future taxable profit.

The line other deferred tax assets is primarily composed of deferred tax assets related to Inventory, Stock Awards and Commercial Accruals.

In millions of U.S. dollars	December 31, 2021	Exchange differences	Income tax charged directly to equity	Income statement benefit (expense)	December 31, 2022
Deferred tax assets					
Tax losses	324	(19)	—	(8)	297
Fixed asset depreciation	60	(6)	—	14	68
Receivables for government funding	64	(7)	—	64	121
Pension service cost	26	(3)	(23)	62	62
Other	98	—	(5)	22	115
Total deferred tax assets	**572**	**(35)**	**(28)**	**154**	**663**
Deferred tax liabilities					
Accelerated tax depreciation	(32)	—	—	(5)	(37)
Acquired intangible assets	(22)	1	—	(2)	(23)
Advances of government funding	(115)	11	—	(73)	(177)
Capitalized development cost	(1)	—	—	(67)	(68)
Other	(12)	—	—	(14)	(26)
Total deferred tax liabilities	**(182)**	**12**	**—**	**(161)**	**(331)**
Net deferred tax	**390**	**(23)**	**(28)**	**(7)**	**332**

The line other deferred tax assets is primarily composed of deferred tax assets related to Inventory, Stock Awards and Commercial Accruals.

As of December 31, 2023, the Group has deferred tax assets on tax loss carry forwards, investment tax credits and other tax attributes that expire starting 2024 out of which a deferred tax assets of $330 million are recognized, the expiry of the deferred tax assets as follows:

Year	In millions of U.S. dollars
2024	1
2025	—
2026	—
2027	1
2028	—
Thereafter	328
Total	**330**

The amount reported on the line “Thereafter” includes tax attributes that expire in 2029 for $81 million and tax credit which will expire in 2030 for $52 million. The majority of the remaining amount has no expiration date.

As of December 31, 2022, the Group has deferred tax assets on tax loss carry forwards and investment credits that expire starting 2023, as follows:

Year	In millions of U.S. dollars
2023	1
2024	—
2025	—
2026	—
2027	2
Thereafter	319
Total	**322**

The majority of the amount reported on the line “thereafter” has no expiration date.

As of December 31, 2023, deferred tax assets not recognized in the statement of financial position amounted to $782 million (2022: $415 million) and are mainly composed of the followings:

- $226 million (2022: $218 million) relating to an agreement granting the Group certain tax credits for capital investments purchased through the year ended December 31, 2006. Any unused tax credits granted under the agreement will be impacted yearly by a legal inflationary index of 3.64% (2022: 2.56%). The credits may be utilized depending on the Group meeting certain program criteria. The credit may be utilized depending on the Company meeting certain program criteria and have no expiration date. In addition to this agreement, from 2007 onwards, the Group has continued and will continue 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 use these credits currently and in future years, the Group did not recognize in 2023 and in 2022 these deferred tax assets in the statement of financial position.
- $210 million (2022: $197 million) of tax loss carry forwards generated in on-going operations or corresponding to net operating losses acquired in business combinations, whose recovery was not considered probable. The majority of these unrecognized tax loss carry forwards has no expiry date.
- $346 million (2022:$0 million) relating to the deferred tax assets not recognized on the tax credit granted to the Group for certain technological activities for an amount of $151 million expiring in 2029 and the impact of the conclusion of discussions with the tax authorities for intangibles recognized for tax purposes for $195 million expiring in 2030.

No deferred tax liability is recognized on temporary differences of $387 million relating to the unremitted earnings of subsidiaries as the Group is able to control the timings of the reversal of these temporary differences and it is probable that they will not reverse in the foreseeable future. As of December 31, 2023, a deferred tax liability of $22 million was recognized on the amount of earnings expected to be repatriated in the foreseeable future.

Pillar II income taxes

Pillar II legislation has been enacted in certain jurisdiction the Group operates (Netherlands, the majority of the European Countries and Switzerland). The legislation will be effective for the Group's financial year beginning January 1, 2024. The Group is in the scope and has performed a preliminary assessment of the potential exposure of the Pillar II incomes taxes.

The assessment of the potential exposure to Pillar II income taxes is based on the most recent tax filings, 2022 country-by-country reporting and financial statements for the constituent entities in the Group. Based on the assessment, the Pillar II effective tax rates in most of the jurisdictions are above 15%. However, there is a limited number of jurisdictions where the transitional safe harbour relief does not apply and the Pillar II effective tax rate is slightly below 15%. Therefore, the Group expects a limited tax exposure to Pillar II income taxes in those jurisdictions. Pillar II income taxes impact will depend on the level of 2024 operating results within those jurisdictions as well as potential enactment of the Pillar II legislation or change in tax laws in those jurisdictions.

7.6.32. Earnings per share

For the year ended December 31, 2023 and December 31, 2022, earnings per share ("EPS") were calculated as follows:

In millions of U.S. dollars except earnings per share data	December 31, 2023	December 31, 2022
Basic EPS		
Net profit attributable to the equity holder of the parent as reported	3,985	4,323
Weighted average shares outstanding	903,513,952	905,606,885
Basic EPS	**4.41**	4.77
Diluted EPS		
Net profit attributable to the equity holder of the parent as reported	3,985	4,323
Weighted average shares outstanding	903,513,952	905,606,885
Dilutive effect of stock awards	5,970,543	6,663,573
Number of shares used for diluted EPS	909,484,495	912,270,458
Diluted EPS	**4.38**	4.74

There was no dilutive effect of the senior unsecured convertible bonds issued on August 4, 2020 in the 2023 and 2022 diluted Earnings per Share since the conversion features were out-of-the-money.

7.6.33. Related party transactions

The below table summarizes transactions incurred in 2023 and 2022 with companies for which certain members of the Group's management perform similar policymaking functions. These include, but are not limited to: Orange, Idemia France and Politecnico di Milano. Each of the aforementioned arrangements and transactions is negotiated without the personal involvement of the Supervisory Board members and are made in line with market practices and conditions. The amounts reported on the below table correspond to transactions up to the date members of the Company's management hold these similar functions..

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Sales of goods and services to entities controlled by key management personnel	5	13
Purchases of goods and services and other contributions made to entities controlled by key management personnel	27	25
Accounts receivable from entities controlled by key management personnel	—	5
Accounts payable from entities controlled by key management personnel	6	2

The Group did not hold any significant equity-method investments as of December 31, 2023 and 2022. Consequently, the Group did not report any material transaction with this type of investees in the corresponding years.

The Group made a cash contribution of $1 million for the year ended December 31, 2023 to the ST Foundation, a non-profit organization established to deliver and coordinate independent programs in line with its mission. A cash contribution of $1 million was made for the year ended December 31, 2022. Certain members of the Foundation's Board are senior members of the Group's management.

In 2023 and 2022, the total remuneration paid to the sole member of the Managing Board and to the other executive officers was as follows:

	Short-term benefits				Post-employment benefits		Share-based payments	
For the year ended December 31, 2023, in U.S. dollars	Base Salary	Bonus	Benefits	Social security contributions (1)	Pensions (2)	Termination benefits	Unvested stock awards	Total
Sole member of the Managing Board	1,213,544	2,819,125	117,737	877,128	435,717	—	1,838,364	7,301,615
Executive Committee (excluding sole member of the Managing Board)	6,782,818	8,553,348	879,991	3,612,613	1,038,655	2,638,475	21,024,493	44,530,393
Executive Vice Presidents	**11,228,661**	**8.282397**	**661,911**	**6,066,240**	**—**	**3,565,133**	**27,147,593**	**56,951,933**
Senior Management total remuneration	**19,225,024**	**19,654,870**	**1,659,639**	**10,555,981**	**1,474,372**	**6,203,607**	**50,010,449**	**108,783,942**

	Short-term benefits				Post-employment benefits		Share-based payments	
For the year ended December 31, 2022, in U.S. dollars	Base Salary	Bonus	Benefits	Social security contributions (1)	Pensions (2)	Termination benefits	Unvested stock awards	Total
Sole member of the Managing Board	1,250,954	2,506,576	108,023	857,447	452,230	—	2,043,212	7,218,442
Executive Committee (excluding sole member of the Managing Board)	7,001,152	6,647,780	958,896	2,723,709	1,046,598	283,494	15,336,113	33,997,742
Executive Vice Presidents	**12,596,266**	**8,403,357**	**639,879**	**6,887,522**	**—**	**2,001,414**	**23,620,775**	**54,149,213**
Senior Management total remuneration	**20,848,372**	**17,557,713**	**1,706,798**	**10,468,678**	**1,498,828**	**2,284,907**	**41,000,100**	**95,365,396**

(1) Include compulsory contribution to pension plans

(2) Complementary pension plan for Senior Management

The Group’s 34 Senior Management members were granted in 2023 for free 1,271,240 unvested shares subject to the achievement of performance objectives and service conditions being met. The weighted average grant date fair value of unvested shares granted to employees under the 2023 Employee Plan was $50.96.

The Group’s 33 Senior Management members were granted in 2022 for free 1,405,000 unvested shares subject to the achievement of performance objectives and service conditions being met. The weighted average grant date fair value of unvested shares granted to employees under the 2022 Employee Plan was $35.92.

The bonus paid to the executive officers corresponds to a Corporate Executive Incentive Program (the “EIP”) that entitles selected executives to a yearly bonus 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 bonus awarded under the EIP is based upon a percentage of the executives’ salary and the overall achievement of the above objectives on an annual basis.

The 2023 EIP includes a sustainability index for Senior Management, as part of the Group’s effort to include corporate social responsibility into the performance framework of Senior Management. The sustainability index has a weighting in the range of 5%-10%, and is divided into four criteria related to health and safety, environment, diversity & inclusion, and people engagement.

The Senior Management members were covered in 2023 and 2022 under certain Group life and medical insurance programs, pension, state-run retirement and other similar benefit programs and other miscellaneous allowances.

At the end of the year 2005, the Compensation Committee recommended and the Supervisory Board decided to grant an additional pension benefit plan to the Group’s sole member of the Managing Board and a limited number of senior executives that have made key contributions to the Group’s success. Pursuant to this plan, in 2023 the Group made a contribution of $0.5 million to the plan of the sole member of the Managing Board, and $1.05 million to the plan for all other beneficiaries. The amount of pension plan payments made for other beneficiaries, such as former employees retired in 2023 and/or no longer salaried in 2023 were $1.1 million.

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

The members of Senior Management, including the sole member of the Managing Board, President and Chief Executive Officer, were covered in 2023 under certain group life and medical insurance programs provided by the Group. The aggregate additional amount set aside in 2023 to provide pension, retirement or similar benefits for Senior Management, including the sole member of the Managing Board, President and Chief Executive Officer, as a group is in addition to the amounts allocated to the complementary pension plan described above and is estimated to have been approximately $8.3 million, which includes statutory employer contributions for state run retirement, similar benefit programs and other miscellaneous allowances.

Individual remuneration paid to Supervisory Board Members in 2023 and 2022 was recorded as follows:

In Euros	2023 (1)	2022 (1)
Nicolas Dufourcq (2)	—	—
Maurizio Tamagnini	177,500	170,000
Janet Davidson	117,500	114,000
Yann Delabrière	100,500	99,500
Ana de Pro Gonzalo	162,500	161,500
Heleen Kersten (3)	13,000	121,000
Alessandro Rivera (3)	10,000	87,000
Frédéric Sanchez	109,000	102,000
Donatella Sciuto (4)	105,000	97,000
Paolo Visca (3)	91,000	—
Hélène Vletter-van Dort (3)	110,500	—
Lucia Morselli (4)	—	9,000
	996,500	**961,000**

(1) These amounts include a fixed annual compensation for the directors' mandate, together with attendance fees from January 1 until December 31.
(2) Mr. Dufourcq waived his rights to receive any compensation from the Group in relation to his mandate as a member of the Supervisory Board or otherwise.
(3) Ms. Heleen Kersten and Mr. Alessandro Rivera were members of the Supervisory Board until May 24, 2023, on which date their term expired and on such date Mr. Paolo Visca and Mrs. Hélène Vletter-van Dort were appointed as new members of the Supervisory Board.
(4) Ms. Lucia Morselli was a member of our Supervisory Board until May 25, 2022, and was replaced by Ms. Donatella Sciuto as of May 25, 2022.

No share awards were granted to Supervisory Board Members and Professionals in 2023 and 2022.

7.6.34. Commitments, contingencies, claims and legal proceedings

Commitments

The Group's commitments relate to multi-annual agreements with suppliers when there is a fixed, non-cancelable commitment or when minimum payments are due on a committed delivery schedule. These commitments are primarily comprised of purchase commitments for outsourced foundry wafers ($1.1 billion) and firm contractual commitments related to power purchase and minimum energy efficiency, as part of the Group's actions to become carbon neutral by 2027 on scope 1 and 2 and partially scope 3 ($0.8 billion).

Contingencies

The Group is subject to possible loss contingencies arising in the ordinary course of business. These include but are not limited to: product liability claims and/or warranty cost on the products of the Group, contractual disputes, indemnification claims, claims for unauthorized use of third-party intellectual property, employee grievances, tax claims beyond assessed uncertain tax positions as well as claims for environmental damages. In determining loss contingencies, the Group considers the likelihood of impairing an asset or the incurrence of a liability at the date of the consolidated financial statements as well as the ability to reasonably estimate the amount of such loss. The Group records a provision for a loss contingency when information available before the consolidated financial statements are issued or are available to be issued indicates that it is probable that an asset has been impaired or a liability has been incurred at the date of the consolidated financial statements and when the amount of loss can be reasonably estimated. The Group regularly re-evaluates claims to determine whether provisions need to be readjusted based on the most current information available to the Group. Changes in these evaluations could result in an adverse material impact on the Group's results of operations, cash flows or its financial position for the period in which they occur.

Claims and legal proceedings

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

On December 4, 2023, a jury in the United States District Court for the Western District of Texas in Waco, Texas (USA) returned a verdict in a patent infringement lawsuit in favor of the plaintiff, Purdue University. The Court has not issued final judgment. If the Court issues a final judgment in the plaintiff's favor, the Group will file post-trial motions and, if they are denied, the Group will file an appeal to the United States Court of Appeals for the Federal Circuit in Washington DC. The risk on this case is considered as possible and, based on the jury verdict, the possible loss is estimated at $32 million.

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

Other Contingencies

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

As of December 31, 2023 and 2022, respectively, provisions for estimated probable losses with respect to claims and legal proceedings were not considered material.

7.6.35. Financial risk management objectives and policies

The Group is exposed to changes in financial market conditions in the normal course of business due to its operations in different foreign currencies and its on-going investing and financing activities. The Group'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 Group's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the Group's financial performance. The Group 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 Group'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 Group's operating units. It provides written principles for overall risk management, as well as written policies covering specific areas, such as foreign exchange risk, interest rate risk, price risk, credit risk, use of derivative financial instruments, and investments of excess liquidity. The majority of cash and cash equivalents is held in U.S. dollars and Euros and is placed with financial institutions rated at least a single “A” long-term rating from two of the major rating agencies, meaning at least A3 from Moody’s Investors Service (“Moody’s”) and A- from Standard & Poor’s (“S&P”) or Fitch (“Fitch”) Ratings, or better. These ratings are closely and continuously monitored in order to manage exposure to the counterparty’s risk. Hedging transactions are performed only to hedge exposures deriving from operating, investing and financing activities conducted in the normal course of business.

Market risk

Foreign exchange risk

The Group conducts its business on a global basis in various major international currencies. As a result, the Group is exposed to adverse movements in foreign currency exchange rates, primarily with respect to the Euro. Foreign exchange risk mainly arises from future commercial transactions and recognized assets and liabilities at the Company’s subsidiaries.

Management has set up a policy to require subsidiaries to hedge their entire foreign exchange risk exposure with the Group 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 Group to reduce its exposure to U.S. dollar fluctuations in Euro-denominated forecasted intercompany transactions that cover a large part of its R&D, selling general and administrative expenses as well as a portion of its front-end manufacturing production costs of semi-finished goods. The Group also hedges using currency forward contracts certain Singapore dollar-denominated manufacturing forecasted transactions. The derivative instruments used to hedge the forecasted transactions relating to front-end manufacturing production costs 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 Group’s policy to keep 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 Group, 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 income statement. Any discrepancy from the forecasted values and the actual results is constantly monitored and prompt actions are taken, if needed.

The hedging activity of the Group and the impact on the financial statements is described in detail in Note 7.6.14.4.

The following sensitivity analysis was based on recognized assets and liabilities, including non-monetary items, of the Company and its subsidiaries. Equity would have been approximately $88 million higher/lower (2022: $81 million higher/lower) if the Euro strengthened/weakened by 300 basis points against the U.S. dollar, arising mainly from translation of net assets from subsidiaries whose functional currency is the Euro.

As of December 31, 2023 if the Euro/U.S. dollar exchange rate had strengthened by 300 basis points with all other variables held constant, net result for the year would have been $59 million higher (2022: $73 million higher), mainly as a result of foreign exchange gains on outstanding derivative instruments. If the Euro/U.S. dollar exchange rate had weakened by 300 basis points with all other variables held constant, impact in net income would have been $56 million lower (2022: $72 million lower), mainly due to foreign exchange losses on outstanding derivative instruments.

Cash flow and fair value interest rate risk

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

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

As of December 31, 2023 and 2022, if interest rates had been 20 basis points higher/lower with all other variables held constant, net income for the year would have been $2 million higher/lower respectively, mainly as a result of a high level of liquid assets in relation to debt, with no material impact on equity.

During 2023 and 2022, the Group's borrowings at variable rate were denominated in Euros and in U.S. dollars.

Price risk

As part of its on-going investing activities, the Group may be exposed to quoted security price risk for investments measured at fair value, as described in Note 7.6.14.1. The Group did not hold as of December 31, 2023 and 2022 any significant investments in quoted equity securities.

The measurement for accounting purposes of the embedded derivative instruments of the senior unsecured convertible bonds issued on August 4, 2020 is dependent on various factors including the performance of STMicroelectronics ordinary shares. With respect to the valuation of the embedded issuer's call options as of December 31, 2023, if the price of the Company's ordinary shares, as measured on the New York Stock Exchange, with other valuation inputs remaining equal, increases by 10%, the value of the embedded call options would increase by $13 million (2022: increase of $6 million), whereas for a decrease of 10% in the share price, the value of the embedded call options would decrease by $10 million (2022: decrease of $6 million). With respect to the valuation of the embedded bondholders' conversion options as of December 31, 2023, if the price of the Company's ordinary shares, as measured on the New York stock exchange, with other valuation inputs remaining equal, increases by 10%, the value of the embedded conversion options would increase by $131 million (2022: increase of $71 million), whereas for a decrease of 10% in the share price, the value of the embedded conversion options would decrease by $121 million (2022: decrease of $65 million). Details of the sensitivity of the other valuation factors, more specifically implied volatility, are presented in Note 7.6.14.5.

Credit risk

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, measured at FVOCI and at FVPL, the counterparty of derivative financial instruments and deposits with banks and financial institutions, as well as credit exposure to customers, including outstanding receivables.

The Group 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 Group 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 Group 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. Individual risk limits are set based on internal and external ratings in accordance with limits set by management. The utilization of credit limits is regularly monitored. Sales to customers are primarily settled in cash, which mitigates credit risk. There is no major concentration of credit risk, whether through exposure to individual customers, specific industry sectors, or regions. As of December 31, 2023 and 2022, no customer represented more than 10% of total trade accounts receivable. 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 Group’s investments in debt instruments primarily include U.S. Treasury Bonds and long-term receivables towards government bodies. As such, they are investments with nonmaterial credit loss. Any remaining receivable is of low credit risk and are individually not significant. The credit ratings of the investments are monitored for credit deterioration.

The Group has three types of financial assets that are subject to the expected credit loss model:

- Trade receivables for sales of goods and services, as described in Note 7.6.17;
- Debt securities measured at FVOCI, as described in Note 7.6.14.1; and
- Debt investments, primarily long-term receivables, carried at amortized cost, as described in Note 7.6.15 and Note 7.6.18.

The impairment methodology by category of financial assets is further described in each respective note. While cash and cash equivalents are also subject to the impairment requirements of IFRS 9, the identified impairment loss is deemed to be immaterial. The maximum exposure for all financial assets is their carrying amount.

Liquidity risk

Prudent liquidity risk management includes maintaining enough 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 Group’s objective is to maintain a significant cash position and a low debt-to-equity ratio, which ensure adequate financial flexibility. Liquidity management policy is to finance the Group’s investments with net cash from operating activities.

Management monitors rolling forecasts of the Group’s liquidity reserve based on expected cash flows.

A maturity analysis of interest-bearing loans and borrowings is shown in Note 7.6.14.3.

Capital risk management

The Group’s objectives when managing capital are to safeguard the Group’s ability to continue as a going concern in order to create value for shareholders and benefits and returns for other stakeholders, as to maintain an optimal capital structure. In order to maintain or adjust the capital structure, the Group may review the amount of dividends paid to shareholders, return capital to shareholders, or issue new shares.

7.6.36. Subsequent events

In the first quarter of 2024, the Group announced its product group reorganization to further accelerate the Group's time-to-market and speed of product development innovation and efficiency. This new organization implies a change in segment reporting which will be applied in 2024.

8. Company's financial statements

8.1. Company's statement of financial position

In millions of U.S. dollars (before proposed appropriation of result)	Notes	December 31, 2023	December 31, 2022
Assets			
Non-current assets			
Lease right-of-use assets	**8.3.4**	10	14
Goodwill	**8.3.6**	52	50
Intangible assets	**8.3.5**	16	16
Investments in subsidiaries	**8.3.6**	11,109	9,704
Other non-current financial assets	**8.3.7.1**	21	30
Total non-current assets		**11,208**	**9,814**
Current assets			
Group companies interest-bearing short-term loans	**8.3.10**	3,798	2,507
Other group companies receivables	**8.3.11**	83	67
Other current financial assets	**8.3.7.1**	1,663	692
Other receivables and assets		34	31
Short-term deposits	**8.3.8**	3,916	3,547
Cash	**8.3.9**	146	92
Total current assets		**9,640**	**6,936**
Total assets		**20,848**	**16,750**
Equity and liabilities			
Equity	**8.3.12**		
Issued and paid-in capital		1,047	1,011
Additional paid-in capital		2,283	2,283
Retained earnings		8,168	4,220
Treasury shares		(377)	(268)
Legal reserves		2,136	1,871
Result for the year		3,985	4,323
Total equity		**17,242**	**13,440**
Non-current liabilities			
Interest-bearing loans and borrowings	**8.3.14**	—	690
Other non-current financial liabilities	**8.3.7.2**	7	161
Other non-current liabilities	**8.3.15**	4	4
Total non-current liabilities		**11**	**855**
Current liabilities			
Interest-bearing loans and borrowings – current portion	**8.3.14**	1,432	717
Other current financial liabilities	**8.3.7.2**	515	114
Group companies short-term notes payables	**8.3.11**	57	36
Other group companies payables	**8.3.11**	1,527	1,505
Other payables and accrued liabilities	**8.3.13**	62	68
Income tax payable		2	15
Total current liabilities		**3,595**	**2,455**
Total equity and liabilities		**20,848**	**16,750**

The accompanying notes are an integral part of these Company's financial statements

8.2. Company's income statement

In millions of U.S. dollars	Notes	Year ended December 31, 2023	Year ended December 31, 2022
Selling expenses		(2)	(1)
General and administrative expenses	**8.3.17**	(29)	(23)
Other income (expenses)	**8.3.19**	4	43
Income (loss) from operations		**(27)**	**19**
Finance income	**8.3.18**	410	402
Finance costs	**8.3.18**	(280)	(28)
Income (loss) before taxes		**103**	**393**
Income tax benefit (expense)		3	(22)
Income (loss) after tax		**106**	**371**
Net income from affiliated companies	**8.3.6**	3,879	3,952
Net income		**3,985**	**4,323**

The accompanying notes are an integral part of these Company's financial statements

8.3. Notes to Company's financial statements

8.3.1. General

A description of the Company, its activities and group structure are included in the consolidated financial statements, prepared on the basis of accounting policies that conform to IFRS as endorsed by the European Union. The Company holds investments in subsidiaries operating in the semiconductor manufacturing industry.

8.3.2. Basis of Presentation

The Company's financial statements have been prepared in accordance with article 9 of Book 2 of the Dutch Civil Code. In accordance with the provisions of article 362 sub 8 of Book 2 of the Dutch Civil code, the accounting policies used are the same as those used in the notes to the consolidated financial statements prepared under IFRS as adopted by the European Union, unless otherwise stated. The financial statements were authorized on March 20, 2024.

In accordance with article 362 paragraph 8 of Book 2 of the Dutch Civil Code, the Company has prepared its financial statements in accordance with accounting principles generally accepted in The Netherlands applying the accounting principles as adopted in the consolidated financial statements and further described in detail in the consolidated financial statements Note 7.6.7.

The functional and presentation currency of the Company is the U.S. dollar.

All balances and values are in millions of U.S. dollars, except as otherwise noted.

The accounting policies adopted are consistent with those of the previous financial year.

8.3.3. Summary of material accounting policies

Subsidiaries

Subsidiaries are all entities over which the Company has control. The Company controls an entity when the Company is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power to direct the activities of the entity.

Valuation of Subsidiaries

Investments in subsidiaries are stated at net asset value as the Company effectively controls the operational and financial activities of these investments. The net asset value is determined on the basis of the IFRS accounting principles applied by the Company in its consolidated financial statements.

Amounts due from group companies are stated initially at fair value and subsequently at amortized cost. Amortized cost is determined using the effective interest rate. The Company recognizes a credit loss for financial assets (such as a loan) based on an expected credit loss (ECL) model based first on estimated credit losses expected to occur in the coming twelve months and lifetime expected credit losses after a significant decrease in credit quality or when the simplified model can be used. For intercompany receivables the ECL would be applicable as well, however this could cause differences between equity in the consolidated and separate financial statements. For this reason, the Company elected to eliminate these differences through the respective receivable account in the separate financial statements.

For intercompany financial guarantees issued by the Company, there is no expected default and therefore the financial guarantees are not recognized. Guarantees given by the Company to its subsidiaries are further described in Note 8.3.16.

8.3.4. Leases

A lease contract is a contract, or part of a contract, that conveys the right to control the use of identified asset (as category of property, plant, or equipment) for a period of time in exchange for consideration. The Company assesses at contract inception if an arrangement is a lease and whether a right-of-use asset should be recognized. Current lease liabilities are included in “Other current financial liabilities”, while non-current lease liabilities are included in “Other non-current financial liabilities” in the Company’s statement of financial position.

Right-of-use assets represent the Company’s rights to use an underlying asset for the lease term and lease liabilities represent the Company’s obligations to make lease payments arising from the lease. Right-of-use assets and liabilities are recognized at the lease commencement date based on the estimated present value of lease payments over the lease term. The right-of-use asset is initially measured at cost, and subsequently at cost less accumulated depreciation and any impairment losses. The depreciation charge on right-of-use assets is recorded on a straight-line basis over the lease period and reported as “General and administrative expenses” in the Company’s income statement. The lease liability is subsequently increased by the interest cost of the lease liability and decreased by the lease payments. The interest cost is reported in the line “Finance costs” of the Company’s income statement.

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

The Company leases buildings, cars and certain equipment (including IT equipment) which have remaining lease terms between less than one year and 5 years. Certain lease contracts contain options to extend the leases by up to 5 years, which the Company has included in the lease term when it is reasonably certain for the Company to exercise that option. In addition, the Company made an accounting policy election for all the asset classes to not account for short-term and low-value leases. A short-term lease is defined as a lease that, at the commencement date, has a lease term of 12 months or less and does not include an option to purchase the underlying asset. The short-term lease election can only be made at the commencement date. Expenses related to short-term and low-value leases were not significant in 2023 and 2022.

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. Potential future increases in variable lease payments based on an index or rate are not included in the lease liability until they take effect. When adjustments to lease payments based on an index or rate take effect, the lease liability is reassessed and adjusted against the right-of-use asset.

Maturities of lease liabilities are as follows:

In millions of U.S. dollars	December 31, 2023
2024	4
2025	5
2026	2
2027	—
2028	—
Total future undiscounted cash outflows	**11**
Effect of discounting	—
Total lease liabilities	**11**

In millions of U.S. dollars	December 31, 2022
2023	4
2024	4
2025	4
2026	2
2027	—
Total future undiscounted cash outflows	**14**
Effect of discounting	—
Total lease liabilities	**14**

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

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Right-of-use assets		
Buildings	27	27
Total	**27**	**27**
Depreciation right-of-use assets		
Buidings	(17)	(13)
Balance as of December 31, 2023	**(17)**	**(13)**
Carrying amount	**10**	**14**

In millions of U.S. dollars	Buildings
Movement:	
Balance as of January 1, 2023	**14**
Additions	—
Depreciation expense	(4)
Balance as of December 31, 2023	**10**

8.3.5. Intangible assets

In millions of U.S. dollars	Internally developed software
Acquisition and production cost:	
Balance as of January 1, 2023	**218**
Additions	6
Impairment / Write off	(112)
Balance as of December 31, 2023	**112**
Accumulated amortization:	
Balance as of January 1, 2023	**(202)**
Amortization expense	(6)
Impairment / Write off	112
Balance as of December 31, 2023	**(96)**
Net book value	
As of December 31, 2023	16
As of December 31, 2022	16

8.3.6. Investments in subsidiaries and goodwill

In millions of U.S. dollars	2023	2022
Beginning of the year	**9,704**	**6,226**
Result from subsidiaries	3,879	3,952
Changes in other reserves of subsidiaries	(61)	87
Dividends paid	(3,260)	(420)
Capital increase (decrease)	715	5
Translation effect of exchange rates of subsidiaries	132	(146)
End of the year	**11,109**	**9,704**

The following table lists the Company’s consolidated subsidiaries and percentage of ownership as of December 31, 2023:

Legal Seat	Name	Percentage ownership (direct or indirect)
		December 31, 2023
Australia, Sydney	STMicroelectronics PTY Ltd	100
Austria, Vienna	STMicroelectronics Austria GmbH	100
Belgium, Diegem	Proton World International N.V.	100
Brazil, Sao Paulo	STMicroelectronics Ltda	100
Canada, Ottawa	STMicroelectronics (Canada), Inc.	100
China, Beijing	STMicroelectronics (Beijing) R&D Co. Ltd	100
China, Chongqing	SANAN, STMicroelectronics Co., Ltd.	49
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	STMicroelectronics (Grenoble 2) SAS	100
France, Le Mans	STMicroelectronics (Grand Ouest) SAS	100
France, Montrouge	STMicroelectronics France 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
Malaysia, Muar	STMicroelectronics Services Sdn.Bhd.	100
Malta, Kirkop	STMicroelectronics (Malta) Ltd	100
Mexico, Guadalajara	STMicroelectronics Marketing, S. de R.L. de C.V.	100
Morocco, Casablanca	STMicroelectronics (MAROC) SAS, a associé unique	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 Re S.A.	100
Switzerland, Geneva	STMicroelectronics S.A.	100
Taiwan, Tapei City	Exagan Taiwan Ltd.	100
Thailand, Bangkok	STMicroelectronics (Thailand) Ltd	100
United Kingdom, Bristol	STMicroelectronics (Research & Development) Limited	100
United Kingdom, Marlow	STMicroelectronics Limited	100
United States, Coppell	STMicroelectronics Inc.	100
United States, Coppell	STMicroelectronics (North America) Holding, Inc.	100

Goodwill

In millions of U.S. dollars	Automotive and Discrete Group (ADG)	Total
As of January 1, 2023	**50**	**50**
Foreign currency translation	2	2
As of December 31, 2023	**52**	**52**

As of December 31, 2023, the gross value of goodwill was $52 million ($50 million in 2022), with no impairment recorded in 2023 and 2022.

8.3.7. Other financial assets and financial liabilities

8.3.7.1. Other financial assets

Movements on other financial assets are presented as follows:

In millions of U.S. dollars	December 31, 2023
Beginning of the year	**722**
Purchase of government bonds issued by the U.S. Treasury	1,633
Proceed at maturity of government bonds issued by the U.S. Treasury	(750)
Accretion	47
Change in fair value of debt securities issued by the U.S. Treasury	6
Purchase of unlisted equity securities	11
Change in fair value of the embedded call option of the senior unsecured convertible bonds issued on August 4, 2020 , Tranche A	1
Change in fair value of the embedded call option of the senior unsecured convertible bonds issued on August 4, 2020 , Tranche B	14
End of the year	**1,684**
Less: non-current portion	(21)
Current portion	**1,663**

In millions of U.S. dollars	December 31, 2022
Beginning of the year	**36**
Purchase of debt securities issued by the U.S. Treasury	687
Accretion	8
Change in fair value of debt securities issued by the U.S. Treasury	(16)
Change in fair value of the embedded call option of the senior unsecured convertible bonds issued on August 4, 2020, Tranche A	2
Change in fair value of the embedded call option of the senior unsecured convertible bonds issued on August 4, 2020, Tranche B	5
End of the year	**722**
Less: non-current portion	(30)
Current portion	**692**

Investments held in debt securities

As of December 31, 2023, the Company held $1,615 million of U.S. Treasury debt securities. The debt securities have an average rating of Aaa/AA+/AA+ from Moody's, S&P and Fitch, respectively, with an average maturity of 1.6 years. The debt securities were reported as current assets on the line "Other current financial assets" on the Company's statement of financial position as of December 31, 2023, since they represented investments of funds available for current operations.

Marketable securities totaling $750 million at principal amount were transferred to financial institutions as part of short-term securities lending transactions, in compliance with corporate policies. The Company, acting as the securities lender, does not hold any collateral in this unsecured securities lending transaction. The Company retains effective control on the transferred securities.

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

Investments held in equity securities

The Company irrevocably elected to measure at FVOCI unquoted equity securities for an aggregate value of $21 million (December 31, 2022: $10 million). Since these are strategic investments, the Company considers this classification, which implies that changes in fair value are not subsequently recycled to earnings, to be more relevant.

Financial assets include the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Quoted securities:		
Debt securities issued by the U.S. Treasury	1,615	679
Unquoted equity securities:		
Unquoted equity securities	21	10
Embedded call option - Senior unsecured convertible bonds issued on August 4, 2020 (Tranche A)	14	13
Embedded call option - Senior unsecured convertible bonds issued on August 4, 2020 (Tranche B)	34	20
Total	**1,684**	**722**

Financial assets are denominated in the following currencies:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Euro	10	10
U.S. dollars	1,674	712
Total	**1,684**	**722**

For further details on Group's financial assets, see Note 7.6.14.1 of the consolidated financial statements of the Group.

8.3.7.2. Other financial liabilities

Movements on other financial liabilities are presented as follows:

In millions of U.S. dollars	December 31, 2023
Beginning of the year	275
Change in fair value of the embedded conversion option of the senior unsecured convertible bonds issued on August 4, 2020, Tranche A	119
Change in fair value of the embedded conversion option of the senior unsecured convertible bonds issued on August 4, 2020, Tranche B	130
Lease payments	(2)
End of the year	**522**
Less current portion	(515)
Non-current portion	**7**

Starting August 2023 and August 2024 for Tranche A and Tranche B convertible bonds, respectively, the bondholders will have full conversion rights. Consequently, Tranche A was reported on the current portion.

In millions of U.S. dollars	December 31, 2022
Beginning of the year	**554**
Change in fair value of the embedded conversion option of the senior unsecured convertible bonds issued on August 4, 2020, Tranche A	(145)
Change in fair value of the embedded conversion option of the senior unsecured convertible bonds issued on August 4, 2020, Tranche B	(131)
Lease payments	(3)
End of the year	**275**
Less current portion	(114)
Non-current portion	**161**

Other non-current financial liabilities include the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Embedded conversion option - Senior unsecured convertible bonds issued on August 4, 2020 (Tranche B)	—	151
Lease financial liabilities	7	10
Total	**7**	**161**

8.3.8. Short-term deposits

To optimize the return yield on its short-term investments, the Company invested in short-term deposits as follows:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Short-term deposits beyond three months and below one year	1,225	575
Deposits at call with banks	2,691	2,972
Total Short-term deposits	**3,916**	**3,547**

As of December 31, 2023, short-term deposits are composed of deposits at call with banks and short-term deposits with maturity beyond three months and below one year with no significant risk of changes in fair value. Deposits at call with banks are reported as cash and cash equivalents in the consolidated statement of financial position, in compliance with IFRS. Cash and cash equivalents of the Group are further described in Note 7.6.7.8 and Note 7.6.19 of the Group's consolidated financial statements.

8.3.9. Cash

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Cash at bank and on hand	146	92

8.3.10. Group companies interest-bearing short-term loans

Group companies short-term loans consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
STMicroelectronics Ltd. (Israel)		
Loan due 2024 bearing interest at 3-month SOFR	4	—
Loan due 2023 bearing interest at 3-month LIBOR	—	4
STMicroelectronics A/S (Denmark)		
Loan due 2024 bearing interest at 3-month CIBOR + 0.50%	1	—
Loan due 2023 bearing interest at 3-month CIBOR + 0.50%	—	1
STMicroelectronics Finance II N.V. (The Netherlands)		
Loan due 2024 bearing interest at 1-month SOFR + 0.25%	3,760	—
Loan due 2023 bearing interest at 1-month LIBOR + 0.25%	—	2,463
STMicroelectronics Silicon Carbide AB (Sweden)		
Loan due 2023 bearing interest at 6-month STIBOR + 0.75%	—	7
STMicroelectronics S.A.S. (Morocco)		
Loan due 2024 bearing interest at 3-month EURIBOR+ 0.25%	33	—
Loan due 2023 bearing interest at 3-month EURIBOR+ 0.25%	—	32
Total short-term intercompany loans	**3,798**	**2,507**

Fair value of Group companies short-term loans is not materially different from net book value.

8.3.11. Other Group companies receivables and payables

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Other group companies receivables (advances)	83	67
Total group companies receivables	**83**	**67**
Other group companies payables	1,527	1,505
Group companies short-term notes payable	57	36
Total group companies payables	**1,584**	**1,541**

Group companies short-term notes payable consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
STMicroelectronics Ltd. (The United Kingdom)		
Note due 2024 bearing interest at 3-month LIBOR + 0.25%	6	—
Note due 2023 bearing interest at 3-month LIBOR + 0.25%	—	6
STMicroelectronics Software AB (Sweden)		
Note due 2024 bearing interest at 3-month STIBOR + 0.75%	2	—
Note due 2023 bearing interest at 3-month STIBOR + 0.75%	—	2
STMicroelectronics R&D Ltd (The United Kingdom)		
Note due 2024 bearing interest at 3-month LIBOR + 0.25%	19	—
Note due 2023 bearing interest at 12-month LIBOR + 0.25%	—	22
STMicroelectronics Finance B.V. (The Netherlands)		
Note due 2024 bearing interest at 3-month EURIBOR + 0.558%	10	—
Note due 2023 bearing interest at 3-month EURIBOR + 0.65%	—	5
STMicroelectronics Finland OY (Finland)		
Note due 2024 bearing interest at 12-month EURIBOR + 0.25%	1	—
Note due 2023 bearing interest at 12-month EURIBOR + 0.25%	—	1
STMicroelectronics Silicon Carbide A.B. (Sweden)		
Note due 2024 bearing interest at 6-month STIBOR+ 0.10%	15	—
STMicroelectronics SA		
Note due 2024 bearing interest at 3.75%	**4**	—
Total short-term intercompany notes payable	**57**	**36**

8.3.12. Equity

In millions of U.S. dollars	Issued and paid-in capital	Additional paid-in capital	Retained earnings	Treasury shares	Legal reserves	Result for the year	Total
Balance January 1, 2023	**1,011**	**2,283**	**4,220**	**(268)**	**1,871**	**4,323**	**13,440**
2022 Net income	—	—	4,323	—	—	(4,323)	—
Transfer to (from) legal reserve	—	—	(133)	—	133	—	—
Repurchase of common stock	—	—	—	(346)	—	—	(346)
Stock-based compensation	—	—	6	237	—	—	243
Changes in fair value of financial assets measured at FVOCI	—	—	5	—	—	—	5
Dividends paid	—	—	(217)	—	—	—	(217)
2023 Net income	—	—	—	—	—	3,985	3,985
Cash flow hedge reserve, net of tax	—	—	21	—	—	—	21
Transfer of cash flow hedge reserve to inventories	—	—	(2)	—	—	—	(2)
AOCI - Pension plan	—	—	(19)	—	—	—	(19)
Translation adjustment*	36	—	(36)	—	132	—	132
Balance December 31, 2023	**1,047**	**2,283**	**8,168**	**(377)**	**2,136**	**3,985**	**17,242**

* The share capital of STMicroelectronics is denominated in Euros and the period-end balance is translated into U.S. dollars at the year-end exchange rate (Euro/USD 1.1051). The translation differences are taken to retained earnings.

In millions of U.S. dollars	Issued and paid-in capital	Additional paid-in capital	Retained earnings	Treasury shares	Legal reserves	Result for the year	Total
Balance January 1, 2022	**1,073**	**2,283**	**2,795**	**(200)**	**1,855**	**1,711**	**9,517**
2021 Net income	—	—	1,711	—	—	(1,711)	—
Transfer to (from) legal reserve	—	—	(162)	—	162	—	—
Repurchase of common stock	—	—	—	(346)	—	—	(346)
Stock-based compensation	—	—	(69)	278	—	—	209
Changes in fair value of financial assets measured at FVOCI	—	—	(14)	—	—	—	(14)
Dividends paid	—	—	(217)	—	—	—	(217)
2022 Net income	—	—	—	—	—	4,323	4,323
Cash flow hedge reserve, net of tax	—	—	35	—	—	—	35
Transfer of cash flow hedge reserve to inventories	—	—	1	—	—	—	1
AOCI - Pension plan	—	—	78	—	—	—	78
Translation adjustment*	(62)	—	62	—	(146)	—	(146)
Balance December 31, 2022	**1,011**	**2,283**	**4,220**	**(268)**	**1,871**	**4,323**	**13,440**

* The share capital of STMicroelectronics is denominated in Euros and the period-end balance is translated into U.S. dollars at the year-end exchange rate (Euro/USD 1.0675). The translation differences are taken to retained earnings.

The authorized share capital of the Company is €1,810 million consisting of 1,200,000,000 common shares and 540,000,000 preference shares, each with a nominal value of €1.04. As of December 31, 2023 the number of common shares issued was 911,281,920 shares (December 31, 2022: 911,281,920).

As of December 31, 2023, the number of shares of common stock outstanding was 902,771,081 shares (December 31, 2022 : 903,865,763 shares).

The Euros equivalent of the issued share capital as of December 31, 2023 amounts to €947,733,197 (2022: €947,733,197). For the changes in issued and paid-in-capital, additional paid-in-capital and retained earnings, see the Group's consolidated financial statements.

The cumulative amount of legal reserves as of December 31, 2023 is split as follows: $1,114 million of capitalized development expenditures and internally developed software expenditures, $425 million of subsidiaries non distributable reserves, $564 million of currency translation adjustment gain and $33 million unrealized gain on derivatives.

The cumulative amount of legal reserves as of December 31, 2022 is split as follows: $1,076 million of capitalized development expenditures and internally developed software expenditures, $349 million of subsidiaries non distributable reserves and $432 million of currency translation adjustment gain and $14 million unrealized gain on derivatives.

Treasury shares

As of December 31, 2023, the Company owned 8,510,839 shares classified as treasury shares in the Company's statement of equity compared to 7,416,157 shares as of December 31, 2022.

The treasury shares have been originally designated for allocation under the Company's share-based remuneration programs of unvested shares. As of December 31, 2023, 81,022,515 of these treasury shares were transferred to employees under the Company's share-based remuneration programs, of which 6,502,300 in the year ended December 31, 2023. 6,587,002 shares during the year ended December 31, 2022.

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. During 2023, the Company repurchased approximately 7.6 million shares of its common stock for a total amount of $346 million as part of the program. The Company purchased approximately 9.2 million shares of its outstanding common stock for $346 million during 2022.

Non Distributable Reserve

The amount of the non-distributable reserve was $3,183 million and $2,882 million in the year 2023 and 2022, respectively, and it represents the amount of issued and paid-in capital and legal reserves of the Company.

8.3.13. Other payables and accrued liabilities

Other payables and accrued liabilities consisted of:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Dividends payable to Shareholders	54	60
Trade payable	2	2
Other liabilities	6	6
Total other payables and accrued liabilities	**62**	**68**

8.3.14. Interest-bearing loans and borrowings

Interest-bearing loans and borrowings consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Senior unsecured convertible bonds issued on August 4, 2020 (Tranche A)	730	717
Senior unsecured convertible bonds issued on August 4, 2020 (Tranche B)	702	690
Total interest bearing loans and borrowings	**1,432**	**1,407**
Total current	1,432	717
Total non-current	—	690

Senior convertible bonds

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Balance at beginning of the year	**1,407**	**1,382**
Amortization of issuance costs	1	2
Amortization of discounted value	24	23
Balance at the end of the year	**1,432**	**1,407**
Out of which long-term	—	690

On August 4, 2020, the Company issued $1,500 million in principal amount of dual tranche senior unsecured convertible bonds (Tranche A for $750 million and Tranche B for $750 million), due 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 payable by the Group.

The issuer's call option and the holder's conversion option have been identified as embedded non-equity derivative instruments, resulting in the recognition of the options separately from the debt host contract. Upon initial recognition, the derivatives were measured at fair value based on the income approach, the debt being determined as a residual amount of the $1.5 billion total proceeds. The value of the issuer's call option was deemed to be nil at initial recognition. The value of the holder's conversion option was estimated at $219 million at issuance date, which determined the initial recognition of the liability component at $1,358 million before allocation of issuance costs. The fair value measurement of the embedded derivative instruments corresponded to a Level 3 fair value hierarchy measurement. The Company elected to allocate issuance costs, totaling $10 million, to the debt component. The debt was subsequently measured at amortized cost using the effective interest method.

Starting August 2023 and August 2024 for Tranche A and Tranche B convertible bonds, respectively, the bondholders have and will have full conversion rights. Consequently, for both tranches, non-equity embedded derivative instruments were reported on the line Other current financial assets for an amount of $48 million, on the line Other current financial liabilities for an amount of $510 million and on the line Interest-bearing loans and borrowings – current portion for an amount of $1,432 million, respectively, of the consolidated statement of financial position as of December 31, 2023.

Fair values

In millions of U.S. dollars	Carrying amount December 31, 2023	Carrying amount December 31, 2022	Fair value December 31, 2023	Fair value December 31, 2022
Financial assets				
Other receivables and assets	35	31	35	31
Quoted financial instruments	1,615	679	1,615	679
Unquoted equity securities	21	10	21	10
Embedded call option - Senior unsecured convertible bonds issued on August 4, 2020 (Tranche A)	14	13	14	13
Embedded call option - Senior unsecured convertible bonds issued on August 4, 2020 (Tranche B)	34	20	34	20
Cash	146	92	146	92
Deposit at call with banks	2,691	2,972	2,691	2,972
Short-term deposits	3,916	575	3,916	575
Financial liabilities				
Lease liabilities	11	14	11	14
Other payables and accrued liabilities	62	68	62	68
Senior unsecured convertible bonds issued on August 4, 2020 (2)	1,432	1,407	1,814	1,561
Embedded conversion option - Senior unsecured convertible bonds issued on August 4, 2020 (Tranche A)	229	110	—	—
Embedded conversion option - Senior unsecured convertible bonds issued on August 4, 2020 (Tranche B)	280	151	—	—

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

(2) The carrying amount of the senior unsecured convertible bonds issued on August 4, 2020 and outstanding at December 31, 2023 and December 31, 2022 corresponds to the liability component only, since, at initial recognition, an amount of $219 million was separately recognized as embedded derivative financial instruments.

8.3.15. Other non-current liabilities

Other non-current liabilities consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Pension liability against former employees	3	3
Other non-current liabilities	1	1
Total	**4**	**4**

8.3.16. Guarantees and contingencies

Guarantees given by the Company to its affiliates for the benefit of third parties amounted to approximately $1,727 million as of December 31, 2023 (2022: $1,582 million), out of which STMicroelectronics Finance B.V.'s obligation relates to three credit facilities with European Investment Bank ("EIB") and two credit facilities with Cassa Depositi e Prestiti SpA ("CDP SpA").

EIB facilities

As of December 31, 2023, $303 million obligation was outstanding under the €500 million EIB credit facilities signed in 2017, $442 million obligation was outstanding under the €500 million EIB credit facilities signed in 2020, and, in 2023, $332 million obligation was outstanding under the €600 million EIB credit facilities signed in 2021.

CDP SpA facilities

As of December 31, 2023, $97 million obligation was outstanding under the €150 million CDP SpA credit facilities signed in 2022 and $187 million obligation was outstanding under the €200 million CDP SpA credit facilities signed in 2023.

As from August 22, 2013, the Company assumes joint and several liabilities for all debts arising from legal acts for STMicroelectronics International N.V., STMicroelectronics Finance II N.V. and STMicroelectronics Finance B.V., all in accordance with article 403 of Book 2 of the Dutch Civil Code.

There is no other type of contingencies as of December 31, 2023 and 2022.

8.3.17. General and administrative expenses

General and administrative expenses are the administrative costs related to the operations of the holding company, which consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Employees benefits	(7)	(6)
Amortization	(6)	(6)
Depreciation	(4)	(3)
Other	(12)	(8)
Total	**(29)**	**(23)**

The average number of persons employed by the Company during the year ended December 31, 2023 was 17 out of which 8 outside The Netherlands (2022: 15 out of which 6 outside The Netherlands).

8.3.18. Finance income and Finance costs

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Change in fair value of the call option of Tranche A convertible bonds issued on August 4, 2020	1	2
Change in fair value of the call option of Tranche B convertible bonds issued on August 4, 2020	14	5
Change in fair value of the conversion option of Tranche A convertible bonds issued on August 4, 2020	—	145
Change in fair value of the conversion option of Tranche B convertible bonds issued on August 4, 2020	—	131
Interest income on quoted debt securities	15	—
Interest income on group receivable short-term loans	177	52
Other finance income	203	67
Total finance income	**410**	**402**
Interest on Senior Bonds	(24)	(25)
Change in fair value of the conversion option of Tranche A convertible bonds issued on August 4, 2020	(119)	—
Change in fair value of the conversion option of Tranche B convertible bonds issued on August 4, 2020	(130)	—
Interest expenses on group companies short-term notes payable	(3)	—
Bank charges and commissions	(4)	(3)
Total finance expense	**(280)**	**(28)**

As described in Note 8.3.7 the change in fair value of the non-equity derivative instruments corresponding to the bondholders' conversion option and the issuer's call option embedded in the unsecured senior convertible bonds issued on August 4, 2020, generated a loss of $249 million and an income of $15 million respectively, for the year ended December 31, 2023 compared an income of $276 million of $7 million respectively, for the year ended December 31, 2022.

8.3.19. Other income (expenses)

Other income (expenses) consisted of the following:

In millions of U.S. dollars	December 31, 2023	December 31, 2022
Exchange differences	3	41
Gain on sale of Financial Investments	—	1
Other income (expenses)	1	1
Total	**4**	**43**

8.3.20. Contractual obligations

The Company’s contractual obligations as of December 31, 2023 were as follows:

In millions of U.S. dollars	Total	2024	2025	2026	2027	2028	There-after
Long term debt obligations (including current portion) (1)(2)	1,500		750		750		
Pension obligations	3						3
Total	**1,503**	**—**	**750**	**—**	**750**	**—**	**3**

(1) The difference between the total aggregated future maturities and the total carrying amount of Interest-bearing loans and borrowings is due to the unamortized discount on the dual tranche senior unsecured convertible bonds.

(2) Starting August 2023 and August 2024 for Tranche A and Tranche B convertible bonds, respectively, the bondholders will have full conversion rights. The table reports the repayment obligation based on the original contractual maturity of each Tranche (2025 and 2027 for Tranche A and Tranche B, respectively).

8.3.21. Related party transactions

There were no material transactions with significant related parties during the years ended December 31, 2023 and 2022.

Remuneration to managing board and supervisory board members

For details on the remuneration to the Managing Board and Supervisory Board members, see the consolidated financial statements of the Company (Note 7.6.33).

8.3.22. Auditors’ fees

The following audit fees were allocated to the period:

In thousands of U.S. dollars	December 31, 2023	December 31, 2022
Audits of consolidated and statutory financial statements	4,926	4,951
Audit-related fees	546	211
Tax fees	—	38
Total	**5,472**	**5,200**

The fees listed above relate only to the procedures applied to the Company and its consolidated group entities by Ernst & Young. The procedures were applied by audit firm’s member of the EY network. In 2023, the fees related to services provided by Ernst & Young Accountants LLP for the audit of the statutory annual accounts totaled $172,095 ($172,095 in 2022).

8.3.23. Proposed cash dividend

Upon the proposal of the Managing Board, the Supervisory Board will propose to the 2024 AGM in line with our Dividend Policy, to declare a cash dividend of US$0.36 per outstanding share of the Company's common stock, to be distributed in quarterly installments of US$0.09 in each of the second, third and fourth quarter of 2024 and first quarter of 2025 to shareholders of record in the month of each quarterly payment, as further described in the General Meeting of Shareholders agenda and explanatory notes thereto.

March 21, 2024

THE MANAGING BOARD

Jean-Marc Chery (President and Chief Executive Officer)

THE SUPERVISORY BOARD

Nicolas Dufourcq (Chairman)

Maurizio Tamagnini (Vice-Chairman)

Janet Davidson

Yann Delabrière

Ana de Pro Gonzalo

Frédéric Sanchez

Paolo Visca

Hélène Vletter-van Dort

9. Other information

9.1. Auditors' report

The report of the auditors, Ernst & Young Accountants LLP, is presented on the following pages in this annual report.

9.2. Appropriation of results – provisions in Company's articles of association

The Supervisory Board, upon the proposal of the Managing Board, is allowed to allocate net profit to a reserve fund. The Articles of Association provide that the net result for the year, after deduction of (i) any amount to set up and maintain reserves required by Dutch Law and the Articles of Association, (ii) if any of our preference shares are issued and outstanding, the dividend to be paid to the holders of preference shares and (iii) the aforementioned allocation to the reserve fund, is subject to the disposition by the General Meeting of Shareholders.

In the case that a net loss for the year exceeds retained earnings, no dividend payments are allowed until the loss has been recovered from net profit(s) in future years.

9.3. Branches

The Company has a branch in Switzerland, located at 39 Chemin du Champ des Filles, 1228 Plan-les-Ouates, Geneva.

Independent auditor’s report

To: the shareholders and Supervisory Board of STMicroelectronics N.V.

Report on the audit of the financial statements 2023 included in the Annual Report

Our opinion

We have audited the financial statements for the financial year 2023 of STMicroelectronics N.V. (‘the company’) based in Amsterdam, the Netherlands.

The financial statements comprise the consolidated and the company’s financial statements.

In our opinion:

- the accompanying consolidated financial statements give a true and fair view of the financial position of STMicroelectronics N.V. as of 31 December 2023 and of its result and its cash flows for 2023 in accordance with International Financial Reporting Standards as adopted by the European Union (EU-IFRSs) and with Part 9 of Book 2 of the Dutch Civil Code
- the accompanying company’s financial statements give a true and fair view of the financial position of STMicroelectronics N.V. as of 31 December 2023 and of its result for 2023 in accordance with Part 9 of Book 2 of the Dutch Civil Code

The consolidated financial statements comprise:

- the consolidated statement of financial position as of 31 December 2023
- the following statements for 2023: the consolidated income statement, the consolidated statements of comprehensive income, changes in equity and cash flows
- the notes comprising material accounting policy information and other explanatory information.

The company’s financial statements comprise:

- the company’s statement of financial position as of 31 December 2023
- the company’s income statement for 2023
- the notes comprising a summary of the accounting policies and other explanatory information.

Basis for our opinion

We conducted our audit in accordance with Dutch law, including the Dutch Standards on Auditing. Our responsibilities under those standards are further described in the *Our responsibilities for the audit of the financial statements* section of our report.

We are independent of STMicroelectronics N.V. in accordance with the EU Regulation on specific requirements regarding statutory audit of public-interest entities, the “Wet toezicht accountantsorganisaties” (Wta, Audit firms supervision act), the “Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten” (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence regulations in the Netherlands. Furthermore, we have complied with the “Verordening gedrags- en beroepsregels accountants” (VGBA, Dutch Code of Ethics).

We believe the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Information in support of our opinion

We designed our audit procedures in the context of our audit of the financial statements as a whole and in forming our opinion thereon. The following information in support of our opinion and any findings were addressed in this context, and we do not provide a separate opinion or conclusion on these matters.

Our understanding of the business

STMicroelectronics N.V. is a global semiconductor manufacturer operating in a broad range of markets. The group is structured in components and we tailored our group audit approach accordingly. We paid specific attention in our audit to a number of areas driven by the operations of the group as set out in the Key Audit Matters, as well as in our risk assessment. Refer to our key audit matters revenue recognition and recoverability of deferred tax liability.

We determined materiality and identified and assessed the risks of material misstatement of the financial statements, whether due to fraud or error in order to design audit procedures responsive to those risks and to obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.

Materiality

Materiality	USD 230 million (2022: USD 220 million)
Benchmark applied	5% of normalized profit before income tax
Explanation	Based on our professional judgment we have considered earnings-based measures as the appropriate basis to determine materiality. We consider profit before tax, normalized for the volatility derived from the accounting of the convertible bonds to be the most relevant benchmark given the nature of the business, the characteristics of the company and the expected focus of the users of the financial statements.

We have also taken into account misstatements and/or possible misstatements that in our opinion are material for the users of the financial statements for qualitative reasons.

We agreed with the Supervisory Board that misstatements in excess of USD 11.5 million, which are identified during the audit, would be reported to them, as well as smaller misstatements that in our view must be reported on qualitative grounds.

Scope of the group audit

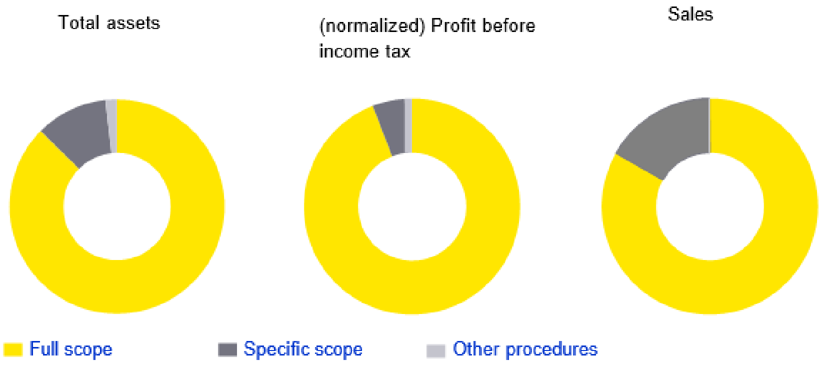
STMicroelectronics N.V. is at the head of a group of entities. The financial information of this group is included in the consolidated financial statements.

Because we are ultimately responsible for the opinion, we are also responsible for directing, supervising and performing the group audit. In this respect we have determined the nature and extent of the audit procedures to be carried out for group entities. Decisive were the size and/or the risk profile of the group entities or operations. On this basis, we selected group entities for which an audit or review had to be carried out on the complete set of financial information or specific items.

Considering the audit procedures which have been performed at head office level by the corporate audit team, we have:

- performed audit procedures ourselves at parent entity STMicroelectronics N.V., located in the Netherlands which was assigned a full scope;
- used the work of other EY auditors when auditing entities in Switzerland, France, Singapore and Italy which were assigned a full scope;
- performed specific audit procedures at other group entities.

These procedures represent 97.3% of the group's total assets, 98.7% of profit before income tax and 100% of sales.



By performing the procedures mentioned above at the group entities, together with additional procedures at group level, we have been able to obtain sufficient and appropriate audit evidence about the group’s financial information to provide an opinion on the consolidated financial statements.

Teaming and, use of specialists and internal audit

We ensured that the audit teams both at group and at component levels included the appropriate skills and competencies which are needed for the audit of a listed client in the Semiconductor industry. We included specialists in the areas of IT audit, forensics and income tax and have made use of our own valuations and actuarial experts.

We evaluated and tested the relevant work performed by Internal Audit to satisfy ourselves that the work was adequate for our purposes and established what work had to be performed by our own professionals.

Our focus on climate-related risks and the energy transition

Climate change and the energy transition are high on the public agenda. Issues such as CO2 reduction impact financial reporting, as these issues entail risks for the business operation, the valuation of assets and provisions or the sustainability of the business model and access to financial markets of companies with a larger CO2 footprint.

Management summarized STMicroelectronics N.V.'s commitments and reported in sections 3.3.1.2 and 3.4 of the report of the Managing Board how STMicroelectronics N.V. is addressing climate-related and environmental risks. Furthermore, management discloses its assessment and implementation plans in connection to climate-related risks and the effects of energy transition in these sections.

As part of our audit of the financial statements, we evaluated the extent to which climate-related risks and the effects of the energy transition are taken into account in estimates and significant assumptions Furthermore, we read the report of the Managing Board and considered whether there is any material inconsistency between the non-financial information in section 3.3.1.2 and 3.4 and the financial statements.

Based on the audit procedures performed, we do not deem climate-related risks to have a material impact on the financial reporting judgements, estimates or significant assumptions as of 31 December 2023.

Our focus on fraud and non-compliance with laws and regulations

Our responsibility

Although we are not responsible for preventing fraud or non-compliance and we cannot be expected to detect non-compliance with all laws and regulations, it is our responsibility to obtain reasonable assurance that the financial statements, taken as a whole, are free from material misstatement, whether caused by fraud or error. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

Our audit response related to fraud risks

We identified and assessed the risks of material misstatements of the financial statements due to fraud. During our audit we obtained an understanding of STMicroelectronics N.V. and its environment and the components of the system of internal control, including the risk assessment process and management's process for responding to the risks of fraud and monitoring the system of internal control and how the Supervisory Board exercises oversight, as well as the outcomes. We refer to section 3.2.6 and 3.3.1 of the report of the Managing Board for management's (fraud) risk assessment.

We evaluated the design and relevant aspects of the system of internal control and in particular the fraud risk assessment, as well as the code of conduct, whistle blower procedures and incident registration. We evaluated the design and the implementation and, where considered appropriate, tested the operating effectiveness, of internal controls designed to mitigate fraud risks.

As part of our process of identifying fraud risks, we evaluated fraud risk factors with respect to financial reporting fraud, misappropriation of assets and bribery and corruption in close co-operation with our forensic and legal specialists. We evaluated whether these factors indicate that a risk of material misstatement due to fraud is present.

We incorporated elements of unpredictability in our audit. We also considered the outcome of our other audit procedures and evaluated whether any findings were indicative of fraud or non-compliance.

We addressed the risks related to management override of controls, as this risk is present in all companies. For these risks we have performed procedures among others to evaluate key accounting estimates for management bias that may represent a risk of material misstatement due to fraud, in particular relating to important judgment areas and significant accounting estimates as disclosed in Note 7.6.8 to the financial statements. We have also used data analysis to identify and address high-risk journal entries and evaluated the business rationale (or the lack thereof) of significant extraordinary transactions, including those with related parties.

When identifying and assessing fraud risks we presumed that there are risks of fraud in revenue recognition. We designed and performed our audit procedures relating to revenue recognition responsive to this presumed fraud risk.

The following fraud risk identified did require significant attention during our audit.

Presumed risks of fraud in revenue recognition	
Fraud risk	We presumed that there are risks of fraud in revenue recognition. We evaluated that the risk of side arrangements entered into by management to induce future sales with distributors and without knowledge of the finance department in particular give rise to such risks. These accounting policies with regards to the revenues are described in 7.6.7.3. Revenues are disclosed in Note 7.6.25 to the consolidated financial statements. Management discusses the risks in 3.3.1.
Our audit approach	We describe the audit procedures responsive to the presumed risk of fraud in revenue recognition in the description of our audit approach for the key audit matter revenue recognition.

We considered available information and made enquiries of relevant executives, directors, internal audit, legal, compliance, human resources and regional directors and the Supervisory Board.

The fraud risks we identified, enquiries and other available information did not lead to specific indications for fraud or suspected fraud potentially materially impacting the view of the financial statements.

Our audit response related to risks of non-compliance with laws and regulations

We performed appropriate audit procedures regarding compliance with the provisions of those laws and regulations that have a direct effect on the determination of material amounts and disclosures in the financial statements. Furthermore, we assessed factors related to the risks of non-compliance with laws and regulations that could reasonably be expected to have a material effect on the financial statements from our general industry experience, through discussions with the managing board, reading minutes, inspection of internal audit and compliance reports, tested the operating effectiveness of controls and performing substantive tests of details of classes of transactions, account balances or disclosures. As STMicroelectronics N.V. is a global company, operating in multiple jurisdictions, we also considered the risk of bribery and corruption.

We also inspected lawyers' letters and correspondence with regulatory authorities and remained alert to any indication of (suspected) non-compliance throughout the audit. Finally we obtained written representations that all known or alleged instances of non-compliance with laws and regulations have been disclosed to us.

Our audit response related to going concern

As disclosed in section 'Critical accounting estimates and judgments' in Note 7.6.8 to the financial statements, the financial statements have been prepared on a going concern basis. When preparing the financial statements, management made a specific assessment of the company's ability to continue as a going concern and to continue its operations for the foreseeable future.

We discussed and evaluated the specific assessment with management exercising professional judgment and maintaining professional skepticism. We considered whether management's going concern assessment, based on our knowledge and understanding obtained through our audit of the financial statements or otherwise, contains all relevant events or conditions that may cast significant doubt on the company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion.

Based on our procedures performed, we did not identify material uncertainties about going concern. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause a company to cease to continue as a going concern.

Our key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements. We have communicated the key audit matters to the Supervisory Board. The key audit matters are not a comprehensive reflection of all matters discussed. As compared to last year, the nature of the key audit matters did not change.

Revenue recognition **Notes 7.6.7.3 and 7.6.25**	
Risk	As described in Note 7.6.25 to the consolidated financial statements, the company recognized net revenues of USD 17,286 million as of 31 December 2023. The company recognizes revenue from products sold to customers, which includes Original Equipment Manufacturers (OEMs) and distributors, amounting to USD 11,468 million, and USD 5,818 million, respectively. Auditing the company’s revenue requires significant focus for the audit team since it is a key financial metric, with a large volume of transactions and multiple market channels. In addition, we consider the risk of side arrangements not appropriately accounted for as a fraud risk, also as a result of management override of controls. As a result, we considered the risk of improper revenue recognition as a key audit matter.
Our audit approach	We obtained an understanding, evaluated the control design, and tested the operating effectiveness of controls over the company’s revenue recognition process, including the processes to detect side arrangements. Additionally, we inspected and evaluated management’s assessment of non-standard terms and conditions, and certifications completed by the company’s sales organization. We also performed procedures to evaluate the design and operation of IT processes, including testing of IT general controls and application controls and the data and reports used in the execution of certain controls. Our substantive audit procedures included, among others, circulation of terms and conditions confirmations with selected customers, substantive analytical review procedures around disaggregated revenue data, review of contract terms and testing of journal entries. We have evaluate the appropriateness of the company’s revenue recognition policies in accordance with IFRS 15 ‘Revenue from Contracts with Customers’ and whether the policies have been applied consistently or whether changes , if any, are appropriate in the circumstances. We also assessed the adequacy of the company’s revenue disclosure in the financial statements.
Key observations	We consider that the company’s revenue recognition accounting policies were appropriately applied and disclosed in the consolidated financial statements.

Recoverability of deferred tax assets **Notes 7.6.7.6 and 7.6.31**	
Risk	As of 31 December 2023, the company recognized net deferred tax assets of USD 354 million. As explained in note 7.6.31 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 after having considered positive and negative available evidence. Assessing the recognition of and recoverability of deferred tax assets involves significant judgement and estimates, including, among others: the prospective financial information used by management in order to assess future taxable income, transfer pricing policies and the timing of reversal of temporary differences. These assumptions have a high degree of uncertainty and subjectivity, since they are dependent on the outcome of future events. Consequently, we identified this as a key audit matter.
Our audit approach	We obtained an understanding, evaluated the control design, and tested the operating effectiveness of controls over the company’s process to calculate the gross amount of deferred tax assets recorded, prepare the prospective financial information used to determine the company’s future taxable income and determined whether deferred tax assets are deemed recoverable. Together with tax professionals, 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 the projections of future taxable income with the actual results of prior periods, as well as management’s consideration of current and expected industry and economic trends. We also assessed the historical accuracy of management’s projections. We also evaluated the company’s income tax disclosures included in Note 7.6.31 to the consolidated financial statements in relation to these matters.
Key observations	We consider that the company’s accounting policies related to deferred tax assets were appropriately applied and disclosed in the consolidated financial statements.

Report on other information included in the Annual Report

The Annual Report contains other information in addition to the financial statements and our auditor’s report thereon.

Based on the following procedures performed, we conclude that the other information:

- is consistent with the financial statements and does not contain material misstatements
- contains the information as required by Part 9 of Book 2 of the Dutch Civil Code for the management report and the other information as required by Part 9 of Book 2 of the Dutch Civil Code and as required by Sections 2:135b and 2:145 sub-section 2 of the Dutch Civil Code for the remuneration report.

We have read the other information. Based on our knowledge and understanding obtained through our audit of the financial statements or otherwise, we have considered whether the other information contains material misstatements. By performing these procedures, we comply with the requirements of Part 9 of Book 2 and Section 2:135b sub-Section 7 of the Dutch Civil Code and the Dutch Standard 720. The scope of the procedures performed is substantially less than the scope of those performed in our audit of the financial statements.

Management is responsible for the preparation of the other information, including management report in accordance with Part 9 of Book 2 of the Dutch Civil Code and other information required by Part 9 of Book 2 of the Dutch Civil Code. Management and the Supervisory Board are responsible for ensuring that the remuneration report is drawn up and published in accordance with Sections 2:135b and 2:145 sub-section 2 of the Dutch Civil Code.

Report on other legal and regulatory requirements and ESEF

Engagement

We were engaged by the Supervisory Board as auditor of STMicroelectronics N.V. following our re-appointment at the annual meeting held on 17 June 2020 for the years 2020-2023, and have operated as statutory auditor since the financial year 2016.

No prohibited non-audit services

We have not provided prohibited non-audit services as referred to in Article 5(1) of the EU Regulation on specific requirements regarding statutory audit of public-interest entities.

European Single Electronic Reporting Format (ESEF)

STMicroelectronics N.V. has prepared the annual report in ESEF. The requirements for this are set out in the Delegated Regulation (EU) 2019/815 with regard to regulatory technical standards on the specification of a single electronic reporting format (hereinafter: the RTS on ESEF).

In our opinion the annual report prepared in the XHTML format, including the (partially) marked-up consolidated financial statements as included in the reporting package by STMicroelectronics N.V., complies in all material respects with the RTS on ESEF.

Management is responsible for preparing the annual report, including the financial statements, in accordance with the RTS on ESEF, whereby management combines the various components into a single reporting package.

Our responsibility is to obtain reasonable assurance for our opinion whether the annual report in this reporting package complies with the RTS on ESEF.

We performed our examination in accordance with Dutch law, including Dutch Standard 3950N ’Assurance-opdrachten inzake het voldoen aan de criteria voor het opstellen van een digitaal verantwoordingsdocument’ (assurance engagements relating to compliance with criteria for digital reporting). Our examination included amongst others:

- obtaining an understanding of the STMicroelectronics N.V.'s financial reporting process, including the preparation of the reporting package
- identifying and assessing the risks that the annual report does not comply in all material respects with the RTS on ESEF and designing and performing further assurance procedures responsive to those risks to provide a basis for our opinion, including:
  - obtaining the reporting package and performing validations to determine whether the reporting package containing the Inline XBRL instance document and the XBRL extension taxonomy files, has been prepared in accordance with the technical specifications as included in the RTS on ESEF
  - examining the information related to the consolidated financial statements in the reporting package to determine whether all required mark-ups have been applied and whether these are in accordance with the RTS on ESEF.

Description of responsibilities regarding the financial statements

Responsibilities of management and the Supervisory Board for the financial statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with EU-IFRSs and Part 9 of Book 2 of the Dutch Civil Code. Furthermore, management is responsible for such internal control as management determines is necessary to enable the preparation of the financial statements that are free from material misstatement, whether due to fraud or error.

As part of the preparation of the financial statements, management is responsible for assessing the company's ability to continue as a going concern. Based on the financial reporting framework mentioned, management should prepare the financial statements using the going concern basis of accounting unless management either intends to liquidate the company or to cease operations, or has no realistic alternative but to do so. Management should disclose events and circumstances that may cast significant doubt on the company's ability to continue as a going concern in the financial statements.

The Supervisory Board is responsible for overseeing the company's financial reporting process.

Our responsibilities for the audit of the financial statements

Our objective is to plan and perform the audit engagement in a manner that allows us to obtain sufficient and appropriate audit evidence for our opinion.

Our audit has been performed with a high, but not absolute, level of assurance, which means we may not detect all material errors and fraud during our audit.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements. The materiality affects the nature, timing and extent of our audit procedures and the evaluation of the effect of identified misstatements on our opinion.

We have exercised professional judgment and have maintained professional skepticism throughout the audit, in accordance with Dutch Standards on Auditing, ethical requirements and independence requirements. The

‘Information in support of our opinion’ section above includes an informative summary of our responsibilities and the work performed as the basis for our opinion.
Our audit further included among others:

- Performing audit procedures responsive to the risks identified, and obtaining audit evidence that is sufficient and appropriate to provide a basis for our opinion
- Obtaining an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control
- Evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management
- Evaluating the overall presentation, structure and content of the financial statements, including the disclosures
- Evaluating whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation

Communication

We communicate with the Supervisory Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant findings in internal control that we identify during our audit.
In this respect we also submit an additional report to the Audit Committee of the Supervisory Board in accordance with Article 11 of the EU Regulation on specific requirements regarding statutory audit of public-interest entities. The information included in this additional report is consistent with our audit opinion in this auditor’s report.

We provide the Supervisory Board with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Supervisory Board, we determine the key audit matters: those matters that were of most significance in the audit of the financial statements. We describe these matters in our auditor’s report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, not communicating the matter is in the public interest.

Eindhoven, 21 March 2024

Ernst & Young Accountants LLP

Signed by J.R. Frentz

10. Important dates

May 22, 2024: General Meeting of Shareholders.

Please consult our website www.st.com for the latest important dates.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

STMicroelectronics N.V.

Date: March 21, 2024

By: /s/ Lorenzo Grandi

Name: Lorenzo Grandi
Title: Chief Financial Officer and President
Finance, Purchasing, Enterprise Risk Management & Resilience

At STMicroelectronics
we create
technology that
starts with You