



2022 Sustainability report

2021 performance

About this report

Scope and reporting period

This annual sustainability report outlines the sustainability strategy, programs and performance of STMicroelectronics (ST) during the calendar year 2021. It is aimed at stakeholders who want to learn more about our commitment and approach to sustainability. Unless otherwise stated, the information and data cover all our activities and sites. | 102-1 | 102-50 | 102-52 |

There are no significant changes to the organization and its supply chain. There is no restatement of information given in previous reports. | 102-10 | 102-48 |

Report structure and content

This report is aligned with Global Reporting Initiative (GRI) Standards for stakeholder inclusiveness, sustainability context, materiality and completeness. It focuses on the 14 material topics of our sustainability strategy (see [Sustainability strategy](#)), which are aligned with our business priorities. We identified these topics in 2020 through a materiality exercise that considered the sustainability context and involved a review of stakeholders' concerns (see [Stakeholder engagement](#)). For each material topic, we define ambitions and goals, and implement programs. In response to our stakeholders' expectations and for a better understanding of our performance, we disclose data and information from previous years. We also include examples of actions we have carried out at ST sites and quotes from stakeholders, enabling them to express their own views on our sustainability performance. | 102-46 | 102-49 |

The report has been prepared in accordance with the GRI Standards: Core option. We use labels to disclose GRI Standards throughout the report and we list all references to GRI Standards and the corresponding page numbers in the [GRI content index](#). | 102-54 |

This year, for the first time, we disclose how and to what extent our economic activities are associated with environmentally sustainable economic activities, as defined in the new EU taxonomy regulation (see [EU Taxonomy](#)).

Our disclosures are aligned with the [Sustainability Accounting Standards Board \(SASB\)](#) semiconductor standard and the [Task Force on Climate-related Financial Disclosures \(TCFD\)](#) framework.

Use of symbols

We use the following symbols in this report to indicate our progress towards our objectives:

✓ Target achieved

🔄 In progress

✗ No progress/not achieved

External verification

ST's Sustainability Group Vice President has appointed DNV Business Assurance France (DNV) to provide us with assurance services. DNV has verified the content and data in this report and confirmed that it has been prepared in accordance with the GRI Standards: Core option. DNV interviewed all relevant corporate departments and three of the stakeholders quoted in this report. DNV audited three manufacturing sites – Agrate (Italy), Rousset (France), and Shenzhen (China) – to validate our data reporting process and provide assurance for this year's report. DNV conducted a higher level of verification of five sustainability indicators related to safety, climate change, gender diversity and employee engagement at Ang Mo Kio (Singapore), Crolles (France) and Muar (Malaysia) in addition to the three sites mentioned above. Information and data relating to the ST Foundation were not part of DNV's external verification exercise. See [DNV's assurance statement](#). | 102-56 |

Availability

This sustainability report is available in PDF format at www.st.com/company-reports, along with last year's report (May 5, 2021) and those from previous years. You can access the 2022 online version at sustainabilityreports.st.com. Printed copies are available on request. | 102-51 |

Supporting the UN Global Compact and Sustainable Development Goals

We have been a signatory of the United Nations Global Compact (UNGC) since 2000 and we follow its 10 principles. This report describes the actions we have taken during 2021 to implement these principles. It therefore serves as our 2021 Communication on Progress. | 102-12 |

ST supports the United Nations Sustainable Development Goals (SDGs). Our contribution to 11 of the 17 SDGs is highlighted throughout this report, including indicators to measure our performance against these goals:  SDG

Feedback | 102-3 | 102-53 |

We value feedback and encourage contributions and suggestions from all our stakeholders. You can email us at

sustainable.development@st.com or write to us at our headquarters:

Corporate Sustainable Development
STMicroelectronics International NV
39 Chemin du Champ-des-Filles
C.P. 21
CH-1228 Geneva – Plan-Les-Ouates
Switzerland

This report has been prepared according to GRI Standards and is externally assured. It represents a balanced and reasonable presentation of our organization's economic, environmental and social performance. It also demonstrates our commitment to the UN Global Compact, to which we have been a signatory since 2000.

Jean-Marc Chery, President and CEO

Although reasonable efforts have been made to ensure the consistency of the summary financial information for the year 2021 in this report with ST's financial reporting, reliance should only be placed upon the complete financial reporting contained in ST's Annual Report on Form 20-F (US GAAP) for the year ended December 31, 2021, as filed with the SEC on February 24, 2022, and contained in ST's Dutch Statutory Annual Report (IFRS) for the year ended December 31, 2021, as filed with the AFM (Dutch Financial Market Authority) on March 24, 2022, which can be found at

www.st.com. Some of the statements contained in this report that are not historical facts are statements of future expectations and other forward-looking statements (within the meaning of Section 27A of the Securities Act of 1933 or Section 21E of the Securities Exchange Act of 1934, each as amended) based on management's current views and assumptions, and involve known and unknown risks and uncertainties that could cause actual results, performance, or events to differ materially from those in such statements. Certain such forward-looking statements can be identified by the use of forward-looking terminology such as 'believes', 'may', 'will', 'should', 'would be' or 'anticipates' or similar expressions or the negative thereof or other variations thereof or comparable terminology, or by discussions of strategy, plans or intentions. Some of the relevant risk factors are described in 'Item 3. Key Information – Risk Factors' included in our Annual Report on Form 20-F for the year ended December 31, 2021. We do not intend, and do not assume any obligation, to update any information or forward-looking statements set forth in this report to reflect subsequent events or circumstances.

Content

2022 Edition

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Thanks to: Caroline Archambault, Marine Asselin de Villequier, Keone Battaglin, Christophe Bernadet, Serge Boiron, Giovanna Bottani, Benoit Boussard, Antonietta Calabrese, Claudia Cavenaghi, Hc Chew, Lucio Vincenzo Colombo, Karen Duhart, Anne Foerster, Bérengère Gazagnes, Susan Goh, Jérémie Gout, Jean-Christophe Houdbert, Wendy Hudry Allen, Stephanie Joubert, Hui Lin Koh, Philippe Laffargue, Bruno Laurent, Anne-France Leblois, Olivier Leenhardt, Ulrike Leger, Frederique Le Greves, Francis Ann Llana, Nathalie Magniez, Gualtiero Mago, Maurizio Martena Malfa, Laurence Maricot, Yoanna Marino, Karine Maurinaux, Delphine Meilland, Brian Mielewski, Jean-Pierre Mistral, Catherine Nenin, Robin Noels, Marie-Sophie Note, Adeline Oliva, Kimberly Peters, Jean-Baptiste Pezzetti, Jean-Marie Quiles, Valeria Riva, Sandrine Roques-Mounier, Francois Suquet, Vianney Taufour, Sara Tedeschi, Xavier Wendling, Chao Heng Yu.

We also would like to thank:

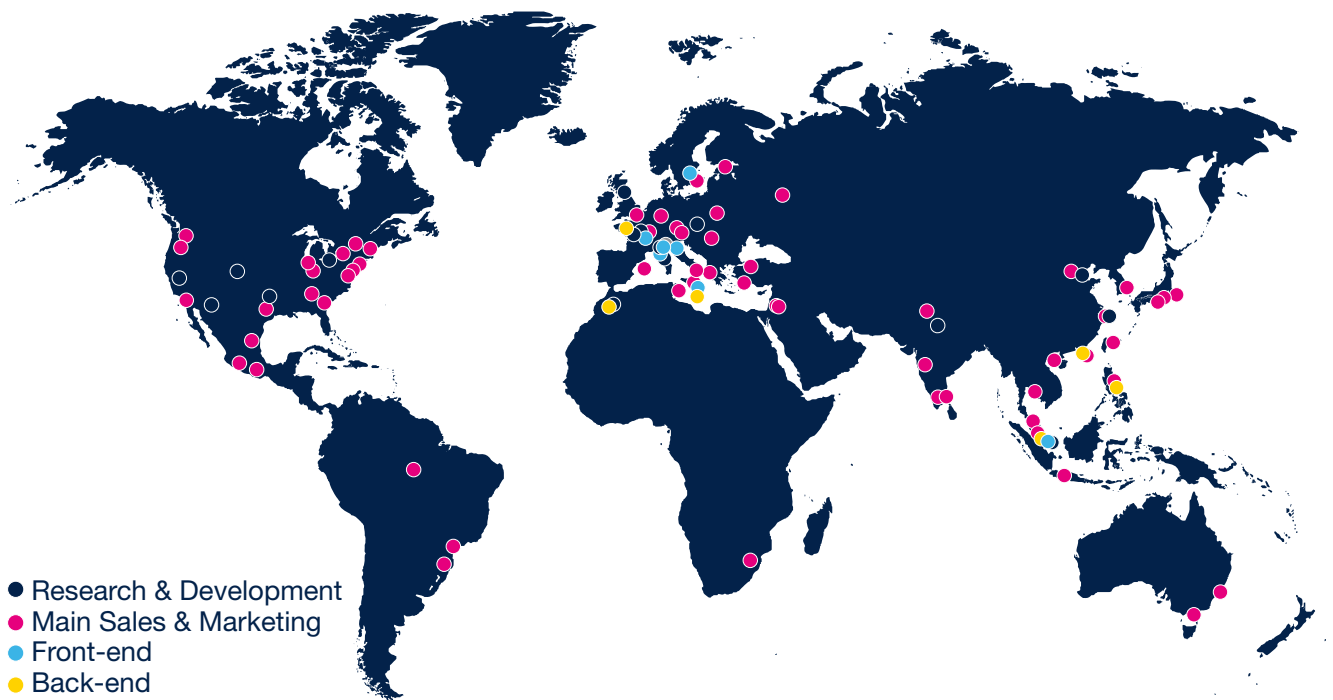
- everyone who kindly agreed to be quoted in this report and provide testimony of their collaboration with ST
- everyone who kindly agreed to have their pictures published in the report
- our interfaces at ST sites, sustainability champions and EHS teams who support our activity all year round
- site directors and human resources managers
- the teams audited in Agrate, Ang Mo Kio, Crolles, Muar, Rousset and Shenzhen for their availability



Cover photo: close-up of an 800m² mural painted on a building at ST Grenoble site (France) by international artists Augustine Kofie and Iota during the Grenoble Street Art Fest in June 2021.

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ST at a glance



As of December 31, 2021

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- One of the world's largest semiconductor companies
- 2021 revenues of **US\$12.8 billion**
- listed: NYSE, Euronext Paris and Borsa Italiana, Milan
- approximately **48,000** employees worldwide
- approximately **8,400** people working in R&D
- **13** manufacturing sites
- over **80** Sales & Marketing offices serving over **200,000** customers across the globe
- signatory of the United Nations Global Compact (UNGC)
- member of the Responsible Business Alliance (RBA)

Our value proposition

For our shareholders



Return value in line with our sustainable, profitable growth objective

Sustainable and profitable growth

For our customers



Provide differentiating enablers

Independent, reliable and secure supply chain

For all our stakeholders



Committed to sustainability

Our values:
Integrity – People – Excellence

Foreword by our President and CEO

This is our 25th report, signifying that sustainability has been central to ST's business model and culture for as many years. While I am proud to say we have been pioneers and achieved strong results across all key sustainability metrics during this time, we are determined to continue to do more and to accelerate our efforts.

2021 was a year that continued to be impacted by the pandemic and semiconductor supply chain constraints across all end markets. ST's 48,000 employees worked closely with our customers, partners, and suppliers to protect both the short- and long-term, increase the resilience of our manufacturing operations, and create innovative products. Their sustained high level of engagement, despite the personal and professional constraints they faced, was remarkable. ST continued to support our employees across the globe ensuring the most stringent health and safety measures in every site where we operate.

The execution of our business strategy, now in its third year, stems from three long-term, transformational trends: the shift to smart mobility, improved power and energy management and the large-scale deployment of IoT & 5G. In 2020, we saw an acceleration of these three trends that continued into 2021. Our strategy drives our investments and roadmap decisions, which allow us to support our customers as they address technical, environmental and social opportunities and challenges. This paves the way to long-term sustainable and profitable growth for ST, and enables us to create sustained value for shareholders, for customers, for all our stakeholders globally and, more broadly, for society.

Providing innovative and sustainable solutions to our customers implies being an integrated device manufacturer mastering the entire semiconductor value chain: responsibly sourcing raw materials, investing in technology and product R&D for innovation, ensuring reliable and secure manufacturing, and relentlessly pursuing product quality. In 2021, we continued to progress with our strategic programs based on Silicon Carbide and Gallium Nitride, and with the development of the 300mm fab in Agrate (Italy). We continued to invest in R&D and open innovation with a network now including 187 active academic and private partnerships worldwide to build the future. We continued to improve our social and environmental footprint at every stage of the product lifecycle, with 69% of new products identified as responsible and 20% of total revenue derived from responsible products.

The pandemic has accelerated the transformation of our professional and private lives. This is also true for our industry's future employees. The semiconductor industry is now better understood by the public as a strategic enabler of all our end-markets and a fast-moving, fast-growing industry. However, we face mid- and long-term recruitment challenges including talent attraction, retention, and diversity on a larger scale than before, in an environment where competition for talent has sharpened. In 2021, we started a major program to address this multi-year challenge: we reinforced our network of strategic academic partnerships, supported focused STEM promotion initiatives, and reinforced the presence of women in all management levels.

In December 2020, we committed to become carbon neutral by 2027. To achieve this ambitious target, we have built a comprehensive program looking at all aspects of our business and operations. Progress made in 2021 includes the reduction of our greenhouse gas emissions by 34% compared to 2018 despite the continued expansion of our manufacturing footprint, as well as the increase of renewable energies in the total energy mix we source from 40% to 46%.

Our continued efforts across many areas, detailed in this report, were recognized again in 2021, including our presence in the DJSI World and Europe indexes as well as in other key ESG rankings and international certifications. These external recognitions are important for us to confirm our actions and transparency, and inspire confidence to achieve our ambitious sustainability objectives going forward.

Jean-Marc Chery
President and CEO



Our business model

Resources

Human

- ~48,000 employees
- 115 nationalities
- 34% women, 66% men
- Average age: 40

Financial

- US\$15,540 million total assets
- US\$1,828 million capital expenditures
- US\$977 million net cash

Intellectual

- ~8,400 employees in R&D
- US\$1,723 million R&D investments
- 187 R&D partnerships

Manufactured

- 13 main manufacturing sites in 8 countries
- ~66% of employees in manufacturing
- >6,500 suppliers

Natural

- 2,735GWh of energy consumed
- 51% of renewable electricity
- ~21 million m³ of water withdrawn
- >5,500 chemicals used

Social and relationship

- ST values and Code of Conduct
- US\$1.33 million cash donated by ST to local communities
- >138,000 hours donated to local communities

Main steps in our value chain



Suppliers

We purchase raw materials, equipment, energy, gas, chemicals and services from many suppliers and subcontractors.

R&D concept and design

New products are created in a multi-step process including architecture conception, electrical layout, electrical and logic simulation, chip layout and generation of the masks that will be used to etch the design in silicon.

Front-end manufacturing

Manufacturing chips requires around 400 separate stages, starting with a plain wafer, and resulting in the etching of several hundreds to thousands of dies.

Management of our impacts

Suppliers

We require our suppliers to implement the Responsible Business Alliance (RBA) standards and encourage ISO and OHSAS certifications to address ethics, social, environmental, health and safety risks. We participate in the Responsible Minerals Initiative.

Products

Through our Sustainable Technology program we design products systematically taking into consideration the environmental impact of the device during its whole lifecycle, including raw materials, transportation, manufacturing, usage and end of life.

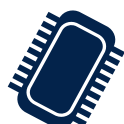
People

We ensure the health and safety of our employees through advanced management systems and certification. We implement our Code of Conduct and the RBA standards in all our sites to mitigate our ethics and labor and human rights risks, and carry out regular assessments and audits in all our production sites.



Electrical wafer sorting

Dies on the wafer are electrically tested. This step is known as wafer sort or probe.



Back-end manufacturing

The dies are cut from the wafer before being assembled in a package. The chips are then tested prior to delivery to the customer.



Product use and end of life

We offer a large portfolio of products suitable for the wide range of applications addressed by our customers.

Environment

We deploy programs to reduce our direct and indirect greenhouse gas emissions from all our operations, including Perfluorinated Compounds (PFCs), which have a very long atmospheric lifetime and high global warming potential.

We minimize the environmental, health and safety risks related to the chemicals and materials used in the manufacturing process, by basing the selection, handling, and substitution on the precautionary principles.

We are continually reducing our water footprint through reuse and recycling and all our wastewater is treated before being discharged into the environment.

We reduce, reuse, recycle or recover as much of our waste as possible, rather than sending it to incineration or landfill.

Value created

Human

Engaged and skilled people in an inclusive and safe workplace

- average of 42 hours of training per employee
- 83% of employees recommend ST as a great place to work
- 0.15 total recordable case rate (injuries and illnesses) for employees and contractors

Financial

Sustainable financial performance

- US\$12,761 million net revenues
- US\$3,602 million salaries and benefits
- US\$311 million taxes paid
- US\$205 million cash dividends

Intellectual

Innovative products and solutions

- ~18,500 active patents
- 69% of new products classified responsible products
- 13% of revenues generated by new product lines

Manufactured

Responsible and effective business operations

- >200,000 customers served
- ISO 9001, 14001, 14064, 22301, 50001, 45001 and IATF certifications
- 100% of largest manufacturing sites covered by RBA audits
- 97% of new suppliers screened on social responsibility criteria

Natural

Mitigation of the impact of our activities

- 34% decrease in GHG emissions since 2018 (in absolute value)
- 90% of waste reused, recovered or recycled
- 40% of water recycled or reused

Social and relationship

Knowledge and values shared with all

- >132,000 beneficiaries in local communities
- 520 volunteering initiatives from 33 sites worldwide
- >860,000 people trained on computer basics by ST Foundation since 2003

ST process technologies

At ST, we innovate to create unique technologies and products that provide the best solutions to address challenges and provide opportunities for our customers.

The manufacturing of an integrated circuit can be divided into two steps.

- Wafer fabrication, known as front-end, entails extremely sophisticated process technologies to manufacture silicon or composite material chips.
- Assembly and test, known as back-end, involves highly precise and automated packaging and die testing processes.

Our products are built using various fundamental semiconductor process technologies. Many of these are unique to ST and represent the culmination of significant investment and development efforts over decades. Each process is designed and refined to meet the needs of our customers' target applications.



Orio Bellezza

President, Technology, Manufacturing, Quality and Supply Chain

To provide our customers with the best solutions, we need to be constantly creative and innovative when developing products and technologies. Energy management is a key challenge, not only for us, but for our entire industry. Thanks to our dedicated teams of experts pushing forward the boundaries of energy-efficient and responsible technologies, ST helps to drive positive change in people's lives, prioritizing people and the planet and creating long-term value for all stakeholders."

Smart power technology for greener solutions

Combining power technologies with embedded intelligence is a technical challenge and will be key to enable our customers across the globe to develop more efficient and compact power and energy management solutions. ST has deep expertise in this field, with over 25 years of R&D and multiple generations of products on the market. Below are some of our technologies that are widely used in automotive, industrial, consumer, and communications applications.

- BIPOLAR-CMOS-DMOS (BCD) is a key technology for power integrated circuits (ICs). We invented this revolutionary technology in the mid-1980s and have continually developed it ever since.
- VIPower technologies integrate diverse functionality in single devices. They help applications control high power and sense, and communicate operating status while providing device protection.
- Our STi²GaN product family leverages the special characteristics of wide bandgap Gallium Nitride (GaN) technology. It promises to deliver significant size, performance, and cost benefits across a wide variety of applications.

High-power innovation

Power transistors are a key component of every power system. We are constantly innovating to deliver greater efficiency and reliability in silicon and wide-bandgap materials in advanced packages.

- Silicon Carbide (SiC) exhibits intrinsic advantages over mainstream silicon, enabling higher energy efficiency in many sustainable applications.
- GaN-based transistors offer unrivaled energy efficiency and power density in power conversion applications.
- Our trench gate field-stop (TGFS) architecture ensures more balanced conduction and switching losses and greater robustness in insulated gate bipolar transistors (IGBTs).
- Our world-leading super-junction (SJ) technology is the driving factor behind our highly successful range of MDmesh Power MOSFETs.

Micro-Electro-Mechanical Systems (MEMS)

MEMS devices are increasingly pervasive as they transform the way that digital and analog worlds interact. We are developing new generations of MEMS sensors and actuators through leading-edge process technologies, packaging, and manufacturing capabilities.

We are serving all market needs with industry-leading MEMS process technology, innovative product design, and in-depth application expertise.

- Our Thick Epitaxial Layer for Micro-gyroscopes and Accelerometers (ThELMA) process enables the integration of accelerometer and gyroscope mechanical elements in a single chip.
- Other specialized processes allow the creation of MEMS microphones and pressure sensors.
- MEMS actuator technologies including thermal, electrostatic, electromagnetic, and piezoelectric enable applications such as thermal printheads, laser-based scanning micromirrors, and miniature sound systems.

Digital and mixed-signal technologies for tomorrow's applications

Advances in digital and mixed-signal technologies enable smaller systems without compromising performance. Constant innovation in our radio frequency (RF), analog, and digital technologies are helping our customers meet the power and integration requirements of today and the future.

- Embedded Non-Volatile Memory (eNVM) CMOS: our advanced eNVM processes allow the creation of microcontrollers with embedded memory within a single chip.
- Our embedded phase change memory (ePCM) offers substantially better density and robustness over flash memory and other embedded memories.
- Fully depleted silicon-on-insulator (FD-SOI) delivers outstanding low-power performance and high reliability for cost-effective RF/mmW and mixed-signal applications.
- Radio frequency silicon-on-insulator (RF-SOI): our solutions enable the design of a full range of advanced RF front-end modules (FEMs).
- Our imaging technology portfolio of proprietary technologies enables specialized and differentiated imaging solutions.

Learn more about our unique set of innovative and differentiated technologies on www.st.com/technology .

ST products and solutions

ST delivers intelligent and energy-efficient products and solutions that power the electronics at the heart of everyday life. Our chips and systems are found in billions of products, from cars and factory machines, through washing machines and air conditioning systems, to smartphones and telecommunications equipment. Our technology helps our customers make all these products more intelligent, more energy-efficient, more connected, safer and more secure. | [102-2](#) |

Our strategy is based on long-term trends: smart mobility, power and energy, Internet of Things (IoT) and 5G. We address four end markets – Automotive; Industrial; Personal Electronics; and Communications Equipment, Computers and Peripherals – where these trends drive the evolving requirements of our customers. | [102-6](#) |

Internet of Things and 5G

To support the needs of IoT and 5G, we provide a variety of products and solutions for embedded processing, connectivity, security, sensing and actuating.

High level of embedded security in general-purpose microcontrollers

Security is critical for all connected devices, and our portfolio covers the full range of secure solutions. These include software and hardware embedded in general-purpose microcontrollers and microprocessors. These are supported by the STM32Trust ecosystem, which offers a multi-level strategy to enhance security. In 2021, our latest general-purpose microcontroller achieved key security certifications that typically require a dedicated security chip to resist cyber-attacks.



We also provide dedicated secure microcontrollers that meet the highest security standards. These can be found in smartcards used for ID, transport, banking, and SIM cards, as well as pay TV applications.



Increased support for machine learning on microcontrollers

Embedded processing capabilities are essential for every smart object. We offer general-purpose microcontrollers, such as our STM32 family, with a wide variety of device options. This ensures designers can find the best solution for their application, whether they require ultra-low power consumption, high performance, artificial intelligence (AI),

advanced security or a high level of wireless and wired connectivity.

Our comprehensive development ecosystem saves on design costs and reduces time to market. Recent enhancements include new features in our STM32Cube software-development ecosystem to increase software-development productivity. In 2021, we acquired Cartesiam, a company that specializes in AI development tools, and announced a major upgrade of the associated software tool for machine learning on STM32.

Expanding the ecosystem for our microprocessors

Our STM32 microprocessor family addresses demanding industrial and IoT applications that require support for large open-source software. We have now extended this ecosystem with tools and software that increase security, allow customers to leverage AI, and support the creation of functional safety systems for industrial applications.



Easing the development of integrated wireless systems

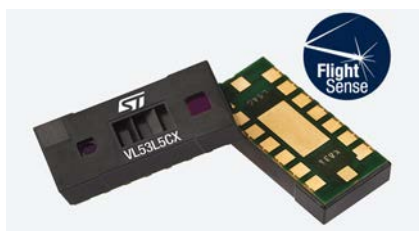
Our wireless connectivity solutions include STM32 microcontrollers with embedded wireless, standalone RF transceivers, and network processors for Bluetooth, Bluetooth Low Energy, Zigbee, Thread and sub-1GHz long-range networks. We work with partners to make it

easier for our customers to use services with Cloud connectivity software.

In 2021, we introduced new devices, development tools and software. These make it easier to design competitively priced and power-efficient wireless equipment for applications such as smart buildings and smart industry.

Supporting the development of industrial sensor applications

ST motion and environmental MEMS and sensors offer customers increased accuracy and sensitivity, with ultra-low power consumption. Our products power flagship personal electronics devices and help deliver the best user experience. We are present in many automotive and industrial applications, with products designed to meet the performance and reliability requirements of harsh environments. Our industrial sensor kit, introduced in 2021, simplifies the development of compact IO-Link sensors in industrial applications.



Multi-zone Time-of-Flight sensor for general-purpose applications

Our patented FlightSense technology, based on the Time-of-Flight (ToF) principle, ensures a high-accuracy, low-power, all-in-one solution for proximity and ranging sensors for personal electronics and industrial applications, as well as 3D sensing for smartphones and

smart driving (LiDAR) features. In 2021, we announced a first multi-zone ToF sensor for general-purpose applications, bringing sophisticated distance sensing to the full spectrum of consumer and industrial products.

Laser beam scanning system

Our innovative thin-film piezoelectric microactuators ensure higher efficiency and lower costs for traditional applications such as inkjet printing, while enabling innovation with MEMS speakers, micromirrors and fluid dispensing technologies.

In 2021, we made further advances in enabling the fast development of high-performance augmented reality glasses through a reference design and a manufacturing ecosystem. This provides a one-stop-shop solution for laser beam scanning systems, including semiconductor technologies, products and reference designs.



Power and energy management

Our technology and solutions for power and energy management enable customers to increase energy efficiency everywhere and support the use of renewable energy sources.



Products for slimmer, more energy efficient power supplies

We offer power discrete devices serving applications across our end markets. Our Silicon Carbide (SiC) and Gallium Carbide (GaN) power devices deliver energy efficiency and enhanced performance to applications in all of the end markets we serve. We introduced a new family of GaN power semiconductors in 2021 that can

significantly reduce energy use and enable slimmer designs in a wide variety of electronic products.

Other products are first choice solutions for high-end power conversion, home appliances, power supplies, and motor control.

Wireless power solutions with high system efficiency

We address applications that require generic and application-specific solutions for power management. Our solutions enable energy-saving, high-power-density and lower-standby-power designs. Our offering includes SiC and GaN power discretes, Silicon MOSFETs, IGBTs and customized power modules, AC-DC and DC-DC converters, battery management ICs, wireless power ICs, digital controllers, and gate drivers. One of the innovations we introduced in 2021 is a 70-Watt wireless charging solution that delivers faster wireless charging and flexible charge sharing for diverse applications in personal electronics, industrial and automotive.



Gallium Nitride driver for high efficiency motor drive

We provide an array of motor control solutions that enable motors to run with higher efficiency and greater precision. We cover the requirements of brushed DC motors, stepper motors and brushless DC motors over an extensive range of voltage and current ratings. We offer highly integrated motor drivers that embed all the

functions needed to drive motors efficiently and with the highest accuracy. They include a low-voltage series designed for battery-powered smart devices, and a series embedding an STM32 microcontroller.

In 2021, we introduced a single-chip gate driver for high-efficiency GaN devices addressing energy-saving in applications such as [motor drivers](#)  for home appliances, factory automation and industrial drives.

Smart mobility

To meet the smart mobility needs of our global customer base, we provide products and solutions that serve the key trends in the automotive market – vehicle digitalization and electrification. We enable them to create the next generation of vehicles that are safer, greener and more connected.

Third generation Silicon Carbide solutions for EVs and charging stations

Our wide bandgap solutions for electric vehicles (EVs) and charging stations enable our customers to create EVs with longer range and faster charging, and that weigh less. We introduced our third generation of SiC devices in 2021, which set new benchmarks for transistor efficiency, power density, and switching performance. We provide high-efficiency smart power solutions and processors to ensure that every device used to power, control and monitor car subsystems consumes less energy.



Powerful automotive integration MCUs for new levels of performance and safety

To enable increasing car digitalization, we develop automotive microcontrollers. These range from microcontroller units (MCUs) for cost-sensitive applications to advanced integration MCUs.

Advanced Driver Assistance Systems (ADAS)

We work with partners to provide ADAS solutions that make driving safer by reducing road accidents through products that include cutting-edge RF and vision systems, as well as advanced vehicle communications solutions. In 2021, our partner and customer Intel-Mobileye delivered its 100 millionth EyeQ® system-on-chip, working with 25 global carmakers to make their vehicles safer. The broad family of EyeQ® powers the entire range of ADAS visual functionality, from driver-assistance to automated driving features.



High-precision solutions for car navigation

We offer ICs dedicated to body and convenience solutions, including body control modules and car lighting systems as well as ASIC and ASSP solutions for engine control. Our in-vehicle telematics and infotainment systems cover high-end integrated platforms, digital radio, audio power amplifiers, and satellite navigation receivers.

We demonstrated our innovation once more in 2021 with the introduction of the first automotive-qualified single-chip GNSS receiver to integrate a triple-band positioning measurement engine on the chip.

2021 highlights

81%
of ST employees
covered by RBA
audits



-34%
GHG emissions in
absolute vs 2018



Inclusion in
**DJSI World
and Europe**
indices

90%
of our suppliers at
risk committed to
RBA



0.12
Recordable case
rate for employees
– among best-in-
class



187
R&D partnerships

>69,000
beneficiaries of
our STEM your way
program



30%
of women hired in
management and
engineering
positions

51%
of renewable
electricity

ST is a great place
to work for
83%
of employees

69%
of new products
classified as
responsible
products



-16%
water consumption
(vs 2020 per
production unit)

90%
of waste reused,
recovered or
recycled

520
education and
volunteering
initiatives
worldwide



Our sustainability goals (SG)

Status end of 2021

We create technology for a sustainable world		
SG1	Generate at least 20% of our revenues from new product lines by 2025.	13%
SG2	Generate at least 33% of our revenues from our Sustainable Technology's most advanced responsible products by 2027.	20%
We prioritize people		
SG3	Reach a Recordable Case Rate of 0.15% or less by 2025 (work-related injuries and illnesses, including contractors).	0.15%
SG4	Maintain our Severity Rate at 2% or less each year (work-related injuries and illnesses, including contractors).	2.8%
SG5	Get 100% of ST manufacturing sites recognized for social responsibility by external international bodies by 2025.	73%
SG6	Engage employees in deploying STEM partnerships in 20 countries by 2025.	9 out of 20 countries
SG7	Recruit at least 30% women in all exempt positions every year.	30%
SG8	Reach at least 20% women in every management level by 2025.	20% (experienced) 14% (senior) 10% (executive)
We protect the planet		
SG9	Be carbon neutral by 2027 in all direct and indirect emissions from scope 1 and 2, and focusing on product transportation, business travel and employee commuting emissions for scope 3.	1,044 KTCO ₂ (-34% versus 2018)
SG10	Adopt 100% renewable energy sources by 2027 through energy procurement and green energy installations.	46% of total energy (51% of total electricity)
SG11	Implement programs to reduce energy consumption by at least 150GWh per year by 2027.	35GWh savings implemented in 2021
SG12	Reduce energy consumption per wafer by 20% by 2025 vs 2016.	-19%
SG13	Improve our water efficiency by 20% by 2025 vs 2016.	-11%
SG14	Recycle at least 50% of the water used each year.	40%
SG15	Ensure an annual landfill waste rate below 3%.	7%
SG16	Reuse or recycle 95% of our waste by 2025.	90%
We generate long-term value for all stakeholders		
SG17	Ensure every year that 100% of our employees have access to and are aware of our ethics and compliance support line.	100% have access Estimate 92% are aware
SG18	Ensure every year that 100% of exempt employees sign an agreement to comply with our Code of Conduct and related procedures.	97%
SG19	Follow highest standards for 100% of the materials we use: Hazardous Substances Process Management (IECQ080000) and responsible sourcing initiatives, such as RMI.	HSPM: 83% RMI: 100%
SG20	Conduct an annual risk assessment of our supply chain and audit 100% of our suppliers at risk by 2025.	Risk assessment conducted Audit: 28%
SG21	Further reduce defects by 20% per production unit by 2027 vs. 2020.	-14%
SG22	Achieve an employee engagement rate of at least 10 percentage points above local norms in all major countries by 2025.	11 out of 13 countries
SG23	Annually report our progress on all our long-term goals, following the most advanced standards.	Sustainability reporting according to GRI, SASB, TCFD, UNGC, SDG
SG24	Maintain certification for 100% of manufacturing sites (ISO 14001, ISO 45001, ISO 14064, ISO 50001).	98%

Living our values



Governance



ST headquarters, Geneva, Switzerland

ST's parent company, STMicroelectronics NV, is registered in the Netherlands and is listed on the New York Stock Exchange (NYSE), Euronext Paris, and Borsa Italiana, Milan.

Our headquarters and operational offices are managed through our wholly owned subsidiary, STMicroelectronics International NV, located in Plan-les-Ouates, near Geneva, Switzerland. Our operations are also conducted through our various subsidiaries. These are organized and operated according to the laws of their countries of incorporation and consolidated by STMicroelectronics NV. | [102-5](#) | [102-45](#) |

We have a two-tier governance structure, in accordance with Dutch law, where our management is entrusted to our Managing Board under the supervision of our Supervisory Board.

Our corporate governance policies and practices are outlined in our Corporate Governance Charter, Supervisory Board Charter, and Managing Board and Executive Committee Charter. These are available in the corporate governance section of our website (see investors.st.com [🔗](#)).

Supervisory Board

Our Supervisory Board supervises the policies pursued by the Managing Board and the general course of affairs and business of ST. It also supports the Managing Board with its advice. | [102-18](#) |

Our Supervisory Board comprises nine members (four women and five men), each appointed at our Annual General Meeting of Shareholders. Supervisory Board members are carefully selected in accordance with the Supervisory Board Charter and Profile, which are available in the corporate governance section of our website (see investors.st.com [🔗](#)).

Our Supervisory Board is assisted in its duties by five standing committees. These are independent from the Managing Board and senior management:

- Audit Committee
- Strategic Committee
- Compensation Committee
- Nomination and Corporate Governance Committee
- Sustainability Committee (established in 2022)

Our Supervisory Board met 11 times in 2021, with an average attendance rate of 87%. Full details of attendance at meetings of the Supervisory Board and its committees are shown in our annual report on Form 20-F, and in our statutory annual report, both of which are available on our website (see investors.st.com ).

44%

women on our
Supervisory Board



Janet G. Davidson

Member of ST Supervisory Board
Chair of the Sustainability Committee

ST designs, manufactures, and delivers products in a way that not only considers the needs of future generations in terms of the environment and quality of life, but that also enables people to thrive and flourish in a smarter, greener and safer society."

Managing Board

Our President and CEO, Jean-Marc Chery, is the sole member of our Managing Board. An Executive Committee acts under the authority and responsibility of the Managing Board, and in this respect manages the Company. Jean-Marc Chery also chairs our Executive Committee.

The other members of the Executive Committee are (as of January 1, 2022):

- Orio Bellezza, President, Technology, Manufacturing, Quality and Supply Chain
- Marco Cassis, President, Analog, MEMS and Sensors Group, Head of STMicroelectronics' Strategy, System Research and Applications, Innovation Office
- Rajita D'Souza, President, Human Resources and Corporate Social Responsibility
- Remi El-Ouazzane, President, Microcontrollers and Digital ICs Group
- Lorenzo Grandi, President, Finance, Purchasing, ERM and Resilience, Chief Financial Officer
- Marco Monti, President, Automotive and Discrete Group
- Steven Rose, President, Legal Counsel
- Jerome Roux, President, Sales and Marketing

Their biographies can be found in the 'About ST' section of our website (see www.st.com .

Corporate Audit

Corporate Audit is strictly independent from corporate and local management. Its primary objective is to enhance and protect organizational value by providing risk-based and objective assurance, advice, and insight.

Franck Freymond, Executive Vice President, Chief Audit and Risk Executive, is the head of Corporate Audit. He reports directly to the Audit Committee of our Supervisory Board and attends quarterly meetings with the Audit Committee and executive management.

Current functional reporting lines and practices ensure he has the appropriate level of organizational independence and unrestricted access to executive management and the Supervisory Board.

Independent audit

function

The internal audit process is based on a formal and structured audit methodology, which ensures a risk-based approach. Corporate Audit activities are coordinated with other risk assurance functions within the Company, allowing effective risk coverage.

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.

Sustainability governance

Our President and CEO regularly updates our Supervisory Board on our sustainability roadmap, risks and opportunities, including climate-related risks, as well as our sustainability strategy and performance.

At the end of 2021, our Supervisory Board decided to create a dedicated Sustainability Committee (see investors.st.com ) to support and advise on its responsibilities regarding sustainability. The committee has five members and will be operational in 2022.

Responsibility for sustainability lies with Rajita D'Souza, President, Human Resources and Corporate Social Responsibility, who chairs our Executive Sustainability Council. Strategic sustainability updates and performance are reviewed by our President and CEO at quarterly Executive Committee meetings.

Our Executive Sustainability Council validates our sustainability strategy and ensures the means are in place for each organization and site to deploy the relevant corporate programs. The Council comprises 14 Vice Presidents, representing Human Resources and Sustainability; Compliance, Ethics and Privacy; Sales and Marketing; Purchasing; Investor Relations; Front- and Back-end Manufacturing; Product Groups; Risk Management; Internal and External Communications; and Quality.

Sustainability Council

**comprising 14 Vice
Presidents**

The Corporate Sustainability department is responsible for developing our sustainability strategy and programs. It is supported by a network of over 100 local sustainability champions who manage the programs and monitor our performance across all sites and organizations. | 102-18 |

ST has been a signatory to the United Nations Global Compact since 2000 and a member of the Responsible Business Alliance since 2005. | 102-13 |

Ethics and Compliance



Putting respect, accountability, and integrity at the core of our decision-making process is vital to support our ambition, create value and earn the trust of our stakeholders. These values are some of our most important assets and an integral part of our long-term strategy. | 102-16 |

Our vision speaks for itself: we want to be everywhere microelectronics brings a positive contribution to people's lives. We must reflect this in everything we do. We believe ethics and compliance are everyone's job and responsibility, and that conducting our business with the highest ethical standards is critical to our long-term success.

Code of Conduct

Our Code of Conduct is all about our values, which are shared throughout the Company. It sets clear expectations for our employees and other stakeholders, helps to foster a culture of integrity, and provides practical guidance on the way we conduct our business and make our decisions.

- **Integrity:** we conduct our business with the highest ethical standards, honor our commitments, and keep our promises; we 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; every 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 competencies, seek responsibility and are accountable for our actions; we act with discipline, base our decisions on facts, and focus on the priorities.



Our Code of Conduct is distributed to all our employees, including newcomers. It is available in 10 languages on our website (see www.st.com/code_of_conduct), our intranet and our ST Integrity app.



Philippe Dereeper

Chief Compliance Officer & Executive Secretary of the Supervisory Board

Integrity, respect, transparency and accountability are ethical standards that must never be compromised."

Yearly declaration

This year, again, we successfully ran a worldwide campaign asking all eligible employees to sign and confirm our business ethics declaration, in line with the values and principles described in our Code of Conduct. Employees who have not completed their yearly declaration are contacted to find out why.

97%

of eligible employees signed our Code of Conduct

E-signature of Code of Conduct⁽¹⁾ (%)

2017	2018	2019	2020	2021
97	97	98	99	97

⁽¹⁾ Percentage of eligible employees (all employees in the exempt category).

Communication, awareness, and training

The pandemic caused us to reflect on our means of communication and training. In 2021, we updated our training to include formats that ensure a high quality of distance learning and excellent user experience. We developed four new interactive e-learning programs:

- anti-bribery and corruption
- conflict of interest
- anti-harassment and discrimination
- insider trading

Divided into 24 five-minute modules, these new programs enable users to take an active role in their training through practical cases and quizzes. Accessible via our training platform, they are available in 10 languages and include a glossary and quick access to useful resources. Our ambition is to provide the best e-learning experience possible to all ST employees across the globe.

Building Trust Together

Overall, our training and e-learning programs were taken by more than 17,000 employees in 2021. As well as e-learning, our team also identified and trained more than 2,000 targeted employees on specific topics based on their role, responsibilities, and associated risk exposure.

Our Compliance, Ethics and Privacy multi-channel communication and awareness strategy continued in 2021, via our intranet pages (generating more than 70,000 views), through our mobile application ST Integrity, and through a newly launched 'Building Trust Together' Yammer community, as well as an on-site poster campaign.

In addition, we participated in the 2021 Distribution and Sales Convention for Asia Pacific, with more than 900 business partners in attendance physically and virtually. We also organized a web conference in France on International Anti-Corruption Day, with more than 800 employees logging into this hour-long web event.

Privacy

We respect the privacy of our stakeholders, including our employees, in the way we collect and use their personal data.

During 2021, we updated our privacy policy, and drafted and implemented a standard operating procedure covering the processing of employees' personal data. We also published several articles on the protection of personal data on our intranet, as well as procedures to be applied when hiring suppliers whose services require the processing of personal data, or when collecting and processing contact information of individuals interacting with ST via our websites or conferences. Reflecting the increased awareness around data usage and privacy in society as a whole, we processed over 200 data subject access requests.

We did not receive any complaints on privacy breaches during 2021.

Bribery and corruption

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

This applies to all our employees, organizations and third parties acting on behalf of ST and all transactions in any country where we operate and do (or seek to do) business. Any violation will be deemed a serious violation of our Code of Conduct and lead to disciplinary action, including termination of the relationship with ST.

Our Anti-Bribery and Corruption policy (see investors.st.com/highlights) provides clear definitions regarding instances of bribery and corruption and includes detailed descriptions of the Company's rules for engaging with third parties. It also explains how to report actual or suspected violations, and outlines the potential disciplinary actions and legal consequences of any non-compliance.

**Zero-
tolerance**

**towards bribery and
corruption**

Speak up and misconduct reporting

We encourage everyone, including external business partners, to express any concerns they might have regarding possible violations of our Code of Conduct, our policies, or the law. Managers are accountable for maintaining a working atmosphere where employees are comfortable speaking up and expressing their concerns freely. All concerns raised are taken seriously.

Speak up!
culture

www.st.com), and our ST Integrity app. It can be used by any employee, business partner or stakeholder.

Our misconduct reporting process is communicated to all employees through, among other things, our Code of Conduct, dedicated intranet web pages and our ST Integrity app. In addition to internal local and corporate reporting channels, we have an independent multilingual misconduct reporting hotline. A link to our hotline is accessible on our intranet, our website (see

We apply the highest standards of confidentiality in handling all reports received, either through local management or through the hotline. We ensure that no employee who reports a concern in good faith suffers retaliation in the form of harassment, or adverse employment or career consequences.

Misconduct reporting

	2021 ⁽¹⁾
Number of incidents under review as of January 1st	7
Number of incidents reported or identified during the year	73
Asset misappropriation	9
Bribery & corruption (including conflict of interest)	12
Harassment & discrimination	42
Other	17
Incidents closed after a preliminary assessment or formal investigation	73
Number of confirmed external misconduct cases	1
which led to terminating or not renewing contracts with business partners	0
Number of confirmed internal misconduct cases	23
which led to employees being dismissed or disciplined	22
Incidents still open at year end	7
Number of public legal cases regarding corruption brought against ST or its employees	0

⁽¹⁾ In 2021, we included locally reported cases, in addition to cases reported at corporate level.

Ethics committees

The purpose of our Corporate Ethics Committee is to support ST management in its efforts to foster a consistent ethical culture across all regions, functions, and organizations. Formed in 2007 and chaired by our Chief Compliance Officer, Philippe Dereeper, the committee comprises senior managers representing various ST organizations, appointed for three-year terms by our President and Chief Executive Officer. It met three times in 2021.

5

ethics committees

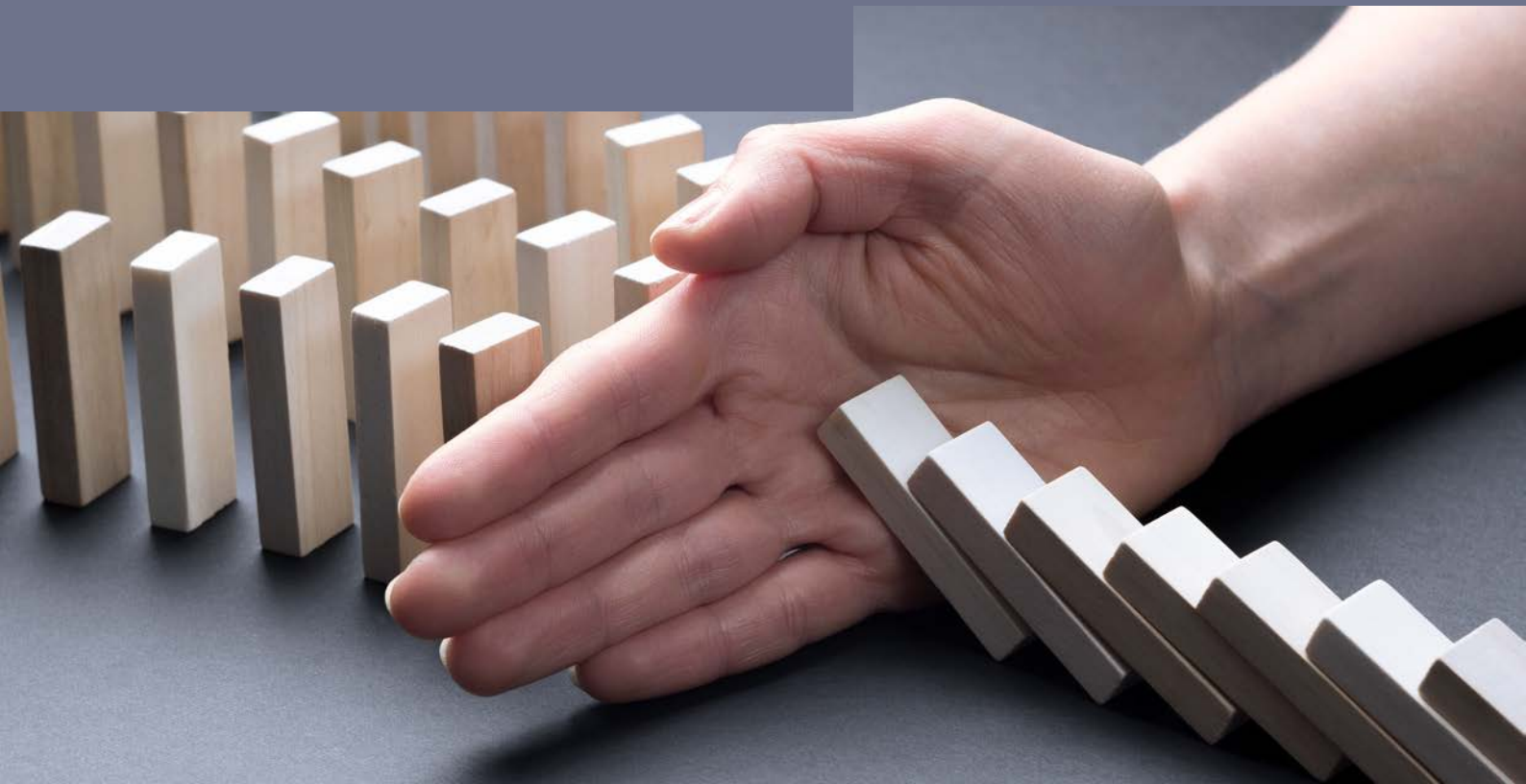
The role of the Corporate Ethics Committee includes:

- evaluating the principles in our Code of Conduct, with reference to our culture and commitment to business ethics
- reviewing the main ethical breaches, allegations, and related investigations
- providing guidance on ethical dilemmas that may be faced by the Company, upon request from the Managing Board or the Chief Compliance Officer
- promoting and coordinating the activities of our four local ethics committees in France, Italy, Asia Pacific and the Americas

Our four local committees contribute to this mission within their respective geographical areas. Their activities are complementary to the Corporate Ethics Committee, with which they are in regular communication.

Annual sustainability goal	Status	Comments
SG17: Ensure every year that 100% of our employees have access to and are aware of our ethics and compliance support line.	✗	100% have access Estimate 92% are aware
SG18: Ensure every year that 100% of exempt employees sign an agreement to comply with our Code of Conduct and related procedures.	✗	97%

Risk Management



Our tailored enterprise risk management approach

As a company operating globally in the semiconductor market, we are exposed to risks of increased volatility, uncertainty, and complexity, particularly in the current environment. For a description of ST's risk factors, please refer to the relevant section in our 2021 annual report Form 20-F and our 2021 Statutory Annual Report including IFRS financial statements, available on investors.st.com .

Our embedded approach to enterprise risk management (ERM) is formalized in a specific policy and is aligned with ISO 31000. It enables us to:

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

Our ERM improvement roadmap includes deploying our risk framework that:

- considers the interests of our stakeholders
- addresses uncertainty explicitly
- is pragmatic and tailored to ST
- is an integral part of ST processes and decision-making
- is proactive, structured, dynamic, iterative and responsive to change
- is based on the best available information

**ERM process aligned
with**

ISO 31000

Our risk framework is described in the following chart.

ST's ERM framework	
Governance, organization and culture	• Risk oversight and governance
	• Risk culture
	• Risk appetite
	• Risk functions and communities
Managing risk and opportunity	• Response to and monitoring of risk and opportunity (enabling strategy and performance)
Risk enablers	• Risk reference documentation (policies and procedures)
	• Risk processes (definition and methodologies)
	• Risk tools

Our risk approach is managed by our Chief Audit and Risk Executive under the direct responsibility of our Managing Board and the oversight of our Supervisory Board. The content of this oversight role is detailed in our Supervisory Board Charter.

Our risk governance is described in the following chart:



Managing risk according to our risk appetite strategy

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

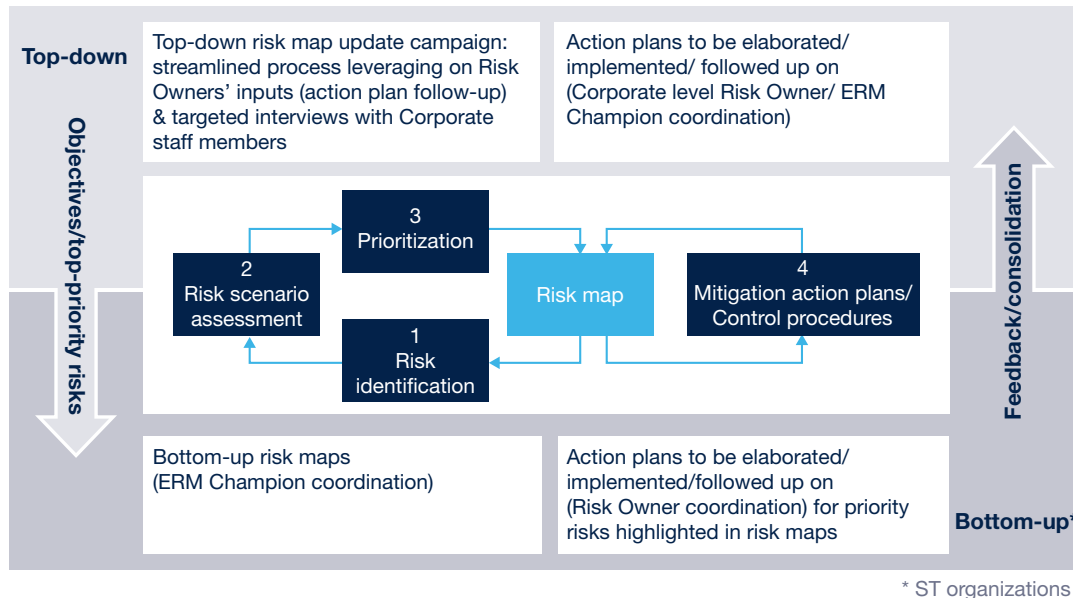
We determine the amount of risk we are willing to pursue or retain, depending on the expected rewards, opportunities, and costs.

Our risk appetite depends on the nature of risks. As an illustration, through well-designed and effective internal controls we strive to eliminate or mitigate the following risk categories to the lowest possible level:

- corporate governance
- product quality
- operations resilience (internal events)

- protection of intellectual property and other sensitive information
- people, health and safety
- adherence to our Code of Conduct and compliance with applicable laws and regulations
- protection against cyber threats

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.



During 2021, we refreshed our Company risk assessment with Executive Management. The output from this exercise was a risk map linked to our strategic objectives, including 12 ‘priority 1’ risk areas.

12

‘priority 1’ risk areas

Risk owners (members of senior management) 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 the Executive Committee and discussed periodically with the Supervisory Board and Audit Committee.

Each organizational unit throughout the Company completes its own risk assessment. This includes Marketing and Sales regions, Product Groups, Manufacturing and Technology, and corporate functions, as well as large transformation initiatives.

Continuously improving our resilience

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

- continuity of major sites
- manufacturing flexibility across internal and/or external sites
- continuity of full supply chain, including third parties
- managing business continuity and crisis communication to clients and other stakeholders
- improving Company-wide capability to respond to crises

In 2021, as per our multi-year improvement roadmap, we further embedded the RMS in our main sites and selected organizational units, leveraging our ‘Corporate Resilience Competence Center’ and a global network of ‘Resilience Champions’. We deployed a number of incremental improvements to our RMS, including a refreshed procedural framework, and fully aligned methodologies and toolkits across ERM, resilience, business continuity and crisis management. It provides a consistent methodology to address potential business disruptions to our resources, such as:

- site unavailability
- people unavailability
- IT system disruptions, such as cyber-attacks
- critical sourcing and logistics/transportation disruptions

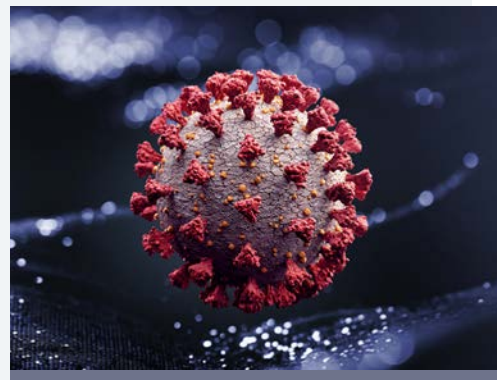
As such, we address scenarios that may affect our supply chain and operations, enabling us to continuously improve our continuity plans. Such scenarios include:

- pandemics
- natural hazards (such as earthquakes, floods, snowstorms, volcanic eruptions or tsunamis)
- industrial accidents (such as fires and explosions)
- facilities and energy interruptions
- major impacts related to human activities (such as geo-political tensions, conflicts, terrorism or strikes)

FOCUS

FACING THE PANDEMIC

Throughout 2021, our Corporate Crisis Team (CCT), directly reporting to ST's Executive Committee, has continued to orchestrate our global response to the COVID-19 pandemic, driving our network of crisis teams at regional, country and site levels to address the complexity of local conditions. We have consistently maintained our focus on two overarching priorities:



- first, maximizing measures to prevent infection, and supporting our employees and their families
- second, executing our business continuity plans, actively managing the situation across our whole supply chain, working closely with our customers, suppliers and partners

In 2020, we conducted an initial exercise to learn from the early phases of the pandemic. This led to several improvements in our crisis management set-up for 2021 and enabled us to adapt to ongoing developments. In 2021, we conducted a second review, driving further improvements.

The CCT continues to coordinate our response across all relevant areas, including:

- monitoring international developments
- global travel and health and safety management (including psychological support)
- monitoring the ST-specific situation and the deployment of measures in ST regions/sites
- monitoring our business, supply chain and manufacturing
- internal and external communications
- support function continuity management



Franck Freymond

Executive Vice President, Chief Audit and Risk
Executive

In 2021, the COVID-19 pandemic created a fast-moving risk environment that varied according to location. This was largely due to differences in public health policies, in particular the speed and extent of public vaccination campaigns. We faced multiple challenges requiring the continuous mobilization of our management and our dedicated crisis teams to continue to provide our people with a safe working environment and maintain business continuity. This second year of the pandemic highlighted our overall resilience in highly volatile conditions requiring constant adaptation."

In 2021, we developed and rolled out an ST-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 major sites, these indicators are compiled in a Site Resilience Index (SRI), which is updated and improved on a quarterly basis. Annually, site management teams prepare and update a Site Improvement Plan accordingly.

ISO 22301
certified

ST has been ISO 22301 certified since 2016. Throughout 2021, our continuous improvements have been subject to surveillance audits from the certification body, and internal audits. Recertification audits are scheduled to take place in 2022.

Sustainability risks

The identification of our priority sustainability topics is formalized through a regular multi-stakeholder materiality exercise (see [Sustainability strategy](#)). Company-level sustainability risk scenarios are then addressed as part of our ERM program in a cross-functional manner.

Specific activities conducted include:

- defining policies that embed risk mitigation strategies with concrete actions
- adopting reference standards such as ISO 45001 for safety, and ISO 14001 for the environment
- monitoring labor conditions and correcting deviations in our own operations according to the Responsible Business Alliance (RBA) standards for corporate social responsibility (see [Labor and Human rights](#))
- specifically addressing climate and water-related risks (see [Energy and Climate Change](#) and [Water](#))
- providing stewardship to our supply chain through the adoption of the RBA standard and an environmental and social due diligence process that considers potential adverse impacts
- conducting a specific annual risk assessment of our tier 1 suppliers focusing on labor and human rights, environment, health and safety, and ethics (see [Responsible Supply Chain](#))

By identifying these risks and mitigating them through dedicated programs, we can reduce our environmental and social footprint and find new opportunities to create positive value for our Company and our stakeholders.

Sustainability strategy



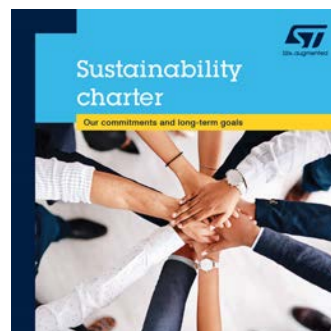
Sustainability has been embedded in our business model and culture for over 25 years. It is integrated in our activities across the whole organization and beyond, as we consider our impact, positive or negative, on our stakeholders, society, and the planet. Providing transparency and clarity to all our stakeholders is a key component of our sustainability strategy and this year, we are publishing our 25th sustainability report.

Our commitment and goals

Sustainability at ST means:

- creating technology that enables our customers to create sustainable solutions to improve people's lives
- prioritizing people and the planet, minimizing our overall footprint
- creating long-term value for stakeholders, shareholders, and partners

Our guiding principles and our sustainability goals for 2021–2027 are described in our sustainability charter, available on www.st.com , and endorsed by Jean-Marc Chery, our President and CEO. They apply to all our sites and cover all our processes, from design to production, and from sourcing to disposal of materials. Our sustainability programs and progress towards our sustainability goals are described throughout this report. | 102-46 |



To support our sustainability ambitions, we integrate specific sustainability objectives into the compensation schemes of our senior executives and employees eligible for short-term incentives. These focus on safety, carbon neutrality, gender diversity, employee engagement and external sustainability ratings (see [Talent Attraction and Engagement](#)).

Sustainability incentives for
19,000
employees

As part of our plan to accelerate sustainability and involve our stakeholders in our sustainability strategy, we developed a sustainability messaging platform in 2021 and ran workshops to train our top management and communication teams on how to engage with internal and external stakeholders on sustainability topics. These workshops will continue in 2022.

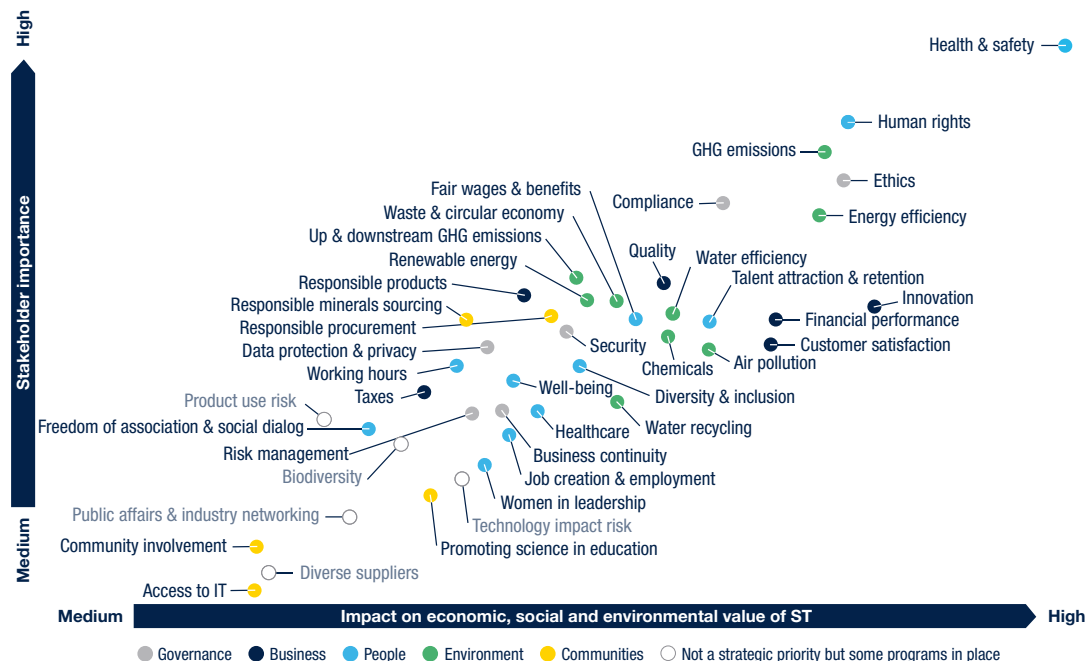
Focusing on what really matters

42

material topics

We base our sustainability strategy on preventing negative impacts, seizing opportunities and generating value for all. To ensure we focus on what really matters, we conduct a comprehensive materiality review every three years. We performed our most recent comprehensive materiality exercise in 2020. We analyzed the global sustainability context, emerging topics, and the role of our industry in identifying our material impacts, risks and opportunities. To assess the importance of each topic and its impact on value, we consulted more than 300 stakeholders, as well as our executive management team. | [102-43](#) |

To verify we are still focusing on what is material for ST and our stakeholders, in 2021 we performed a review based on external trends, and gathered feedback from our sustainability experts. The outputs are included in the materiality matrix below. For each material issue, we have long-term goals. | [103-1](#) |



Interview



Rajita D'Souza

President, Human Resources and Corporate Social Responsibility

You joined ST at the beginning of 2021. What is your impression of sustainability in ST?

ST has a longstanding commitment to sustainability and social responsibility that dates back to the 1990s. I was impressed with the level of maturity on these topics and how well they are integrated into the business operations.

Sustainability is a continuous journey. Increasing interest from stakeholders is confirming our strategy, while also creating the conditions for acceleration. How we conduct our business is just as important as what we do, and sustainability must be an integral part of our value proposition. This is reflected in our Sustainability Charter that we released during 2021.

What 2021 achievements are you most proud of?

The health and safety of our employees is a top priority at ST. In 2021, we achieved our best-ever safety performance, with an employee recordable injuries case rate of just 0.12, among the best-in-class. This great performance is the result of many years of work by the environment, health and safety (EHS) teams at our sites all over the world, on preventative actions in particular.

I am also proud of the high level of engagement shown by employees throughout ST, with 85% of employees willing to go the extra mile to help ST meet its goals, and 86% saying they are proud to work for ST.

We are progressing well towards our carbon neutrality goal for 2027, reducing our total greenhouse gas emissions by 34% over the last three years. All our sites are united in this effort – a level of engagement that is reflected in our ST survey results, where 85% of employees agreed that 'My company is taking action to protect the environment'.

Finally, all our sustainability efforts and initiatives have been recognized by the Dow Jones Sustainability Index, with our inclusion in both World and Europe indices.

What sustainability trends do you foresee for 2022?

One of the major trends is an increase in the sustainability regulations that are emerging all over the world, such as the EU taxonomy, the evolution of reporting standards, and due diligence processes. This will level the playing field and help more businesses operate responsibly. It will also increase transparency and allow stakeholders to make more informed decisions.

Every year, we review our materiality based on stakeholder feedback and external trends to anticipate changes and ensure we stay aligned with stakeholder expectations. In 2022, we expect similar trends to recent years, with clear prioritization of health and safety, GHG emissions, and ethics. We see some topics gaining importance, like business continuity, energy efficiency, talent attraction and retention, and responsible products. We will maintain our leadership in these areas and continue our progress towards our long-term public goals, including water recycling, waste recycling, and diversity, equity, and inclusion.

Stakeholder engagement

Our stakeholders are employees, customers, suppliers, investors, organizations, and other entities that can affect or be affected by our activities and products. Maintaining an open dialog with our stakeholders is essential to understand their interests and expectations. Each site conducts specific actions depending on its activity, size, location and culture, and all ST sites have regular exchanges with major local stakeholders, such as local authorities, schools and universities. To discover more about their perception and relations with ST, the auditor interviewed three stakeholders (education partner, training consultant, material supplier) during the verification process of this report. [102-40](#) | [102-42](#) | [102-43](#) |

Stakeholders	Key expectations	Engagement channels
EMPLOYEES	• Health and safety at work • Respecting human rights • Ethics	• Seminars, conferences, forums • VP communication meetings • Recognition, awards, contests • Intranet, internet, news, emails, videos • Training, workshops • Employee surveys • Application week, EHS week
CUSTOMERS	• Health and safety at work • Respecting human rights • Greenhouse gas emissions	• Trade shows • Conventions, technical seminars • Audits and site visits • Joint seminars, conferences, blog, techdays, workshops, webinars • Meetings
INVESTORS & ANALYSTS	• Health and safety at work • Greenhouse gas emissions • Talent attraction & retention	• Capital Markets Day • Annual reports • Extra-financial questionnaires
SUPPLIERS	• Health and safety at work • Ethics • Respecting human rights	• Meetings • Audits • Supplier training • Surveys • EHS week • Technical roadshows
LOCAL PARTNERS	• Respecting human rights • Greenhouse gas emissions • Health and safety at work	• Partnerships • Conferences, conventions, meetings • Site visits • Donations, training, volunteering, local initiatives
NATIONAL & LOCAL AUTHORITIES	• Ethics • Greenhouse gas emissions • Respecting human rights	• Partnerships with municipalities • Meetings, conferences, seminars • Annual reports • Site visits
ACADEMIC & LABORATORIES	• Ethics • Respecting human rights • Product and technology innovation	• Internships, scholarships, PhDs • Joint R&D projects, joint labs • Conferences, technical seminars • Site visits
INDUSTRY ASSOCIATIONS	• Ethics • Respecting human rights • Renewable energy	• Memberships in public-private partnerships, international and European associations • Participation in consortiums, in working groups of electronic industry associations • Meetings, conferences, seminars
MEDIA	• Fair wages and benefits • Greenhouse gas emissions • Renewable energy	• Conferences, conventions, meetings • Press releases

Key expectations are the top three issues retained by each group of stakeholders in our 2020 materiality exercise. [102-44](#) |

Contributing to the Sustainable Development Goals

The Sustainable Development Goals (SDGs) set by the United Nations define global sustainable development priorities and aspirations for 2030, highlighting the world's biggest social and environmental challenges. As a multinational company, we are convinced we have a responsibility and a role to play to help achieve these goals. We mapped the 17 SDGs to our material topics and business strategy. We then identified the 11 goals that are most relevant to our sustainability strategy. Our performance against these SDGs is highlighted throughout this report. | 102-12 |



Good health and well-being

- We aim to ensure healthy lives and well-being for all.
- We are engaged in minimizing risks of negative impact on people due to our activities.

3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

Health and Safety, People indicators

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

Waste, Chemicals, Environmental indicators



Ensure inclusive and quality education for all and promote lifelong learning

- We support education in all the countries where we operate.
- We develop the competence of our employees through a blended approach.

4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

Talent Attraction and Engagement, Community and Education, People indicators, Communities indicators



Achieve gender equality and empower all women and girls

- We aspire to achieve full gender equality.
- Our Women in Leadership program prepares the next generation of women leaders.

5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

Diversity, Equity and Inclusion, People indicators



Clean water and sanitation

- We are committed to reducing our water consumption and recycling more.
- All our wastewater is treated before being discharged into the environment.
- We strive for zero waste in landfill.

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

Waste, Chemicals, Environmental indicators

6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

Water, Environmental indicators

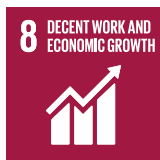


Ensure access to affordable, reliable, sustainable and modern energy for all

- We deploy programs to improve energy efficiency in all our manufacturing sites.

7.3 By 2030, double the global rate of improvement in energy efficiency

Energy and Climate Change, Environmental indicators



Promote inclusive and sustainable economic growth, employment and decent work for all

- We apply a zero tolerance approach to forced labor.
- We assess and mitigate social risks in our extended supply chain.
- We focus on providing a safe workplace with zero injuries and zero occupational diseases.

8.7 Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor, including recruitment and use of child soldiers, and by 2025 end child labor in all its forms

Labor and Human Rights, Responsible Supply Chain, Environmental indicators, People indicators

8.8 Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment

Health and Safety, Labor and Human Rights, Responsible Supply Chain, Environmental indicators, People indicators



Build resilient infrastructure, promote sustainable industrialization and foster innovation

- We promote open innovation and partner with a wide range of universities and research institutes throughout the world.

9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending

Innovation, Business indicators



Reduce inequality within and among countries

- We promote equal opportunities for all.
- Our ambition is to be a leader in cultural and disability inclusion.
- Our ST Foundation is bridging the digital divide.

10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

[Diversity, Equity and Inclusion](#), [Community and Education](#), [People indicators](#)



Ensure sustainable consumption and production patterns

- We strive for zero waste in landfill, reduce our consumption of chemicals and eliminate hazardous materials.

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

[Chemicals](#), [Environmental indicators](#)



Take urgent action to combat climate change and its impacts

- We are committed to being carbon neutral by 2027.
- We deploy programs to reduce our GHG emissions.
- We actively participate in industry initiatives for action on climate change.

13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

[Energy and Climate Change](#), [Environmental indicators](#)



Revitalize the global partnership for sustainable development – Multi-stakeholder partnerships

- As a member of the Responsible Business Alliance and other industry associations, we share knowledge and expertise to help achieve the SDGs.

17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries

[Labor and Human rights](#)

Augmenting everybody's life



Industrial Summit, Shenzhen, China

Sustainable Financial Performance



ST delivered strong revenue growth and increased profitability in 2021. Net revenues increased 24.9% to US\$12.76 billion, reflecting our strong performance in all our end markets, combined with the success of our customer engagement programs. Our performance strengthened progressively throughout the year, exceeding our expectations despite the challenges faced by the global semiconductor industry supply chain.

Sales to original equipment manufacturers (OEMs) and distributors returned to a more balanced split, representing 66% and 34% of total revenues, respectively.

By region of origin, 41% of our revenues came from the Americas, 34% from Asia Pacific, and 25% from EMEA.

Our full-year operating margin increased to 19% from 12.9% in 2020 and net income was up 80.8%. Net cash from operating activities increased by around 46% to US\$3 billion.

CAPEX was US\$1.83 billion compared to US\$1.28 billion in 2020.

Cash dividends paid to shareholders in 2021 totaled US\$205 million. We also repurchased shares totaling US\$485 million under our prior and new share repurchase programs.

The full details of our financial results are available in our annual reports (Form 20-F and IFRS), which can be found on our website (see investors.st.com ).

Revenues

US\$12.76 billion

US\$ million	2019	2020	2021
Net Revenues	9,556	10,219	12,761
Gross Margin	38.7%	37.1%	41.7%
Operating Income	1,203	1,323	2,419
Net Income	1,032	1,106	2,000
Free Cash Flow	497	627	1,120
Net Financial Position	672	1,099	977

Strong market growth

There was strong market demand in 2021, despite the ongoing impact of the pandemic and global semiconductor supply chain constraints.

All three of our product groups achieved double-digit growth in 2021.

- Automotive and Discrete Group (ADG) revenues increased 32.5%, with both sub-groups, Automotive and Power Discrete, recording double-digit growth.
- Analog, MEMS and Sensors Group (AMS) revenues grew 18.8%. Analog and MEMS recorded double-digit growth, supported by continued growth in Imaging product sales.
- Microcontrollers and Digital IC Group (MDG) revenues increased 24.3%.

Double digit growth

for all product groups

In Automotive, we saw unprecedented demand across all geographies as the industry continued to rebound from the difficult environment in 2020. The rebound was broad-based, across all customers and regions. It was driven by the volume of vehicles produced, the replenishment of inventories across the automotive supply chain and, most importantly, an accelerated transformation of the vehicle industry towards more electrification and

digitalization.

In Industrial, we saw very strong demand throughout the year, both in high-end and consumer industrial. Electrification and digitalization are the main trends driving increased demand for semiconductors in this market.

In Personal Electronics, smartphone volumes returned to growth in 2021, around 3% year-on-year, driven by increasing 5G adoption. Demand for accessories was strong, including other connected devices such as wearables, tablets, hearables, headsets, and game consoles.

In Communications Equipment and Computer Peripherals, we saw continued adoption of 5G-related products, as well as sustained demand for PCs, especially notebooks. The hard disk drive market saw a slight recovery after its decline in 2020. We also saw low-earth-orbit satellite programs launch or ramp up in several countries.



Lorenzo Grandi

President, Finance, Purchasing, ERM & Resilience,
Chief Financial Officer

"In 2021, we delivered strong revenue growth and we materially improved our profitability and free cash flow resulting in a healthy net financial position. Going forward, our EBITDA and ability to generate cash enable us to invest for the future in R&D and CAPEX for sustainable growth. Ultimately, we are focused on the creation of long-term value for our stakeholders."

EU taxonomy

The EU taxonomy is a green classification system translating the climate and environmental objectives of the European Union (EU) into criteria for sustainable economic activities. On January 1, 2022, the EU Taxonomy Delegated Acts on climate change mitigation and climate change adaptation entered into force, requiring non-financial undertakings such as ST to disclose taxonomy-eligible and taxonomy non-eligible economic activities within their turnover, capital expenditure (CAPEX) and operating expenditure (OPEX).

The following table, based on our 2021 Statutory Annual Report including IFRS Financial Statements, sets forth the proportion of our turnover, CAPEX and OPEX that is taxonomy-eligible, and the proportion that is taxonomy non-eligible.

	Turnover	CAPEX	OPEX
Taxonomy-eligible economic activities (in %)	37%	46%	36%
Taxonomy non-eligible economic activities (in %)	63%	54%	64%
Total (in US\$ million)	12,761	2,726	1,157

The disclosure has been prepared based on our current interpretation of the EU taxonomy. For more information, see [EU Taxonomy](#).

Looking forward

We will accelerate the execution of our strategy and value proposition.

Our strategy is based around three long-term enablers:

- Smart Mobility
- Power and Energy Management
- Internet of Things (IoT) and 5G

Our value proposition is based on:

- sustainable and profitable growth
- providing differentiating enablers to customers; supporting them with an independent, reliable, and secure supply chain
- committing to sustainability for the benefit of all our stakeholders

In 2022, we plan to invest from US\$3.4 billion to US\$3.6 billion in CAPEX to further increase our production capacity and support our longer-term strategic initiatives. This includes:

- capacity additions and developing the product mix, in particular for our front-end fabs including our digital 300mm at Crolles, (France), our analog 200mm at Singapore, our Silicon Carbide (SiC) 150mm at Catania (Italy) and Singapore, as well as assembly and test operations such as capacity growth on certain package families including SiC and automotive, optical sensing, and intelligent power modules for automotive and industrial applications
- strategic investments, including the first industrialization line of our new 300mm front-end fab at Agrate (Italy) as well as Gallium Nitride (GaN) technology and SiC raw material initiatives
- overall maintenance and efficiency improvements for our manufacturing operations and infrastructure, as well as our carbon neutrality program

**Plans to
invest US\$3.4
to
\$3.6 billion
in CAPEX in 2022**

We continue to work on making ST stronger. We believe we have the right strategy and resources in place, thanks to our:

- balanced end-market focus and position
- solid product/IP technology portfolio
- integrated device manufacturer model
- transformation programs
- focus on high-growth applications that continue to enjoy strong, positive dynamics

We are investing significantly to support this acceleration to capture new opportunities, strengthen our relationships with customers, and prepare for sustained growth over the years to come.

Extra-financial performance

Each year, socially responsible investment rating agencies, analysts and investors evaluate our corporate behavior and performance based on a wide range of environmental, social and governance (ESG) topics.

In 2021, we maintained a strong presence in the major sustainability indices, including Dow Jones Sustainability Index World and Europe, FTSE4Good, Solactive Global and Europe CSR index, EuroNext VIGEO Europe 120, Eurozone 120 and Benelux 120, ISS ESG Corporate Rating and Vérité40.

Furthermore, we have been included in the Bloomberg Gender Equality Index since its creation.

We received an A- score for CDP Climate Change, which is in the Leadership band. This is higher than the Europe regional average of B, and higher than the electrical and electronic equipment sector average of B. We received a B score for CDP Water, which is in the Management band. This is the same as the Europe regional average of B, and higher than the electrical and electronic equipment sector average of B-. For the first year, we were recognized as a CDP supplier engagement leader.

ST was also included in the new Euronext CAC 40 ESG index, designed to identify the 40 companies within the CAC Large 60 index that demonstrate the best ESG practices. In addition, we were included in the MIB ESG index, which identifies the 40 companies with the best ESG practices out of the 60 most liquid Italian companies.

These achievements acknowledge our longstanding commitment to conducting our business responsibly, and recognize our performance in many areas, ranging from business ethics, innovation, and quality to environment and labor practices. Participating in these evaluations provides an opportunity to assess our performance within a wider context, benchmark ourselves against our peers, measure our progress, and identify areas for further improvement.

Innovation



As one of the world's largest semiconductor companies, ST is a technology company driven by innovation. Our technology developments are guided by the long-term market trends, enabling or enhancing applications for the end-user by turning state-of-the-art chip fabrication technologies into cutting-edge commercial products. | 103-1 |

To support innovation, we invested US\$1.72 billion in research and development (R&D) in 2021, representing 13.5% of our net revenues.

Leading edge technology

The focus of our innovation (see www.st.com/innovation) and the evolution of our technology stems from long-term trends reshaping industries and societies, alongside the need to support a more sustainable world. The three main trends we focus on are: Smart Mobility, Power and Energy Management, and the Internet of Things (IoT) and 5G.

US\$1.72 billion
invested in R&D

Process technology

Thanks to our wide portfolio of patents and strong pipeline of innovation, we are one of the few semiconductor companies mastering a very broad range of chip manufacturing technologies. See more details about our technologies on our website at [Semiconductor manufacturing process technologies](#).

In collaboration with the Important Projects of Common European Interest (IPCEI) for Microelectronics program, we achieved major advances in cutting-edge technologies in 2021. These include:

- The qualification of new digital microcontroller technologies and the introduction of a completely new type of memory – fast, robust, and energy efficient – known as embedded Phase Change Memory ([e-PCM](#)).

- The demonstration of Gallium Nitride ([GaN](#)) technology for power electronics, providing unrivaled energy efficiency and power density. The qualification of a Power GaN manufacturing pilot line was initiated at our Tours site (France).
- The manufacture of our first 200mm SiC bulk wafers for prototyping next-generation power devices at our facility in Norrköping, Sweden.

Also, we received the prestigious IEEE milestone award for inventing BIPOLAR-CMOS-DMOS (BCD), a family of silicon processes in the area of power management and analog data acquisition.

Application technology

Through our IPCEI collaboration, we further developed the performance and versatility of optical sensors, increasing the perception of connected objects.

We are leaders in Micro Electro-Mechanical Systems (MEMS) technologies. We have demonstrated our expertise in developing sensors and actuators over several decades, enabling us to develop augmented reality solutions.

**Acquisition of
Cartesiam,**
a specialist AI
software company

FOCUS

ENABLING FAST DEVELOPMENT OF AUGMENTED REALITY (AR) GLASSES

As a leader in MEMS technologies, we have industrialized MEMS actuators based on thermal, electrostatic, electromagnetic, and piezoelectric devices. Building on this experience, ST and other leading technology developers and manufacturers joined forces in the LaSAR Alliance to accelerate AR smart glasses solutions.

The Alliance is focused on meeting the technical challenges required for all-day wearable smart glasses. It has created an ecosystem that includes companies developing technologies, components, and solutions based on laser beam scanning to provide augmented reality and mixed reality device manufacturers with the key foundational elements.

At Consumer Electronics Show in January 2021, we unveiled proof-of-concept smart glasses based on our first-generation [MEMS ScanAR](#) reference platform. This demonstrated the capability of ST and several of the LaSAR Alliance partners to provide a complete solution for AR eyewear applications.



In 2021, to strengthen the [artificial intelligence](#) (AI) solutions we offer, we acquired Cartesiam, an edge AI software company enabling faster machine learning project development for connected devices and industrial equipment. These technologies, which are particularly relevant for the predictive maintenance market among others, strengthen our position in several markets. The NanoEdge AI Studio tool brings additional value to our customers with its privacy-oriented process (no cloud processing of customer data) and its easy implementation, enabling customers to work on projects without the need for a highly specialized data science team.



Remi El-Ouazzane
President Microcontrollers & Digital ICs Group

If the previous decade was defined by the 'Internet of Things', the current decade will be the one of 'Autonomous Things'. Many billions of smart devices are being introduced into our homes, offices, warehouses, stores, factories, cars, and hospitals. Artificial intelligence (AI) is the cement that will enable this era of 'smart-everything'. Our goal at ST is to make AI pervasive across our hardware portfolio, catering to the various needs of developers through both low-code approaches like our NanoEdge AI Studio, and open toolkit environments like STM32Cube.AI; enabling a world where ambient intelligence eventually becomes the norm, be it for anomaly detection in a photovoltaic inverter or automated pods classification in a coffee machine. The opportunities are boundless."

Innovation ecosystem

Our innovation capability is enhanced by the ST Innovation Office. Their mission is to create more external and internal innovation opportunities through an ecosystem that connects emerging market trends with our internal technology expertise (see www.st.com/innovation). | 103-1 | 103-2 |

External scouting for technology

Recognizing the importance of partnerships in the innovation process, we build strategic alliances, engage in bilateral research cooperation, and participate in standardization groups. Overall, we were involved in 187 active R&D partnerships in 2021. | 103-3 |

187

**active R&D
partnerships**

One of our main programs, the IPCEI for Microelectronics program, gathers the most important European players in microelectronics to cooperate and innovate to serve the IoT, space, smart mobility, and security markets. Since its launch in 2018, it has involved 65 partners and 97 projects.

In 2021, we expanded our common R&D infrastructure at the PoliFab Micro- and Nanotechnology Center. This investment aims to boost our joint efforts with Politecnico di Milano in MEMS and motion control, as well as in power electronics and galvanic isolation.

We also joined new external partnerships that bring together industry leaders from along the value chain to accelerate innovation in the automotive and industrial sectors and diversify our scouting process in the smart mobility sector.

- Software République – a consortium of six industry leaders (Atos, Dassault Systèmes, Orange, Renault Group, ST and Thales) that aims to create a European collaborative ecosystem enabling secure and sustainable mobility.
- IoT Continuum – bringing together leading IoT players to accelerate the pervasion of end-to-end IoT solutions.
- Anchor partner of Startup Autobahn in Germany and Motor Valley Accelerator programs in Italy. These programs are powering innovation in the automotive sector by introducing selected young companies to established technology corporations. Both programs are created and managed by Plug and Play, the well-known Silicon Valley accelerator.

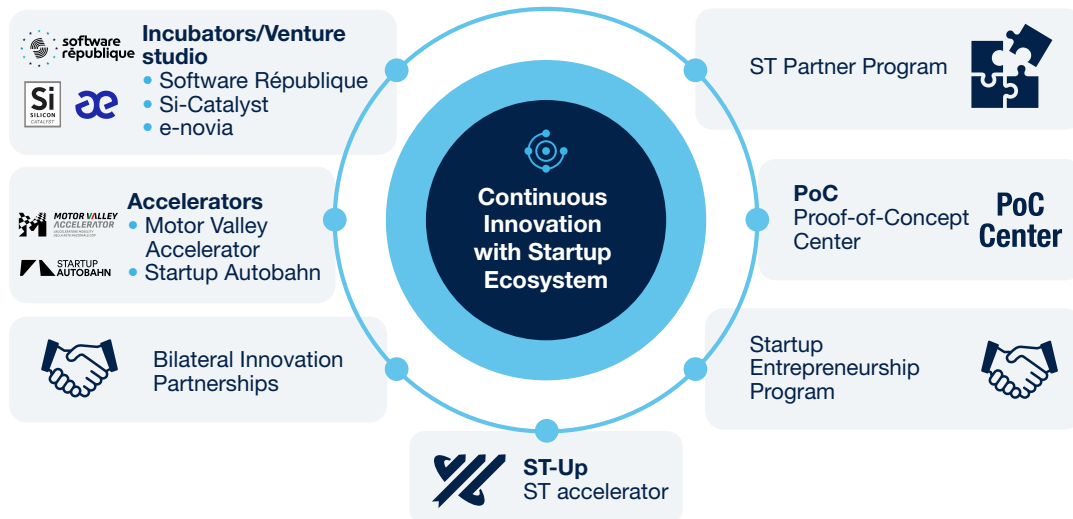
The startup ecosystem

Our Innovation Office is developing initiatives to create deeper and forward-looking relationships with several players in the startup world. There were 50 startups involved in our programs in 2021.

50 startups

engaged in our
programs

Continuous innovation within our ecosystem of startups



Our strategy to foster innovation within our startup ecosystem is based on three main programs aligned to the different stages of startup evolution:

- **Proof-of-Concept (PoC) Centers:** we provide support to small and medium-sized enterprises in the early stages to speed up their proof-of-concept phase, through co-working spaces at 15 PoC centers.
- **Startup Entrepreneurship Program:** tailored incubation services, including hosting, technical support, and mentoring to help commercialize designs by hosted startups. Since its inception, more than 50 startups have been incubated in France and India through this program, with 18 startups engaged in 2021.
- **ST-Up accelerator program:** hardware and technology startups are supported through an 18-month, five-step process. Launched in 2018 in Israel, the program was extended to France and Italy in 2021 and now has nine active engagements in these three countries.

These programs work closely together and are complemented by an ecosystem of cooperation with selected incubators and accelerators worldwide. In addition, our ST Partner program provides endorsement and visibility to successful startups from any of these initiatives.

Thanks to these partnerships, we explore new sustainable solutions and enable responsible applications for safer, greener, and smarter living (see [Sustainable Technology](#)).

Internal technology expertise

Around 8,400 ST employees work in R&D and design. This includes around 780 technical staff who are recognized for their advanced expertise.

This community drives our most advanced innovations, enabling us to develop new technologies and helping to foster R&D partnerships with prestigious universities and partners worldwide.

~8,400

employees dedicated
to R&D and product
design

Our expertise is recognized externally through our involvement and contribution at key scientific conferences.

Our sites around the world are helping to nurture the entrepreneurial spirit of our employees through local innovation labs and hubs that help to connect our technical experts within local ecosystems. We now have nine labs, with one new lab opened in 2021: the STAR Lab at our Tours site (France).

Contributing to the Sustainable Development Goals

Our commitments and programs as described above contribute to:



SDG target 9.5 – Enhance scientific research, upgrade the technological capabilities of industrial sectors, and increase private research and development spending

2025 sustainability goal	Status	Comments
SG1: Generate at least 20% of our revenues from new product lines by 2025.		13%

Sustainable Technology



Industrial Summit, Shenzhen, China

Our unique lifecycle approach since 2011

For more than 10 years, we have applied a product lifecycle approach from responsible sourcing to end of life. This not only reflects our commitment to creating sustainable technology in a sustainable way, but also makes a positive contribution to the world.

The goal of this product stewardship program is to improve the impact of our products throughout the value chain. It allows us to better manage our risks and address business opportunities in fast-growing sustainability markets, such as electric mobility, renewable energy, and smart buildings.

ST full product lifecycle approach



Jean-Louis Champseix

Group Vice President, Corporate Sustainability

At ST, we create technology for a sustainable world in a sustainable way. In a nutshell: creating technology that enables our customers to improve people's lives in many domains such as electric mobility, power and energy efficiency, smart building and healthcare."

Our Sustainable Technology program enables us to classify our products into four categories of ‘responsible products’ that provide environmental and social benefits.

Responsible products			
Eco-design products		Sustainable applications	
Low carbon Reduce production footprint	Power-efficient Consume less electricity	Planet-friendly Enable green solutions	Human-welfare Improve end-user quality of life
Environmental benefits			Social benefits

A product is given a ‘responsible product’ label when it demonstrates that the use for which it was designed brings social, energy-saving, or environmental benefits. Examples of responsible products are available on www.st.com/responsible-products .

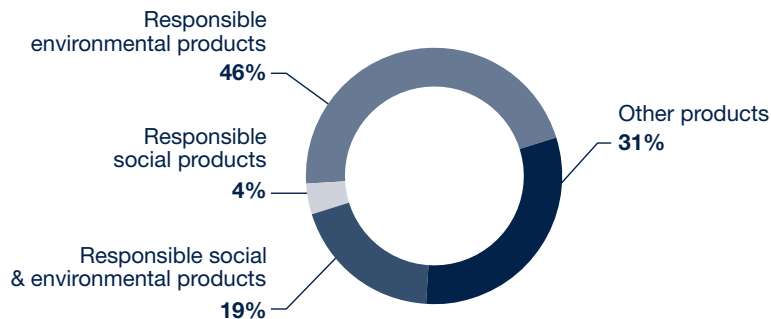
2021 achievements

We identified 69% of our new products as responsible in 2021, compared to 63% in 2020. This classification helps us identify and track revenues from our responsible product portfolio. In 2021, the total revenue derived from responsible products increased to 20%, compared to 18.5% in 2020. This is on track for our 2027 target to generate at least 33% of our revenues from our responsible products.

69%

of new ST products are responsible products

ST new products in 2021 | 417-1 |



We evaluate our products during the early stages of product design through our project management system. We award each product stars to indicate their value to society: one, two, or three stars according to their level of innovation.

STAR classification for new products in 2021 (%) | 417-1 |

	Social products ⁽¹⁾	Environmental products ⁽²⁾
★ Incremental improvement to existing offer	33	28
★★ Significant improvement to existing offer	51	29
★★★ New or dramatic improvement to existing offer	16	43

⁽¹⁾ Provides new social solutions that improve end-user quality of life (education, medical, health, safety, security of personal information or social solution for developing countries).

⁽²⁾ Power-efficient or low-carbon products (resulting from eco-design assessment) or products included in end-user applications that contribute to saving energy or resources, environmental preservation (water, chemicals, emissions) or generating renewable energy.

At the end of 2021, we released our new Sustainable Technology brochure (available on www.st.com ). This includes updates on our sustainability programs, such as 2027 Carbon Neutrality and much more.

In support of the ambitions of the European Green Deal, which aims to reduce emissions by at least 55% by 2030 compared to 1990 levels, we used our advanced product lifecycle assessment experience to report on the EU taxonomy requirements. Based on our Sustainable Technology program which allows us to classify products that provide society with environmental and social benefits, we identified our products, technologies and applications that aim at contributing substantially to climate change mitigation. This encompasses all products that aim at substantial GHG emissions savings across their lifecycle in other sectors of the economy. For more information, see [EU Taxonomy](#).

Considering every stage of the product lifecycle

Enabling technologies and eco-design

ST creates advanced semiconductor technologies by offering innovative power electronic solutions based on wide bandgap technologies, such as Silicon Carbide (SiC) and Gallium Nitride (GaN). The main advantages compared to standard silicon substrates are reduced energy consumption, minimized application size and weight.

By keeping eco-design at the heart of our product development, our designers innovate to create:

- **Low-carbon products:** thanks to low resource consumption and the lower number of manufacturing steps required, these products reduce the environmental footprint of our production equipment, utilities, and supply chain.
- **Power-efficient products:** state-of-the-art in reducing electricity consumption and power losses, these products reduce the environmental footprint of the end-devices they are embedded in.

This approach is based on our lifecycle assessment (LCA) methodology developed in accordance with ISO standards 14040 and 14044. Our product management system tracks key indicators to encourage our product development teams to implement green designs wherever possible.

Responsible sourcing

Our responsibility begins with the raw materials and the substances we use to manufacture our products. All our raw materials are sourced in line with the latest environmental and social guidelines, and sustainability criteria are included in our purchasing processes (see [Responsible Supply Chain](#) and [Responsible Mineral Sourcing](#)).

Low footprint manufacturing

We strive to reduce the impact of our manufacturing activities on natural resources by managing our GHG emissions, reducing our energy, water, and chemical consumption, and recycling waste. We also ensure that our people are safe and treated with respect and dignity. We continuously innovate and improve our processes in accordance with environmental, social, and ethical standards.

Use

Our components and technologies help end users to reduce their impact on the environment. Reducing the power consumption of electronic devices is a major feature of our portfolio, helping to reduce our environmental footprint year after year. The benefits our products deliver during use, also referred to as the 'handprint' of our products, are not only about improved power-efficiency, they are also amplified by our focus on specific market segments that are helping to solve environmental and social challenges (see [Paving the way to sustainable applications section](#), below).

End of life anticipation

We are committed to ensuring our products meet or exceed applicable environmental requirements such as REACH⁽¹⁾, RoHS⁽²⁾ and HSPM⁽³⁾ (see [Chemicals](#)). ECOPACK processes and classification help us monitor the substances used in our products, which in turn facilitates end of life and recycling when our devices are disposed of. By the end of 2021, 96% of ST products exceeded RoHS directives and were rated ECOPACK2 or ECOPACK3.

96%
**of our products
exceed RoHS
directives**

Paving the way to sustainable applications

Environmental applications

Enabling the transition to planet-friendly alternatives, these semiconductor solutions help customers to deploy smart and environmentally friendly applications.

- **Electric mobility:** by enabling large-scale vehicle electrification, as well as the supporting infrastructure that makes it possible, ST contributes to the shift from traditional vehicles to smarter, greener mobility solutions.
- **Power solutions for renewable energy or smart grids:** we contribute to the transition to greener energy sources with high-efficiency and low-power consumption components. These allow for low-loss energy conversion in solar panels, wind turbines and smart grids using wide bandgap semiconductor technologies. We also provide smart grid solutions, such as smart meters enabling energy utilities to manage their supply and demand, and allowing consumers to view their energy consumption in real time.
- **Smart building, farming and industry:** our products are used in a wide range of applications, supporting the evolution of industries to make factories and workplaces more intelligent, safer and more efficient. We provide devices to monitor, optimize, and clean gas emissions from any kind of motor engine, to measure air pollution in cities, and to purify the air. We also offer a large product portfolio for energy monitoring and control in homes, buildings, and industrial facilities. The ability of our products and technologies to be more connected with their environment has been particularly instrumental in the agriculture industry.

FOCUS

CONTRIBUTING TO SMART FARMING WITH REVOLUTIONARY TECHNOLOGY

ST's unique product portfolio plays an important role in increasing agricultural productivity by leveraging our expertise in smart products and IoT technologies.

STM32WLE5, the world's first Long Range System-on-Chip (LoRa® SoC), has

revolutionized the automation of extracting rubber from trees. Our microcontroller, micro-stepping motor controller and integrated low-dropout voltage regulator help provide more sustainable and resource-efficient agricultural production.

The fully automatic and intelligent harvesting robots are easy to use, with no rubber tapping skills required, thus helping alleviate chronic labor challenges. Compared with the traditional Jabong tapping knife, using these rubber tapping machines has several advantages:



⁽¹⁾ REACH: Registration, Evaluation, Authorization and Restriction of Chemicals.

⁽²⁾ RoHS: Restriction of Hazardous Substances.

⁽³⁾ HSPM: Hazardous Substance Process Management.

- improved rubber tapping productivity
- superior latex yield per tree
- protection against bark injury
- bark consumption regulation
- multiple environmental sensors for weather monitoring
- extension of the economic life of rubber plantations
- lower risk of injury to workers

Bridging modern communication and sensing technologies with the most advanced data analytics, smart farming aims to deliver agricultural production that is more sustainable and resource efficient.



Mario Diaznava

Cooperative R&D Programs Manager, Grenoble (France)

Smart agriculture optimizes resource consumption and preserves the environment by, for instance, preventing the unnecessary use of pesticides. As part of the Internet of Food & Farm project (IOF2020), I have been leading a project for remote monitoring of the vineyards of a renowned estate in the Bordeaux area (France). IoT devices based on STM32 microcontrollers and a #LoRa (Long Range) network have been deployed to collect environmental data, optimize resource consumption, improve vineyard yield and enhance wine quality."

Human welfare applications

Our semiconductor solutions that provide social benefits enable our customers to create applications for their clients, helping people lead safer and healthier lives.

- **Medical/Healthcare:** our solutions support medical companies in developing innovative healthcare technologies, such as ultrasound imaging systems, and pacemakers. Embedded in electronic equipment, our sensors, microcontrollers, connectivity solutions and specialized ICs have been instrumental in the fight against the COVID-19 pandemic, enabling the design of virus testing kits, rapid testers, breathing ventilators, and social distancing applications.
- **Safety:** our solutions help customers design systems and products that reduce accidents on the road, in our homes, cities, factories and workplaces. We also support the development of passive (ABS⁽⁴⁾, LED lighting) and active (ADAS⁽⁵⁾, pedestrian detection, driver somnolence detection) safety systems in cars. Our wide range of sensors and galvanically isolated components make industrial systems safer.
- **Security:** our solutions enable secure payment and authentication in a wide range of IoT devices, to protect privacy and assets by ensuring their confidentiality and integrity. In addition, our product portfolio includes a series of secure devices which, when embedded in connected systems such as alarms and smart door locks, protect against domestic robberies and car theft.

ST devices helping in the fight against COVID-19

2027 sustainability goal	Status	Comments
SG2: Generate at least 33% of our revenues from our Sustainable Technology's most advanced responsible products by 2027.		20%

⁽⁴⁾ Anti-lock Braking System.

⁽⁵⁾ Advanced Driver-Assistance Systems

Customer Satisfaction



STM32 Summit, Shenzhen, China

Customers are an important part of our value proposition and essential stakeholders in our business. Building strong and trusting relationships with them, considering their needs and serving them effectively is essential, not only in terms of the range, quality and reliability of our products, but also our approach to the environment, health and safety, and social responsibility.

Among the most important factors influencing customer satisfaction at ST are product quality and continuous dialog. | 103-1 |

Satisfaction through quality

Our quality strategy sets out how we can be our customers' most valued and trusted partner by focusing on excellent quality, reliability, and responsiveness. The strategies we use to achieve this are strong customer focus, results-driven improvement programs and a sustainable culture of quality excellence.

Our approach to quality

Our Company-wide quality program involves all ST organizations and encompasses all aspects of quality. This is brought together in our quality strategy, which is led by a cross-organizational Quality Steering Committee.

Our quality and reliability focused approach to customers is supported by a framework that includes regular internal and external customer reviews and robust customer key performance indicator (KPI) and scorecard tracking. This helps us build closer relationships and more effective communication with our customers. This, in turn, helps us to better understand their needs and adjust and sustain our quality performance to meet their expectations.

86%

**of employees
understand how
quality fits into their
job**

Our commitment to fostering a culture of quality was confirmed by our employee engagement survey. 89% of employees said ‘the message regarding quality’s importance at ST is easy to understand’ (15 points above the GEEM⁽¹⁾ norm), while 86% said that ‘people in my team clearly understand how quality expectations fit into their job requirements’ (13 points above the GEEM norm).

Management systems

Our quality approach is based on our Quality Management System (QMS). This is documented in our Quality Manual, which details the processes we use to guarantee our products meet or exceed the highest standards and customer requirements. [I 103-2 I](#)

ST adheres to internationally recognized quality management standards. We received our first Company-wide ISO TS 16949 certification in 2003 and it has been renewed every three years. Since 2018, ST has been certified IATF 16949:2016 and ISO 9001:2015, demonstrating our robust quality governance, effective QMS, and quality compliance across the Company. [I 103-3 I](#)

IATF 16949
and
ISO 9001
certified

Quality performance

We achieved significant further improvement in our overall quality performance in 2021, including improved customer scorecards and quality KPIs. This demonstrates the effectiveness of our efforts and commitment towards continuous improvement.

Quality

	2017	2018	2019	2020	2021
Customer complaints	84	79	84	66	57
Cycle time to process failure analysis	97	88	98	102	93
Customer quality returns	40	35	105	45	20

Baseline 100 in 2016.

A continuous customer dialog

We maintain a continuous, wide-ranging dialog with customers at all levels to understand, assess, and address their needs and concerns.

A wide range of customer support channels

We ensure customers have access to a number of [support channels](#) [🔗](#) to obtain information about our products or find answers to any questions they may have about our business.

- Our website (www.st.com [🔗](#)) provides a wealth of information and insights into ST customer solutions, including product brochures and flyers, product datasheets, application solutions, and short videos on key products and how they can help in application designs. Customers can also purchase samples and tools online.
- Online communities for specific product families or applications enable people to share knowledge and post questions to other members of the community.
- Phone and online support so customers can contact us with their requests or concerns. More than 80% of our customers are satisfied with our online support service.
- In-person and online seminars and training courses on our products, either directly hosted by ST or in partnership with third parties.

>80%
of customers satisfied
with online support
service

⁽¹⁾ GEEM: CultureIQ Global Electronic Equipment/Instruments Manufacturing norm.

- Regular newsletters to keep customers and partners up to date on new products and events, including seminars, conferences, webinars, and online courses.
- Social media posts, YouTube videos, and blog posts.

Maintaining close relationships at all levels

Our dedicated cross-functional teams are responsible for managing day-to-day relationships with larger customers. These teams include representatives from Sales, Logistics, Technical Support, and Quality. Through their daily dialog with customers, the team develops a deeper understanding of the customer, their internal processes, and their preferences. The relationships they build with their customer counterparts foster a high level of trust and satisfaction. We also work to build positive relationships between ST executives and key customer executives, further strengthening trust and satisfaction at the highest levels.

Relationships with smaller customers are managed by the ST Distribution Partner Network. This comprises ST personnel and distribution partners from all regions of the globe. Network personnel regularly visit customers to assess opportunities, present our product portfolio, and support them on design-in activity.

Collecting customer feedback on our performance

We collect feedback on our performance during our interactions with customers. Feedback may be communicated informally during meetings or phone calls, or it may be provided formally via a scorecard. Each customer scorecard is closely reviewed so the various components of the score (such as technology, delivery, and quality) can be analyzed and communicated to the appropriate functions within ST, via our 'Vivavoce' program, for example. A summary of the customer scorecards is posted on an internal website and is visible to all organizations within ST. This visibility provides each organization with customer feedback on its performance and is a driver for continuous improvement.

FOCUS

LISTENING TO THE VOICE OF OUR CUSTOMERS

To amplify the voice of our customers in a way that can be understood by everyone in our business, we launched Vivavoce – a new program to communicate insights across all organizations, sites, and functions within ST.

Accessible via a digital portal, Vivavoce is structured into different sections for each target audience. Each section shows the latest information regarding customers, including customer satisfaction, any issues or complaints, and action plans. This data can be analyzed, queried, and displayed in different ways to suit the needs of the users, such as by customer, by region, and by ST organization, while fully respecting customer confidentiality requirements.

The aim is to create internal conversations and collaborations as part of our continual drive to identify improvement opportunities, share knowledge and enhance customer satisfaction.



Sustainability – a growing expectation

Our customers are increasingly interested in our sustainability practices, reflecting the growing awareness and concern around sustainability, not only among our customers but also across society as a whole. We have adopted a proactive and transparent approach to addressing our customers' sustainability expectations.

Audit results shared

with customers

We are members of the Responsible Business Alliance (RBA). All our manufacturing and major sites complete an annual self-assessment questionnaire on labor and human rights, safety, ethics and environmental topics, and our manufacturing sites are subject to RBA third-party audits (see [Labor and Human Rights](#)). We share the results of these questionnaires, audits and corrective actions through the RBA platform or via our online support.

We recognize that traceability and transparency on the environmental and social impacts of our products is important to our customers. This includes information on product compliance, material declaration, working conditions, environmental impact, and the sourcing of materials. Where relevant, we publish this information on our website www.st.com  or provide it through [online support](#) .

2025 sustainability goal	Status	Comments
SG21: Further reduce defects by 20% per production unit by 2027 vs 2020.		-14%

Business indicators

This section includes indicators and GRI standard disclosures.

ST key figures | 102-7 | 201-1 |

	2017	2018	2019	2020	2021
Net revenues (US\$m)	8,347	9,664	9,556	10,219	12,761
Gross profit (US\$m)	3,272	3,861	3,696	3,789	5,326
Gross profit as a percentage of sales (%)	39.2%	40.0%	38.7%	37.1%	41.7%
Net earnings (US\$m)	802	1,287	1,032	1,106	2,000
Diluted earnings per share (US\$)	0.89	1.41	1.14	1.20	2.16
Market share versus TAM (%) (Total Available Market)	2.02%	2.06%	2.32%	2.32%	2.30%

Operating income and cash flow (US\$m) | 201-1 |

	2017	2018	2019	2020	2021
Operating income	1,005	1,400	1,203	1,323	2,419
Net operating cash flow	308	533	497	627	1,120

Net revenues by location of order shipment⁽¹⁾ (%) | 102-6 | 102-7 | 201-1 |

	2017	2018	2019	2020 ⁽²⁾	2021
Americas	13	13	14	11	12
Asia Pacific	61	61	62	69	68
EMEA	26	26	24	19	20

⁽¹⁾ Net revenues by location of order shipment are classified by location of customer invoiced or reclassified by shipment destination in line with customer demand. For example, products ordered by US-based companies to be invoiced to Asia Pacific affiliates are classified as Asia Pacific revenues. Furthermore, the comparison among the different periods may be affected by shifts in shipment from one location to another, as requested by our customers.

⁽²⁾ The sums may not add up to 100% due to rounding of the figures.

ST sales by market channel⁽¹⁾ (%) | 102-6 |

	2017	2018	2019	2020	2021
OEM	66	65	70	73	66
Distribution	34	35	30	27	34

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

Dividends paid (US\$m) | 201-1 |

	2017	2018	2019	2020	2021
Dividends	214	216	214	168	205

Taxes (US\$m) | 201-1 |

	2017	2018	2019	2020	2021
Tax expense for the year	86	95	165	174	311

ST new patents filed SDG 9.5

	2017	2018	2019	2020	2021
Total	509	549	588	557	543

Research partnerships SDG 9.5

	2017	2018	2019	2020	2021
Contracts with higher education institutions or research labs	234	160	138	143	187

On-time delivery

	2017	2018	2019	2020	2021
Delivery date in line with customer request	85	88	105	79	67
Delivery date in line with ST commitment	89	92	103	90	80

Baseline 100 in 2016.

ECOPACK® labelling (%) | 417-1 |

	2017	2018	2019	2020	2021
Non ECOPACK®	0.2	0.2	0.2	0.1	0.2
ECOPACK® 1: Compliant with the RoHS/ELV directives, second level interconnect lead-free ⁽¹⁾	6.7	6.8	6.3	4.2	3.9
ECOPACK® 2: as ECOPACK® 1, plus free of brominated, chlorinated and antimony oxide flame retardants	86.0	85.1	85.2	88.4	87.4
ECOPACK® 3: as ECOPACK® 2, plus free of halogens with no RoHS exemptions	7.1	8.0	8.3	7.3	8.5

⁽¹⁾ Including exemptions for the RoHS directive to ensure reliability for soldering at higher temperature, necessary mainly for the automotive market.

ST site certifications
ST is ISO 9001 certified Company-wide

	ISO 45001 Health & Safety	ISO 14001 Environ- ment	EMAS Environment performance disclosure	ISO 14064 GHG Emissions	ISO 50001 Energy	ISO 22301 Business Continuity	IATF 16949
Main manufacturing sites							
Agrate	✓	✓	✓	✓	✓	✓	✓
Ang Mo Kio	✓	✓	✓	✓	✓	✓	✓
Bouskoura	✓	✓	✓	✓	✓	✓	✓
Calamba	✓	✓	✓	✓	✓	✓	✓
Catania	✓	✓	✓	✓	✓	✓	✓
Crolles	✓	✓	✓	✓	✓	✓	✓
Kirkop	✓	✓	✓	✓	✗	✓	✓
Muar	✓	✓	✓	✓	✓	✓	✓
Rousset	✓	✓	✓	✓	✓	✓	✓
Shenzhen	✓	✓	✗	✓	✓	✓	✓
Tours	✓	✓	✓	✓	✓	✓	✓
Other sites							
Castelletto	✓	✓	✓	✓	✗	✓	✓
Geneva	✗	✗	✗	✗	✗	✓	✓
Greater Noida	✓	✗	✗	✗	✗	✓	✓
Grenoble	✓	✓	✓	✗	✗	✓	✓
Le Mans	✗	✗	✗	✗	✗	✗	✓
Loyang	✓	✓	✗	✗	✗	✓	✓
Marcianise	✓	✓	✗	✗	✗	✗	✓
Napoli	✓	✗	✗	✗	✗	✗	✓
Rennes ⁽¹⁾	✓	✓	✗	✓	✗	✓	✗
Toa Payoh	✓	✓	✓	✗	✓	✓	✓
Total	19	17	13	13	11	18	20

⁽¹⁾ Rennes Space & High-Reliability Products.

Putting people first



Newcomers in 2021, ST Grenoble, France

Health and Safety



ST Crolles, France

People's health and safety always come first at ST. We are committed to protecting the health and safety of employees and contractors by providing a safe working environment, preventing work injuries and illnesses, and providing access to healthcare.

Since the beginning of the COVID-19 pandemic, we have had two priorities:

- the protection and safety of our employees and our subcontractors by maximizing all prevention measures that can be put in place
- the continuity of our activities to fulfil our commitments

By continually focusing on these priorities across every area of our business, we have been able to maintain the health and well-being of our people and uphold our responsibilities to customers and other stakeholders. | 103-1 |

Health

Keeping our employees healthy, safe, and supported

In 2021, as the pandemic continued, all our sites around the world persisted with adapting their health and safety measures to the local context.

One of our most important measures was giving employees the opportunity to get their vaccinations at work. More than 13,000 employees took advantage of the offer.

>13,000

voluntary
vaccinations

We continued with our Corporate Crisis Team (CCT) that has been meeting every week since 2020 to monitor the COVID situation and ensure we take the right measures across all our sites.

All our manufacturing sites remained operational in 2021 and we ensured the safety of employees on site by taking the following measures:

- regular and specific communication to our employees according to the alert levels at each site (physical meetings, travel restrictions, working-from-home arrangements, quarantine procedures, etc.)
- strict control of site entrances with a self-declaration, filtering process, and temperature checks
- personal protective equipment: more than 10 million surgical masks distributed in 2021 and hand sanitizer everywhere, for everyone
- social distancing: protection measures in canteens, flow management in staircases, lifts and corridors, strict distance to be respected everywhere, restrictions on the use of meeting rooms and training rooms
- adapted measures to minimize potential COVID-19 transmission in some areas, such as cafeterias with a takeaway food option and longer opening times, air renewal monitoring, and high-frequency cleaning in shared spaces
- working from home for eligible employees
- 24/7 psychological support with STCare supported by Eutelmed, giving all our employees permanent access to immediate, anonymous, and confidential care
- planning for 'back to normal' progressive measures driven by site managers and adaptable to the health situation of each country (planning was developed according to applicable regulations, including trade union agreements and site hosting capacity)

>10 million
masks distributed

All these measures were deployed to protect our employees in their work environment. However, some local contexts were challenging, and we regret that 29 of our employees died of COVID-19 during the year.

Safety

In 2021, we achieved our best-ever safety result, with a recordable case rate (injuries) for ST employees of 0.12, better than our target of 0.15.

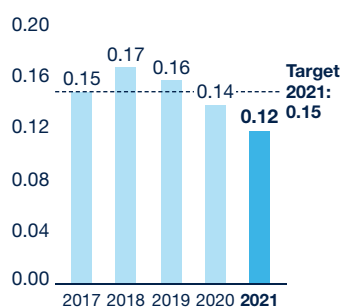
0.12

**recordable injury
case rate**

We improved our severity rate (injuries) by 26% vs 2020 reaching 2.4, but missed our annual target of 2.0. Half of all injuries, representing 65% of our days lost, are due to falls or slips. We put in place several programs and actions to improve behaviors in various areas, such as stairs and pathways.

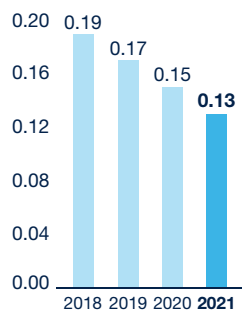
We also began reporting on our recordable cases (injuries and illnesses) for both employees and contractors, and we reached a rate of 0.15, in line with our 2025 goal. The Lost Workday Case (LWDC) incident rate for contractors reached 0.27, slightly above our 0.24 target.

Employee recordable case rate – injuries⁽¹⁾ | 403-9 |



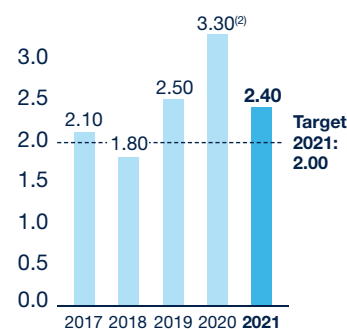
⁽¹⁾ Per 100 employees per year as defined by OSHA-US regulation.

Employee recordable case rate – injuries and illnesses⁽¹⁾ | 403-9 | 403-10 |



⁽¹⁾ Per 100 employees per year as defined by OSHA-US regulation.

Employee severity rate⁽¹⁾



⁽¹⁾ Number of days lost per 100 employees per year as defined by OSHA-US regulation.

⁽²⁾ Rate updated due to several prolongations over 2021 after the closure of the previous reporting period.

Contractors lost workday case incidence rate (LWDC) | 403-9 |

	2017	2018	2019	2020	2021
Lost workday cases per 100 contractors	0.24	0.29	0.26	0.24	0.27

Levers to improve our performance

To help us achieve these results, we continued to focus on providing environment, health and safety (EHS) training. By the end of 2021 we had provided an average of six hours of training per employee. We also strengthened our proactive approach, working on hazards, near-misses, and unsafe acts and conditions.

FOCUS

EXTENDED REALITY FOR FIRE TRAINING

Fire training for ST staff is an essential part of maintaining a safe working environment, and raising awareness and understanding among employees.

Due to the COVID-19 pandemic and the necessity to avoid training in confined spaces, our French fire training team introduced a new training method: fire training in extended reality, with combined real and virtual environments.

Thanks to the use of extended reality glasses, trainees are taught using virtual fires in their local work environment. This allows sites to:

- train employees in their actual work environment to represent the real threat they face more explicitly and to help them locate emergency equipment such as extinguishers and alarms



- adapt the scenario so that trainees are immersed in their training
- use less equipment and emit less pollution thanks to the virtual training environment

In 2021, more than 700 employees in France were trained using this method.

+26%

safety field visits

Since 2020, we have drastically improved the number and quality of field visits by managers, despite the challenging period. We undertook more than 35,900 field visits in 2021 compared to 28,400 in 2020, an increase of 26%. These visits aim to promote open communication to address safety concerns and potential risks, provide positive feedback on safe behaviors, and enforce safety

rules and safe practices.

We have a robust and mature health and safety management system, aligned with ISO 45001. Our performance and management systems are evaluated annually through third-party surveillance audits. Certifications are renewed every three years. We also continued our legal compliance audit program with 10 sites audited in 2021.

Due to COVID-19 restrictions, we stopped our on-site corporate EHS internal audits in 2020. In 2021, we restarted the program and managed to audit two sites.

Raising awareness on health and safety

We work proactively at all levels to identify potential issues in the workplace and develop innovative measures to raise employee awareness and knowledge.

For example, our Rousset site (France) developed a safety escape game to raise awareness of health and safety risks among new recruits. Participants have to identify a number of hazards within a limited time, such as electrical, mechanical, chemical, ergonomic or noise issues. The game takes place in a closed room assisted by an instructor who guides the 'players' on how to behave in hazardous situations. In 2021, all new recruits at the site were trained through this new initiative.

In March 2021, our Crolles site (France) presented their work on ergonomics since 2009 to the health and safety working group of the World Sustainability Council (WSC). Their journey started with improving employee workstations, and gradually expanded to the overall wellness and health of employees. The site recently started a 'Santé vous bien' program to improve the quality of life at work. One of its projects focuses on the link between musculoskeletal disorders (MSDs) and the operator's role in the production process. In 2021, the team relaunched daily physical warmup exercise in all workshops to help prevent the occurrence of MSDs.

Recognition

We held our first Corporate Safety awards ceremony in 2021 to promote and recognize prevention measures, proactivity, the strengthening of safe practices and behaviors, and positive results. This year, our Calamba site (the Philippines) and the Electrical Wafer Sorting (EWS) Europe organization received the awards, acknowledging their active contribution to improving health and safety.



Francis Ann Llana
EHS manager, Calamba (the Philippines)

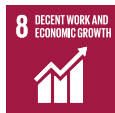
Receiving the first ST Corporate Safety award is an achievement that every employee at Calamba should be proud of. It rewards the commitment of the management team on making safety a priority. It also reflects the discipline and safety culture of Calamba employees, which is continually developed through our safety programs. These programs, such as safety training, safety bulletins, manager walks, hazard hunting and others, aim to educate and raise the awareness of our employees on safety issues. I am truly grateful for this award. It acknowledges the effort and dedication of all our employees. They are the ones who made this achievement possible for ST Calamba."

Contributing to the Sustainable Development Goals

Our commitments and programs as described above contribute to:



SDG target 3.8 – Achieve universal health coverage, including access to quality essential healthcare services and access to safe, effective, quality, and affordable essential medicines and vaccines for all.



SDG target 8.8 – Protect labor rights and promote safe and secure working environments for all workers.

2025 sustainability goal	Status	Comments
SG3: Reach a Recordable Case Rate of 0.15% or less by 2025 (work-related injuries and illnesses, including contractors).	✓	0.15%

Annual sustainability goal	Status	Comments
SG4: Maintain our Severity Rate at 2% or less each year (work-related injuries and illnesses, including contractors).	✗	2.80%
Subcontractors recordable case rate (injuries) of 0.24 or less.	✗	0.28%
Employee recordable case rate (injuries) of 0.15 or less.	✓	0.12%
Employee severity rate ≤2.0.	✗	2.40%

Labor and Human Rights



Workers, ST Catania, Italy

We believe companies play a vital role in implementing and respecting labor and human rights. Our programs aim to ensure all our people are treated with respect and dignity, not only within our own operations, but throughout our supply chain (see [Responsible Supply Chain](#)). | 103-1 |

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 at www.st.com [🔗](#)).
- An internal audit program on labor and human rights, targeting our manufacturing sites.
- Responsible Business Alliance (RBA) human rights self-assessments at all major ST sites, and third-party RBA audits at our 11 largest manufacturing sites.
- Multiple initiatives to uphold human rights and mitigate risks in regions we operate in (see Advancing labor and human rights, below).

Integrating human rights into our business

As a member of the RBA since 2005 (and currently a full member), we enforce the most advanced standards and have a comprehensive due diligence process that covers nine core principles.



Our due diligence approach

We apply a due diligence process based on RBA methodology to continually improve our management systems and prevent and mitigate human rights abuses from occurring.



Commitment

We are committed to the RBA code of conduct and integrate its principles into our internal policies:

- [ST Code of Conduct](#)
- [Corporate Labor and Human Rights policy](#)
- [Sustainability Charter](#)

We deploy regular labor and human rights training at our manufacturing sites.

- More than 35 employees have attended RBA in-person training to be able to deploy the RBA code of conduct and Validated Assessment Program (VAP) audit standard.
- In 2021, we trained 72% of our manufacturing employees on the RBA code of conduct, particularly on labor and human rights issues relevant for the local context.



Risk assessment

We conduct regular risk assessments to identify and evaluate actual or potential adverse human rights impacts.

Our risk assessment is based on:

- An assessment of our inherent risks related to our activities and locations.
- RBA self-assessment questionnaires, which our sites complete each year. In 2021, our sites scored from 90/100 to 95/100, which is higher than the industry average of 89/100.
- A site-specific assessment to identify the labor and human rights risks associated with local operations of our major sites.



Audit programs

We run audit programs covering our manufacturing sites (>80% of our employees).

- Our internal audits monitor compliance with our Labor and Human Rights policy (covering our nine core principles). They are conducted across all our manufacturing sites at least every three years.
- RBA third-party audits are conducted at our 11 largest manufacturing sites every two years, including closure audits when relevant.



Improvement actions

We identify and implement appropriate actions to prevent and mitigate adverse human rights impacts.

- Following the risk assessment, we develop and implement mitigation actions to prevent or minimize any labor and human rights impacts identified.
- Our internal and external audit results are followed up at both site and corporate level. Where appropriate, we implement corrective action plans to resolve any issues identified, and we verify that the actions have been completed.



Performance monitoring and review

We track and measure our progress to continuously improve our performance.

- Site performance is regularly monitored and reviewed through specific objectives and targets.
- Our action plans are tracked to measure and improve their effectiveness in addressing the impact of adverse human rights.



Communication

We communicate how we are addressing our risks and impacts.

- Our performance is reported publicly every year in our annual Sustainability report.

Our risks and improvement actions

In 2021, the main risks we identified and the preventive and corrective actions we implemented are described in the table below.

Description	Actions implemented
Control and monitoring of working hours (including rest days)	• Reinforced monitoring of working hours and rest days. • Raised awareness on anomalies prevention and detection.
Prevention of forced and bonded labor	• Revised corporate guidelines for personal and educational loans to be deployed in 2022.
Supplier responsibility	• Ensured labor agency workers are paid in accordance with local legal requirements. • Informed suppliers of documents to be made available for review during audits. • Trained suppliers on the RBA code of conduct (see Responsible Supply Chain › Page 117).
Student protection and management	• Validated detailed corporate guidelines for student employment, including allowances, to be deployed in 2022.

Our audit programs

We run internal audits on labor and human rights and third-party RBA Validated Assessment Program (VAP) audits at our manufacturing sites. These audits highlight any gaps at the sites, help to identify areas that require improvement, and strengthen the local social responsibility culture.

In 2021, we conducted six labor and human rights internal audits, all of them remotely.

Internal audit

for manufacturing sites

Regarding RBA VAP (6.0/7.0) third-party audits, our 11 largest manufacturing sites have been audited this year, either in an initial audit or in a closure audit, or both.

- Our best performer with full compliance during the initial audit was our Catania site (Italy).
- Initial audit results at our Crolles, Rousset and Tours sites (France), and our Bouskoura site (Morocco), were well above the industry average of 134/200.
- For closure audits, our Agrate (Italy), Ang Mo Kio (Singapore), Calamba (the Philippines) and Muar (Malaysia) sites were fully compliant, with a score of 200/200.
- Our Kirkop site (Malta) resolved 100% of the 38 non-conformances identified during the initial audit in January 2021.
- Our Shenzhen site (China) received RBA silver recognition.

Our average RBA audit score is above the industry average: +10 points in initial audits and +20 points in closure audits. [I 103-3 I](#)

RBA self-assessment questionnaire (SAQ) and VAP audit scores

Country	Site	SAQ score	VAP score
High risk			
China	Shenzhen	94.4	187.1
Malaysia	Muar	94.6	200
Singapore	Ang Mo Kio	92.1	200
The Philippines	Calamba	90.7	200
Medium risk			
Malta	Kirkop	91.4	200
Morocco	Bouskoura	94.3	173.5
Low risk			
France	Crolles	92.3	177.4
	Rousset	92.7	190.1
	Tours	93.1	187.1
Italy	Agrate	91.9	200
	Catania	94.1	200

SAQ score: low risk ≥85, medium risk ≥65 & <85, high risk <65.

Initial audit Closure audit

Note: full mark = 200/200

The main non-conformances identified during third-party RBA audits in 2021 are described in the table below.

RBA audit results for ST operations in 2021 SDG 8.7

Number of audits: 12

Total of major non-conformances			
Labor, Ethics		Management systems	
Working hours	6	Supplier responsibility	2
Wages and benefits	2	Training	2
Freely chosen employment	3	Audits and assessments	1
Non-discrimination	2	Improvement objectives	1
Young workers	2	Company commitment	2
Intellectual property	1	Management accountability and responsibility	2
No improper advantage	1	Legal and customer requirements	1
Environment, Health and Safety			
Emergency preparedness	5	Occupational safety	2
Occupational injury and illness	1	Health and safety communication	1

Figures from 2017 onwards can be found in the table in [People indicators](#) › [Page 80](#).

Following internal and external audits, we have implemented improvement plans to reinforce existing social management systems.



Mahmoud Okasha
Sustainability Champion, Kirkop (Malta)

The RBA audit program is challenging. It requires us to continuously build capability on the RBA standard, which is revised every three years. Following the results of our site's initial RBA audit, we worked on rapidly implementing appropriate actions to address non-conformances, including a deep analysis of root causes. This has helped us improve the effectiveness of our management system and enhance our social performance."

FOCUS

MANAGING OUR IMPROVEMENT ACTION PLANS

Corrective Action Plan (CAP) management is an important part of our management systems to mitigate any risk or correct any non-conformance.

For both internal and external audits, our CAPs are defined at site level with the relevant stakeholders, then they are reviewed and challenged at corporate level to improve our management systems, share best practices, reduce risks, and identify opportunities.

For both internal and external audits, our CAPs include:

- determination of root cause(s)
- description of the preventive and corrective actions to address the root cause(s) identified and prevent future recurrence of the issue(s)
- the date by which the actions are expected to be completed

These CAPs are defined, implemented, and reviewed following defined timelines, and we verify that the findings are closed.



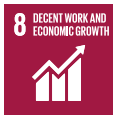
Advancing labor and human rights

Since its launch in March 2020, our STCare employee assistance program has been improved to strengthen our efforts to protect and support our employees during the pandemic and beyond (see [Health and Safety](#)).

We implemented many initiatives to support our most vulnerable employees, such as a salary increase in all countries in November 2021. Some of our sites, including Calamba (the Philippines) and Muar (Malaysia), also supported the local vaccination campaign through on-site vaccination programs (see [Health and Safety](#)).

Contributing to the Sustainable Development Goals

Our commitments and programs as described above contribute to:



SDG target 8.7 – Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking, and secure the prohibition and elimination of the worst forms of child labor.

SDG target 8.8 – Protect labor rights and promote safe and secure working environments for all workers.



SDG target 17.16 – Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries.

2025 sustainability goal	Status	Comments
SG5: Get 100% of ST manufacturing sites recognized for social responsibility by external international bodies by 2025.		73% of largest manufacturing sites – 8/11 RBA platinum recognition or a score of 200/200*

* Status related to the last closure or initial RBA VAP third-party audit

Annual sustainability goal	Status	Comments
100% of priority, major and minor non-conformities closed during the RBA closure audit.		96% of findings closed (48/50)
100% of all manufacturing sites audited every 2 years for compliance with the RBA standard.		100% of largest manufacturing sites audited (11/11)

Talent Attraction and Engagement



YES team, ST Rousset, France

We aim to be recognized as a market-leading, attractive, and innovative employer where entrepreneurial spirit, feedback, cooperation, responsibility, and leadership are the norm. Our talent strategy for attracting, recruiting, developing, and engaging talent is a core element supporting our business growth ambitions. | 103-2 |

Reinforcing our talent pool

Recruiting and retaining the best talent is a critical cornerstone to sustaining our ambitious business plan. It enables us to address the staffing challenges we face, such as the competitive labor market, the size of the labor pool, skill shortages in some key domains, and the need to continually rejuvenate our workforce by recruiting young talent. | 103-1 |

Inspiring future talent through ST employees

Our ambition is to create an engaging experience for applicants, from the initial job application right through to the onboarding process.

In 2021, we strengthened our recruitment communication strategy to enhance our differentiation and increase our visibility as an employer of choice.

We believe that our people are ST's best ambassadors, showcasing our opportunities and promoting ST as a great place to work, during external events such as campus fairs, job dating and conferences, as well as on social media. More than 320

>320
ambassadors

trained on 'We Speak Social'

ambassadors undertook our 'We Speak Social' training to help them better understand the power of social media and share their experiences as ST employees.



Sylvain Biard

Digital Design Flows & Methodology Manager,
Crolles (France)

Creating close and genuine connections with future talent, via our current employees, is key to inspiring them to join ST. In my role as ST ambassador for Telecom Paris, one of our strategic schools, I promote our jobs and career opportunities, and share my own experience, helping students to picture themselves in our Company. I am also very proud to represent ST at job dating events and help to boost ST's visibility on social media by sharing and liking all our great achievements!"

We also promoted and reinforced our employer branding through the creation of more than 40 short videos of our people discussing their jobs and their story with ST. These videos, focusing on our critical jobs, were published on major social media platforms, career fairs, school campuses and external events. They were also published internally, reinforcing the sense of belonging and pride.

In October 2021, we experimented successfully with an innovative recruitment process to help our Grenoble and Crolles sites (France) address their staffing challenges, with more than 300 positions to fill within six months in multiple job domains. Two job dating events were organized locally, supported by an intensive communication campaign. More than 100 ST employees were involved in presenting our products, our jobs and our working environment, the factors that contribute to a great applicant experience. 60 candidates were hired as a result of the events and more than 60 applications are in progress for 2022.

We continue 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. One example is the School of Maintenance for Industry 4.0 initiated by our Agrate site (Italy). At the end of 2021, we had 27 strategic academic partners globally and over 180 sourcing partners.

27

**strategic partnerships
with universities**

FOCUS

SCHOOL OF MAINTENANCE FOR INDUSTRY 4.0 IN ITALY

To address the increasing challenges of hiring qualified candidates for the manufacturing maintenance teams at our Agrate site (Italy), a team of maintenance and engineering representatives, led by Human Resources, created a tailor-made post-high school course to prepare future Industry 4.0 maintenance engineers for the microelectronics industry.

Curriculum development began in May 2019, in partnership with the Fondazione ITS Lombardia Meccatronica, to meet the evolving roles and skills of today's



maintenance engineers. Each year, around 50 ST employees are involved in this initiative, providing lessons on crucial technical topics, or speaking in seminars to improve students' understanding of what the engineering role entails and how it is evolving in the context of Industry 4.0.

Out of the 50 students enrolled in the program, we welcomed 32 of them at the end of 2021 as ST interns for three months. During their time with us, the students received 400 hours of on-the-job training and 600 hours of classroom teaching. Subsequently, 27 students were offered permanent roles at ST, while the others received at least one job offer, an internship, or an apprenticeship from other companies. A third intake of students started on the program in October 2021.

Following this success, our Catania site (Italy) launched a similar initiative in partnership with a local university.

Developing and supporting our talent pool

Today's employees expect regular feedback, open dialog, and more personal engagement with managers. Providing this requires a new style of management. That is why we have made feedback a fundamental pillar of our managerial culture for several years, to strengthen and continuously develop our talent pool to address future business challenges.

In 2021, we reshaped our Individual Performance Management process to better support our Company's growth and transformation over the next few years. Our new approach values dialog, and fosters employee-manager relationships built on open and continuous feedback and employee development. Among the key major improvements are:

- performance evaluation dissociated from performance development, behavior, and career aspirations
- continuous feedback to strengthen manager-employee relationships and foster agility in employee development to meet business needs

> 2,500

managers trained in our new performance management approach

To support employees and managers in this evolution, we enhanced our existing training and support material. By the end of 2021, more than 2,500 managers (around 40% of our managerial workforce) had been trained in our new performance approach.

We also created an internal social network for all our managers to help them share questions and best practices regarding the evolution of their roles.

Coaching also helps to spread a feedback culture and is embedded in our managerial ethos. We delivered more than 180 individual coaching sessions and 20 team coaching sessions in 2021 to support the career development of our people and improve organizational performance.

We continued the top management talent review initiated in 2020 to ensure proactive and effective succession plans were in place. This process will be extended to the lower management levels in the coming years.

In addition, we finalized the implementation of our best-in-class training platform for non-manufacturing employees, allowing us to run courses digitally and perform back-office learning activities more efficiently. To train people faster, more easily and more efficiently, we have diversified our learning offer with more than 320 digital learning options (micro-learning, video-learning) available for more than 25,000 employees. Despite the lasting impact of the pandemic, we delivered an average of 42 hours of learning per person in 2021.

Average of

42

hours of training per person

Expressing the full potential of our people

Helping our people to express their full potential by meeting their aspirations is essential to face our current and future business challenges successfully.

Enhancing the employee experience

We aim to deliver the best employee experience. Our ambition is to offer a quality working life and positive employee well-being, including a safe, creative, collaborative, diverse and inclusive culture, and environment.

The initiatives and measures we put in place helped ST to be certified a 'Top Employer 2022' in France and Italy.

Our 2021 employee survey shows a very positive perception of our initiatives. ST is recommended as a great place to work by 83% of employees, two points up on 2020, and 86% of employees say they are proud to work for ST, one point up on 2020.

At the end of 2021, 48% of our employees were under 40 years old and belonged to 'millennial' and 'zoomer' generations. By 2025, they will represent 75% of our worldwide workforce. We must listen to them to understand how to improve employee experience in order to attract, engage and keep younger people on board.

With this in mind, we launched our 'Blossom for Millennials and Zoomers' program in March 2021 to allow them to voice their opinions, offer their ideas, be creative and share their expectations to make ST an attractive and engaging place to work.

By the end of the year, more than 7,500 'blossomers' were engaged in this community and involved in many projects and initiatives across our regions and organizations.

Maintaining a high level of engagement

Employee feedback is invaluable for monitoring our transformation and organizational changes, helping to improve team cohesion, and individual and collective performance.

Our 2021 employee survey focused once again on individual engagement, goal alignment and organizational agility. It consisted of 62 questions asking employees to assess how well we are doing, and two open questions on what is working well and what needs to be improved. Two categories – Employee Experience and Innovation – were added, illustrating the importance of these topics to our Company.

The participation rate was 89%, similar to the 2020 survey. The overall engagement index was 83%, one point higher than 2020 and 13 points above the GEEM norm⁽¹⁾.

85% of employees said they were willing to go the extra mile to help ST meet its goals. This is one point above 2020 and eight points above the GEEM norm⁽¹⁾.

In general, ST outperformed the global norm across almost all benchmarks.

**ST recognized as a
top employer
in France and Italy**

85%
**of employees are
willing to go the extra
mile**

Reward and recognition

Our Compensation and Benefits policy is a critical part of our employee value proposition, supporting our growth and recognizing the contribution of our people.

We implemented two key changes in 2021:

- We extended our short-term incentives scheme that rewards operational performance to more than 5,000 employees.

⁽¹⁾ GEEM: CultureIQ Global Electronic Equipment/Instruments Manufacturing norm.

- Sustainability objectives are an integral part of our reward strategy. We integrated them into our short-term incentives scheme for around 19,000 eligible employees, focusing on four of our key priorities: safety, climate change, gender diversity and employee engagement. Our Sustainability Index is now one of three performance criteria in the long-term incentive plan for executives.

In November 2021, to recognize their dedication and hard work, our President and CEO announced an exceptional increase in base salary for all employees except executive management.

Despite the challenges of the pandemic, we ran our annual STAR Awards corporate recognition scheme. To better recognize and foster innovation, we redesigned and enhanced the internal patent award process, doubling the number of patents recognized. For the second year running, we organized the corporate STAR ceremony in a digital format and recognized a record number of more than 2,200 employees from 66 sites. Local ceremonies then continued at each site to celebrate those employees who had made outstanding contributions.



Contributing to the Sustainable Development Goals

Our commitments and programs as described above contribute to:



SDG target 4.3 – Ensure equal access for all women and men to affordable and quality technical vocational and tertiary education, including university.

2025 sustainability goal	Status	Comments
SG22: Achieve an employee engagement rate of at least 10 percentage points above local norms in all major countries by 2025.		11 out 13 countries*

* China, France, Germany, Italy, Japan, Malaysia, Singapore, South Korea, Switzerland, Taiwan, USA

Diversity, Equity and Inclusion



Newcomers in 2021, ST Grenoble, France

As a global company present in more than 35 countries, we offer a diverse working environment with 48,000 people and 115 nationalities working together as one team. We are convinced that Diversity, Equity, and Inclusion enable innovation and stakeholder engagement, as well as personal and Company growth. | 103-1 |

Our Diversity, Equity, and Inclusion strategy

‘At ST you can be the true version of yourself’

Our aim is to foster an equitable and inclusive workplace where everyone can be authentic and reach their full potential. The uniqueness of each employee is what gives ST its strength.

To help us achieve these aspirations, we reviewed our strategy in 2021 and split it into three pillars: Diversity, Equity, and Inclusion (DE&I).



To gain an initial understanding of our employees' experiences in relation to DE&I, we added two DE&I-related questions to our 2021 employee survey. These showed that 73% of employees agree that ST encourages and promotes diversity of background and perspectives, which is +7% above the global GEEM⁽¹⁾ norm. And 80% said they did not need to hide who they really are to be accepted at ST, +12% above the global GEEM⁽²⁾ norm. Although positive, these results show that we need to continue our efforts on our DE&I journey.

Attract diversity

Reinforcing our employer branding

Our ambition is to recruit and retain a diverse workforce, particularly in terms of gender, age, and disability.

Diversity is an important pillar of our employer value proposition. It is prominent in our employer branding campaigns and is a tracked indicator in our recruitment worldwide. In 2021, we reinforced our external communication on DE&I to share our values, our work environment and our commitment towards diversity, equity, and inclusion (see [Talent Attraction and Engagement](#)). | 103-1 |

Recruiting more women

At the end of 2021, women represented 34% of our global workforce and 24% of our exempts⁽²⁾. In addition, in an industry where women are under-represented, we reached our target of hiring 30% women for exempt positions for the first time.

34%

women in our
workforce

Our target for 2025 is to increase the percentage of women at all management levels to 20%. As shown by the data in the table below, we are making progress, but we are still far from the target for senior and executive management.

Following a brainstorming session in December 2020, we collected over 70 proposals from 42 human resources leaders based in 12 different countries, on how to achieve our 2025 goal. Their insights informed our revised DE&I strategy and the relevant programs aimed at increasing the proportion of women in management roles.

Women in management | 405-1 |  SDG 5.5

	2017	2018	2019	2020	2021
Women in experienced management ⁽¹⁾	16	16	18	19	20
Women in senior management ⁽²⁾	12	12	13	13	14
Women in executive management ⁽³⁾	9	9	9	10	10
Total women in management positions	16	17	17	17	18
Women on the Supervisory Board	33	33	44	44	44

⁽¹⁾ Job grade 15 to 16.

⁽²⁾ Job grade 17 to 18.

⁽³⁾ Job grade 19 and above.

Attracting young talent

Our workforce is highly skilled and experienced, with staff turnover in our engineering and management population at just 6%. To continue to build our capacity for long-term success, however, we also need to attract young talent.

To encourage young people, particularly women, to choose technical studies at an early stage of their education, and also to help address the shortage of women in our industry, we continued our

⁽¹⁾ GEEM: CultureIQ Global Electronic Equipment/Instruments Manufacturing norm.

⁽²⁾ Employees who hold positions normally requiring graduate or post-graduate education and who are not eligible for overtime compensation.

science, technology, engineering and mathematics (STEM) program launched in 2018 (see [Community and Education](#)).

Hiring and inclusion of people with disabilities

We aim to recruit and retain a diverse workforce that reflects society at large, including people with different abilities.

In France, we have strengthened our partnerships with providers specializing in diverse recruitment, such as Hello Handicap, Agefiph, JobinLive, and LinkDay. During the European Week for the Employment of People with Disabilities in November 2021, we organized a web conference on neurodiversity with nearly 600 participants. Finally, to assist our employees with questions and advice on the topic of disability, we have set up an external confidential and anonymous hotline.

In Italy, we continue to integrate disabled workers through programs such as Isola Formativa, an initiative to employ people with disabilities and train them in professional bicycle maintenance techniques, equipping them with knowledge and skills to help them enter the world of work; and partnerships with associations providing cleaning and gardening services. These initiatives created employment opportunities for an additional 16 disabled workers at our Italian sites in 2021.

Reviewing workplace flexibility

We are aware that to attract diverse talent, we need to offer more flexible working options. In 2021, we started developing proposals for hybrid and flexible working models to be deployed locally in 2022. These proposals will have a positive impact on ST employees' experience, as well as on our employer branding and attractiveness.

Grow equity

In remuneration, career opportunities and career development

We value all employee contributions and have zero tolerance for any kind of discrimination. Our objective is to safeguard equity in development, equity in career opportunities, and equal remuneration. Following the global rollout of our pay gap index, in 2021 we recorded an overall gender pay ratio of 100%, averaged across job grades and normalized by country. However, as the table below shows, there are still some gaps at specific job levels. The relevant regions and organizations are working to close these gaps.

100%

gender pay ratio

Gender pay gap ratio⁽¹⁾ (%)

		2021
Operators		95.3
Non-exempts		100.8
Exempts	Non-management ⁽²⁾	99.3
	Management ⁽³⁾	96.6
	Executive ⁽⁴⁾	113.1
Total		100.0

⁽¹⁾ Includes base and variable salary.

⁽²⁾ Exempt below job grade 15.

⁽³⁾ Job grade 15 to 18.

⁽⁴⁾ Job grade 19 and above.

ST is included in the 2022 Bloomberg Gender Equality Index, which recognizes companies committed to gender equality in the workforce and transparency in gender reporting. It rewards our 2021 performance and reflects the success of our ongoing programs in this area.

93/100

**in French Gender
Equality Index**

ST France scored 93/100 in the French government's 2022 Gender Equality Index (2021 performance), five points above our previous score.

In Italy, ST was certified as one of TOP 200 Italy's best Employers for Women 2022.

Supporting women's career development

Strengthening the role of women in building the future of our Company is another of our priorities.

Our Women in Leadership (WIL) program for junior and middle management aims to prepare the next generation of female leaders. It comprises a full training path that includes coaching, mentoring and co-development sessions. To support this, we increased our target from 30% to 40% of coaching dedicated to women in 2021. By the end of the year, we had exceeded this, reaching 41%.

After running a successful pilot session in 2021, we launched a new Advanced WIL module for senior women managers and directors to help them increase their self-confidence and become more visible and recognized within ST. It is a five-step blended learning program, including individual coaching, self-awareness, a two-day workshop, and a personal development plan. We delivered five sessions across all regions, which doubled the number of women trained. Since the launch of the WIL program in 2015, we have trained more than 400 women.

>400

**participants in our
Women in Leadership
programs**

In 2022, we are planning a further 12 sessions of WIL, including the advanced module, with the aim of training over 100 women.



cmck
SOLUTIONS

Christina Koch

Managing Partner and Director, CMCK Solutions

The Women in Leadership development programs for STMicroelectronics, through which we have trained and coached 400 female leaders to develop their unique and authentic leadership abilities, have been an extraordinary journey. The moment our workshops start you feel the bond, sharing stories and challenges that are often similar regardless of location. Creating this community of empowerment and recognition, and overcoming what are often limiting beliefs, has helped to unleash the potential of these inspiring leaders in ST. The journey continues as we speak to make the necessary changes happen."

Develop inclusion

Educate and create awareness

We aim 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 have two main training courses:

- diversity and inclusion e-learning
- unconscious bias workshops

We accelerated the delivery of these courses throughout 2021.

By the end of the year, over 7,500 employees had undergone our e-learning program on diversity and inclusion awareness. This included more than 5,000 managers and human resources staff.

We also delivered over 130 unconscious bias workshops, compared to 50 in 2020. This covered more than 1,300 employees from all regions where we operate, supported by a team of more than 50 internal trainers. During these workshops, participants explore how their own unconscious bias and micro-behaviors can impact other people and learn how to be more attentive and mindful when interacting with others.

Developing an inclusive culture is everyone's responsibility. Our back-end manufacturing organization launched a new DE&I initiative in 2021, across all ST sites where they are present.

>7,500

people trained in
diversity and
inclusion

FOCUS

BACK-END MANUFACTURING – ONE NETWORK

Our back-end manufacturing organization represents 16,000 employees from 20 locations, 14 countries and over 50 nationalities. In 2021, it launched the One Network to implement our DE&I strategy and drive changes within their organization. The network includes 12 DE&I ambassadors, whose mission, roadmap and key performance indicators (KPIs) were discussed and defined during eight ambassador workshops.



In collaboration with our corporate teams, the One Network focuses on six domains:

- communication and branding
- networks and communities
- policy and practice
- engagement and recognition
- societal impact and influence
- education and awareness

During the year, it conducted interviews with employees to assess the level of awareness of unconscious bias, trained the ambassadors to become unconscious bias trainers, and delivered 22 unconscious bias workshops. In September, it conducted a 'pulse' survey which showed that 67% of the organization was aware of the DE&I program, 84% of people understood what DE&I was and 63% were ready to contribute to DE&I initiatives.

This best practice from the One Network will be shared with other ST organizations, to spread and accelerate the delivery of our DE&I strategy and strengthen our inclusive culture.

Contributing to the Sustainable Development Goals

Our commitments and programs as described above contribute to:



SDG target 5.5 – Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.



SDG target 10.2 – By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, disability, race, ethnicity, origin, religion or economic or other status.

2025 sustainability goal	Status	Comments
SG8: Reach at least 20% women in every management level by 2025.		20% (experienced) 14% (senior) 10% (executive)

Annual sustainability goal	Status	Comments
SG7: Recruit at least 30% women in all exempt positions every year.		30%
Recruit at least 60% of new non-manufacturing employees with less than five years' experience		59%

People indicators

This section includes indicators and GRI Standard disclosures.

DEFINITIONS

-	Data not available or not required.
NA	Not Applicable.
Operator	Employees working in pure production operations.
Non-exempt	Employees who hold positions normally requiring higher education and who are eligible for overtime compensation.
Exempt	Employees who hold positions normally requiring graduate or post-graduate education and who are not eligible for overtime compensation.
Direct workers	Workers employed directly by ST.
Indirect workers	Workers employed by a third-party, such as interim agencies.

Headcount evolution by region⁽¹⁾ | 102-8 |

	2017	2018	2019	2020	2021
Americas	743	744	761	766	759
Female	190	183	192	188	185
Male	553	561	569	578	574
Asia Pacific	18,820	18,828	18,398	18,276	18,951
Female	7,947	7,848	7,484	7,432	7,616
Male	10,873	10,980	10,914	10,844	11,335
Europe	21,266	21,464	21,633	22,594	23,668
Female	5,188	5,296	5,320	5,616	5,941
Male	16,078	16,168	16,313	16,978	17,727
Mediterranean	4,638	4,917	4,762	4,380	4,876
Female	2,491	2,741	2,667	2,396	2,722
Male	2,147	2,176	2,095	1,984	2,154
Total	45,467	45,953	45,554	46,016	48,254
Female	15,816	16,068	15,663	15,632	16,464
Male	29,651	29,885	29,891	30,384	31,790

⁽¹⁾ Includes direct and indirect workers.

Employees by gender and by category | 405-1 |

	2017	2018	2019	2020	2021
Number of operators			15,794	15,894	16,524
Female (%)	55%	55%	56%	54%	54%
Male (%)	45%	45%	44%	46%	46%
Number of non-exempts			10,024	9,598	10,302
Female (%)	23%	22%	22%	22%	22%
Male (%)	77%	78%	78%	78%	78%
Number of exempts			19,736	20,524	21,428
Female (%)	22%	23%	23%	24%	24%
Male (%)	78%	77%	77%	76%	76%

External hires in manufacturing (%)

	2017	2018	2019	2020	2021
Jobs filled externally vs overall jobs filled	97	98	96	97	97

Hires by job type | 401-1 |

	2017	2018	2019	2020	2021
Operator	10,769	11,379	6,687	6,345	8,687
Female	3,984	3,938	2,114	1,870	3,125
Male	6,785	7,441	4,573	4,475	5,562
Non-exempt	2,503	2,760	3,033	2,473	3,255
Female	515	557	635	523	692
Male	1,988	2,203	2,398	1,950	2,563
Exempt	1,797	2,385	2,603	2,121	2,710
Female	445	733	713	573	808
Male	1,352	1,652	1,890	1,548	1,902
Total	15,069	16,524	12,323	10,939	14,652
Female	4,944	5,228	3,462	2,966	4,625
Male	10,125	11,296	8,861	7,973	10,027

Hires by age group (%) | 401-1 |

	2017	2018	2019	2020	2021
under 30 years old	82	78	72	72	73
30-50 years old	17	20	26	27	25
Over 50 years old	1	2	2	1	2

Hires by region (%) | 401-1 |

	2017	2018	2019	2020	2021
Americas	0	0	1	1	1
Asia Pacific	74	68	65	61	56
Europe	18	22	26	32	34
Mediterranean	8	10	8	6	9

Newcomers induction program (%)

	2017	2018	2019	2020	2021
Newcomers who participated in a formal induction session (e.g. newcomers seminar) during their first year of employment	78	72	71	72	72

Workforce by employment type (% of workers) | 102-8 |

	2017	2018	2019	2020	2021
Full-time contract	97	97	97	97	97
Female	94	94	94	94	95
Male	99	99	99	99	99
Part-time contract	3	3	3	3	3
Female	6	6	6	6	5
Male	1	1	1	1	1

Workforce by employment contract (% of workers) | 102-8 |

	2017	2018	2019	2020	2021
Permanent contract	95	95	97	97	96
Female	94	94	96	96	94
Male	96	96	98	97	97
Temporary contract ⁽¹⁾	5	5	3	3	4
Female	6	6	4	4	6
Male	4	4	2	3	3

⁽¹⁾ Includes direct and indirect workers.

Workforce by employment contract by region (% of workers) | 102-8 |

	2017	2018	2019	2020	2021
Permanent contract					
Americas	99.2	99.6	99.3	99.7	99.6
Asia Pacific	99.6	98.8	99.4	98.8	99.7
Europe	93.8	94.7	97.1	95.8	95.0
Mediterranean	84.7	82.2	89.2	92.6	86.5
Temporary contract⁽¹⁾					
Americas	0.8	0.4	0.7	0.3	0.4
Asia Pacific	0.4	1.2	0.6	1.2	0.3
Europe	6.2	5.3	2.9	4.2	5.0
Mediterranean	15.3	17.8	10.8	7.4	13.5

⁽¹⁾ Includes direct and indirect workers.

Workforce by employment relation (% of workers) | 102-8 |

	2017	2018	2019	2020	2021
Direct relation ⁽¹⁾	98	97	99	98	98
Indirect relation ⁽²⁾	2	3	1	2	2

⁽¹⁾ Workers employed directly by ST.

⁽²⁾ Workers employed by a third-party, such as interim agencies.

Remuneration (%)

	2017	2018	2019	2020	2021
Employees below the ST minimum salary scale in their job grade (exempt)	14	14	13	13	9
Employees with individual salary increase	86	84	83	30	96

Benefits, bonus & Unvested Stock Awards | 201-1 |

	2017	2018	2019	2020	2021
Eligible (exempt >JG 11) employees receiving unvested stock awards (%)	29%	29%	30%	27%	26%
Number of employees rewarded	5,050	5,140	5,590	5,070	5,126

Number of nationalities in the headcount by region⁽¹⁾ | 405-1 |

	2017	2018	2019	2020	2021
Americas	20	21	21	21	20
Asia Pacific	34	35	34	35	35
Europe	83	87	87	87	102
Mediterranean	40	47	50	46	50
Total	97	105	105	103	115

⁽¹⁾ Expatriates and assignees are counted in host country.

Number of nationalities in Executive Committee | 405-1 |

	2017	2018	2019	2020	2021
Different nationalities represented in the Executive Committee	6	6	6	6	6

Employees by gender and by region (%) | 405-1 |

		2017	2018	2019	2020	2021
Americas	Male	74	75	75	75	76
	Female	26	25	25	25	24
Asia Pacific	Male	58	58	59	59	60
	Female	42	42	41	41	40
Europe	Male	76	75	75	75	75
	Female	24	25	25	25	25
Mediterranean	Male	46	44	44	45	44
	Female	54	56	56	55	56

Average⁽¹⁾ overall turnover rate⁽²⁾ by age group (%) | 401-1 |

	2017	2018	2019	2020	2021
Under 30 years old	60	56	49	40	42
30–50 years old	8	9	9	8	10
Over 50 years old	9	6	6	7	6

⁽¹⁾ Turnover rate calculated on average headcount in activity throughout the year.

⁽²⁾ Resignations, retirements and dismissals.

Average⁽¹⁾ turnover rate (%) | 401-1 |

	2017	2018	2019	2020	2021
Average voluntary turnover rate ⁽²⁾	18.5	18.3	16.1	12.6	14.6
Average overall turnover rate ⁽³⁾	20.5	20.1	17.7	14.0	16.0

⁽¹⁾ Turnover rate calculated on average headcount in activity throughout the year.

⁽²⁾ Resignations.

⁽³⁾ Resignations, retirements and dismissals.

Average⁽¹⁾ overall turnover rate⁽²⁾ by gender, by category and by region in 2021 (%) | 401-1 |

	Operator		Non-exempt		Exempt	
	Female	Male	Female	Male	Female	Male
Americas ⁽³⁾	NA	NA	4.3	0.0	15.1	8.9
Asia Pacific	21.7	101.0	13.0	29.0	10.4	10.9
Europe	5.3	2.9	3.8	3.2	3.2	3.6
Mediterranean	6.5	17.4	6.5	5.2	17.0	16.2

⁽¹⁾ Turnover rate calculated on average headcount in activity throughout the year.

⁽²⁾ Resignations, retirements and dismissals.

⁽³⁾ The Company has no manufacturing sites in these regions.

Average employee age by category

	2017	2018	2019	2020	2021
Operator	34	34	35	36	35
Non-exempt	38	39	39	40	40
Exempt	44	44	44	44	44
Average employee age (years)	39	39	40	40	40

Employees by category and by age group in 2021 (%) | 405-1 |

	Under 30 years old	30–50 years old	Over 50 years old
Operator	40	50	10
Non-exempt	24	58	18
Exempt	12	57	31

Promotion ratio female/male by category and by region in 2021 (%) | 405-1 | SDG 5.5

	Operator		Non-exempt		Exempt	
	Female	Male	Female	Male	Female	Male
Americas ⁽¹⁾	NA	NA	9	0	12	10
Asia Pacific	11	12	20	11	14	11
Europe	7	5	11	9	16	13
Mediterranean	15	9	34	19	24	18

⁽¹⁾ The Company has no manufacturing sites in these regions.

Disabled employees (%) | 405-1 | SDG 10.3

	2017	2018	2019	2020	2021
Disabled people employed as % of total workforce	1.5	1.6	1.8	2.0	1.9

Career development (%)

	2017	2018	2019	2020	2021
Employees with a promotion in the year	9	11	10	8	12
Employees with a job function change in the year	3	2	2	2	2

Employee yearly Individual Performance Management (%)

I 404-3 I

	2017	2018	2019	2020	2021
Operator	75	81	84	70	93
Female	70	72	77	54	92
Male	82	92	94	90	94
Non-exempt	81	91	90	92	52
Female	80	89	87	89	60
Male	82	92	92	93	49
Exempt	93	97	95	97	94
Female	91	96	95	96	94
Male	94	97	96	97	94
Total	90	89	90	85	85
Female	88	80	82	70	88
Male	91	95	95	97	83

Employees with a formal career development review⁽¹⁾ (%)

I 404-3 I

	2017	2018	2019	2020	2021 ⁽²⁾
Non-exempt	31	39	47	50	13
Female	35	44	51	55	18
Male	29	36	45	48	12
Exempt	50	57	64	66	18
Female	52	60	66	68	19
Male	49	56	63	66	18

⁽¹⁾ Operators are managed through a different process.

⁽²⁾ New performance review system implemented in Q2 2021. Cycle extended to Q1 2022.

ST population recognized through the technical ladder⁽¹⁾ (%)

	2017	2018	2019	2020	2021
Asia Pacific	3.3	3.7	3.5	3.5	3.8
Europe & Mediterranean	6.8	6.7	6.7	6.9	7.1
Worldwide	5.8	5.8	5.7	5.8	6.0

⁽¹⁾ The specified path starts from job grade 14.

Employee survey – engagement rate (%)

	2017 ⁽¹⁾	2018	2019	2020	2021
Overall participation rate	NA	87	90	89	89
Individual engagement index	NA	77	79	82	83
Organizational agility index	NA	66	68	73	73
Goal alignment index	NA	77	80	82	84

⁽¹⁾ No survey conducted in 2017.

Internal mobility⁽¹⁾ (%)

	2017	2018	2019	2020	2021
Operator	-	-	4	3	2
Non-exempt	-	-	5	6	8
Exempt	33	25	20	27	23
Total	-	-	8	9	7

⁽¹⁾ Jobs filled internally.

Average number of training hours per year⁽¹⁾ I 404-1 I



	2017	2018	2019	2020	2021
Operator	66	60	65	64	61
Female	56	56	62	55	59
Male	75	64	68	72	64
Non-exempt	38	40	46	35	34
Female	29	30	40	27	27
Male	40	42	47	37	36
Exempt	28	30	33	29	25
Female	31	32	37	31	27
Male	27	29	32	28	24
Total	48	47	50	44	42
Female	48	48	53	44	47
Male	48	46	47	44	40
Total number of employees trained	-	-	-	42,989⁽²⁾	47,039⁽²⁾

⁽¹⁾ Based on the total headcount including turnover. Includes training on equipment and outside training.

⁽²⁾ Based on the total headcount on December 31, excluding turnover.

Employees enrolled in ST supported external education programs (%)

	2017	2018	2019	2020	2021
Operator	0.8	0.6	1.1	1.0	0.8
Non-exempt	2.2	1.9	2.1	2.0	2.3
Exempt	1.8	1.9	3.6	2.2	1.5

Formal recognition and suggestion scheme

	2017	2018	2019	2020	2021
Number of people recognized ⁽¹⁾	17,110	18,879	20,837	23,892	25,909
Accepted suggestions which were implemented (%)	54%	52%	30%	40%	51%

⁽¹⁾ Can include more than one recognition per employee over the year.

Unplanned absenteeism (%)

	2017	2018	2019	2020	2021
Unplanned absenteeism	2.59	2.92	2.77	3.32	2.93
% by region					
Americas	0.17	0.24	0.03	0.01	0.01
Asia Pacific	1.99	2.82	2.83	2.62	2.78
Europe	2.90	2.84	2.89	3.68	3.01
Mediterranean	3.91	3.99	2.45	5.03	3.59
% by gender					
Female	3.40	3.54	3.19	3.87	3.61
Male	2.14	2.57	2.54	3.02	2.57

Collective bargaining | 102-41 |

	2017	2018	2019	2020	2021
Number of collective agreements signed in the year	49	55	30	62	55
People covered by collective bargaining agreements (%)	74%	74%	78%	78%	79%
People covered by representatives (%)	71%	71%	71%	71%	72%

Fair wages (%) SDG 10.3

	2017	2018	2019	2020	2021
Employees paid above 105% of the legal or conventional minimum wage	89.2	90.8	93.2	90.1	95.1

Working time and overtime hours

	2017	2018	2019	2020	2021
Employees with regular worktime less than 48 hours per week (%)	84%	85%	85%	85%	85%
Average weekly overtime (hours per employee)	5.0	5.2	4.3	5.4	5.8

Average weekly working time, including overtime, in selected countries⁽¹⁾ (hours)

		2017	2018	2019	2020	2021
China	ST standard working time	40	40	40	40	40
	Overtime	8.2	9.0	8.9	10.2	11.8
France	ST standard working time ⁽²⁾	38.5	38.5	38.5	38.5	38.5
	Overtime	0.1	0.2	0.1	0.1	0.1
Italy	ST standard working time	40	40	40	40	40
	Overtime	0.4	0.4	0.3	0.2	0.3
Malaysia	ST standard working time	48	48	48	48	48
	Overtime	12.0	12.2	12.2	11.7	10.4
Malta	ST standard working time	40	40	40	40	40
	Overtime	8.2	8.1	6.9	7.3	7.8
Morocco	ST standard working time	44	44	44	44	44
	Overtime	0.4	0.6	1.7	0.4	0.4
Singapore	ST standard working time	44	44	44	44	44
	Overtime	7.2	8.3	4.7	6.9	11.3
The Philippines	ST standard working time	48	48	48	48	48
	Overtime	7.9	7.0	0.9	11.5	11.0

⁽¹⁾ For non-exempts and operators.

⁽²⁾ French standard legal working time is 35 hours, but ST has a collective agreement for 38.5 hours.

ST sites subject to regular human rights SAQ & audits (RBA) | 412-1 | SDG 8.8

Country	Major site ⁽¹⁾	% Workforce	Self-assessment	Audit
High risk				
China	Shenzhen	9.7%	✓	✓
Malaysia	Muar	9.1%	✓	✓
Singapore	Ang Mo Kio	9.3%	✓	✓
The Philippines	Calamba	5.8%	✓	✓
Medium risk				
Malta	Kirkop	3.5%	✓	✓
Morocco	Bouskoura	6.2%	✓	✓
Low risk				
France	Crolles	9.1%	✓	✓
	Grenoble ⁽²⁾	4.1%	✓	✗
	Rousset	5.7%	✓	✓
	Tours	2.8%	✓	✓
India	Greater Noida ⁽²⁾	1.8%	✓	✗
Italy	Agrate	10.2%	✓	✓
	Castelletto ⁽²⁾	2.3%	✓	✗
	Catania	9.6%	✓	✓
	Marcianise	0.5%	✓	✗
Percentage coverage of total workforce		90%	90%	81%
Number of sites subject to regular human rights SAQ and audits			15	11

⁽¹⁾ Site with >700 employees and large manufacturing sites.

⁽²⁾ Design centers. Other sites are manufacturing.

RBA audit results for ST operations SDG 8.7

	2017	2018	2019	2020	2021
Number of audits	4	7	8	9	12
Total of priority non-conformances	0	0	0	0	0
Total of major non-conformances	8	21	12	11	37
Average major/priority NC/audit	2.0	3.0	1.5	1.2	3.1
Labor					
Working hours	1	4	1	3	6
Wages and benefits	2	1	0	0	2
Freely chosen employment	1	1	2	0	3
Non-discrimination	0	0	1	0	2
Young workers	0	0	0	0	2
Total of major NC	4	6	4	3	15
Average major NC/audit	1.0	0.9	0.5	0.3	1.3
Ethics					
Intellectual property	0	0	0	0	1
No improper advantage	0	0	0	0	1
Total of major NC	0	0	0	0	2
Average major NC/audit	0.0	0.0	0.0	0.0	0.2
Health and Safety					
Emergency preparedness	1	3	2	2	5
Occupational injury and illness	0	3	1	0	1
Industrial hygiene	0	0	1	0	0
Machine safeguarding	0	0	0	1	0
Food, sanitation and housing	0	0	0	1	0
Occupational safety	0	3	1	2	2
Health and safety communication	0	0	0	0	1
Total of major NC	1	9	5	6	9
Average major NC/audit	0.3	1.3	0.6	0.7	0.8
Environment					
Hazardous substances	2	2	0	0	0
Energy consumption and GHG emissions	0	1	1	0	0
Storm water management	1	0	0	0	0
Total of major non-conformances	3	3	1	0	0
Average major NC/audit	0.8	0.4	0.1	0.0	0.0
Management Systems					
Supplier responsibility	0	1	1	2	2
Training	0	1	0	0	2
Audits and assessments	0	1	1	0	1
Improvement objectives	0	0	0	0	1
Company commitment	0	0	0	0	2
Management accountability and responsibility	0	0	0	0	2
Legal and customer requirements	0	0	0	0	1
Total of major NC	0	3	2	2	11
Average major NC/audit	0.0	0.4	0.3	0.2	0.9

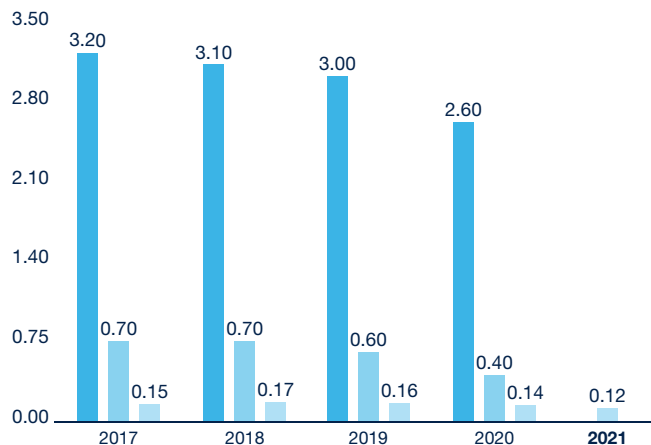
Employees with healthcare coverage provided by ST⁽¹⁾ (%)



	2018	2019	2020	2021
Work-related health issues	78	79	88	79
Personal health issues	89	89	98	98
Direct family members health issues	72	68	83	82

⁽¹⁾ In addition to national healthcare schemes.

Recordable case rate benchmarks⁽¹⁾ | 403-2 |



■ US Manufacturing (Source BLS) ■ All US Semiconductor (Source BLS) ■ ST
⁽¹⁾ Including injuries only. 2021 Benchmark ⁽²⁾ Bureau of Labor Statistics data not available at time of publishing. (United States Department of Labor).

Recordable case rate⁽¹⁾ by gender and by region | 403-9 |



	2017	2018	2019	2020	2021
Gender					
Female	0.23	0.18	0.21	0.15	0.15
Male	0.10	0.16	0.13	0.13	0.10
Region					
Americas	0.00	0.00	0.00	0.00	0.00
Asia Pacific	0.16	0.11	0.11	0.12	0.10
Europe & Mediterranean	0.14	0.23	0.21	0.16	0.14

⁽¹⁾ Work-related injuries per 100 employees per year as defined by OSHA-US regulation.

Contractor recordable case rate – including injuries and illnesses | 403-9 | 403-10 |

	2021
Contractor recordable case rate ⁽¹⁾	0.28

⁽¹⁾ Per 100 contractors per year as defined by OSHA-US regulation.

Total recordable case rate for employees and contractors – including injuries and illnesses | 403-9 | 403-10 |

	2021
Total recordable case rate ⁽¹⁾ for employees and contractors	0.15

⁽¹⁾ Per 100 employees and contractors per year as defined by OSHA-US regulation.

Recordable case rate on-site industrial/domestic⁽¹⁾ | 403-9 |

	2017	2018	2019	2020	2021
Recordable case ⁽²⁾ industrial rate	0.07	0.13	0.09	0.07	0.06
Recordable case ⁽²⁾ domestic rate	0.08	0.04	0.07	0.07	0.06

⁽¹⁾ Industrial recordable cases are directly linked with industrial activity. Domestic recordable cases are on-site cases such as a fall or slip on stairs or struck by or against door/chair/building and structures etc.

⁽²⁾ Work-related injuries per 100 employees per year as defined by OSHA-US regulation.

Recordable cases by type of event, accident or exposure (%) | 403-9 |

	2017	2018	2019	2020	2021
Fall or slip	48	30	45	47	49
Struck by or against	27	35	32	24	25
Overexertion	4	3	1	3	4
Caught in, under or between	8	10	7	8	4
Contact with chemicals	2	4	1	8	5
Bodily reaction from slip or motion	2	9	6	6	9
Others	9	9	8	4	4

Severity rate⁽¹⁾ by gender and by region

	2017	2018	2019	2020	2021
Gender					
Female	2.4	2.1	3.3	2.8	2.8
Male	1.9	1.6	2.0	3.5 ⁽²⁾	2.2
Region					
Americas	0.0	0.0	0.0	0.0	0.0
Asia Pacific	0.9	0.4	0.7	1.7 ⁽²⁾	2.3
Europe & Mediterranean	3.1	3.1	4.1	4.7	2.5

⁽¹⁾ Number of days lost per 100 employees per year as defined by OSHA-US regulation.

⁽²⁾ Rate updated due to several prolongations over 2021 after the closure of the previous reporting period.

Severity rate⁽¹⁾ – injuries and illnesses

	2020	2021
Employee severity rate	4.00	2.50
Contractor severity rate	-	4.80
Total severity rate for employees and contractors	-	2.80

⁽¹⁾ Number of days lost per 100 employees and contractors per year as defined by OSHA-US regulation.

Occupational disease rate by gender and by region | 403-10 |

	2017	2018	2019	2020	2021
Occupational disease rate^(1,2)	0.01	0.02	0.01	0.01	0.01
Gender					
Female	0.03	0.06	0.03	0.01 ⁽³⁾	0.01
Male	0.00	0.00	0.00	0.01 ⁽³⁾	0.00
Region					
Americas	0.13	0.00	0.00	0.00	0.00
Asia Pacific	0.00	0.00	0.00	0.00	0.00
Europe & Mediterranean	0.03	0.04	0.02	0.01	0.01

⁽¹⁾ Work-related illnesses per 100 employees per year as defined by OSHA-US regulation.

⁽²⁾ 100% of occupational diseases are linked to musculoskeletal disorders.

⁽³⁾ Data corrected due to error in reporting.

Occupational disease severity rate by gender and by region

	2017	2018	2019	2020	2021
Occupational disease severity rate⁽¹⁾	1.05	1.92	0.93	0.72	0.08
Gender					
Female	2.70	5.50	2.70	0.13	0.15
Male	0.00	0.00	0.00	1.03 ⁽²⁾	0.05
Region					
Americas	0.65	0.00	0.00	0.00	0.00
Asia Pacific	0.00	0.00	0.00	0.00	0.00
Europe & Mediterranean	2.00	3.70	1.78	1.36 ⁽²⁾	0.16

⁽¹⁾ Number of days lost per 100 employees per year as defined by OSHA-US regulation.

⁽²⁾ Rate updated due to several prolongations over 2021 after the closure of the previous reporting period.

Lost workday incidence rate – contractors | 403-9 |

	2017	2018	2019	2020	2021
Lost workdays per 100 contractors	5.1	5.2	4.1	5.3	4.8

Lost workday incidence rate⁽¹⁾ – contractors by region | 403-9 |

	2017	2018	2019	2020	2021
Americas	0.00	0.00	0.00	0.00	0.00
Asia Pacific	5.98	1.62	0.00	1.06	5.63
Europe & Mediterranean	4.50	7.55	6.85	8.22 ⁽²⁾	4.27

⁽¹⁾ Number of days lost per 100 contractors per year as defined by OSHA-US regulation.

⁽²⁾ Rate updated due to several prolongations over 2021 after the closure of the previous reporting period.

Lost workday – contractors by gender (%) | 403-9 |

	2017	2018	2019	2020	2021
Female	13	26	26	18	45
Male	87	74	74	82	55

Lost workday case incidence rate⁽¹⁾ – contractors by region | 403-9 |

	2017	2018	2019	2020	2021
Americas	0.00	0.00	0.00	0.00	0.00
Asia Pacific	0.17	0.14	0.00	0.04	0.14
Europe & Mediterranean	0.30	0.40	0.44	0.39	0.35

⁽¹⁾ Number of cases with days lost per 100 contractors per year as defined by OSHA-US regulation.

Lost workday cases – contractors by gender (%) | 403-9 |

	2017	2018	2019	2020	2021
Female	24	14	30	18	20
Male	76	86	70	82	80

EHS training

	2017	2018	2019	2020	2021
Average number of EHS training hours per employee	7.4	7.2	7.4	5.7	6.0

Injuries costs and savings (US\$m)

	2017	2018	2019	2020	2021
Injuries costs	1.4	1.4	1.9	2.5 ⁽²⁾	2.2
Results without action	8.9	9.8	10.1	10.5	11.7
Savings ⁽¹⁾	7.4	8.4	8.2	7.4 ⁽²⁾	9.5

⁽¹⁾ Around US\$116m savings in 19 years.

⁽²⁾ Rate updated due to several prolongations over 2021 after the closure of the previous reporting period.

Fines and total number of non-monetary sanctions in 2021

None

Number of fatalities | 403-9 | 403-10 |

	2017	2018	2019	2020	2021
Employees	1 ⁽¹⁾	0	0	0	0
Subcontractors	1 ⁽²⁾	0	0	0	0
Total	2	0	0	0	0

⁽¹⁾ One ST employee died from medical complications after coming into contact with a chemical (tetramethylammonium hydroxide) in Ang Mo Kio site (Singapore). In 2018, the Singapore Ministry of Manpower Investigation concluded that the accident was work-related.

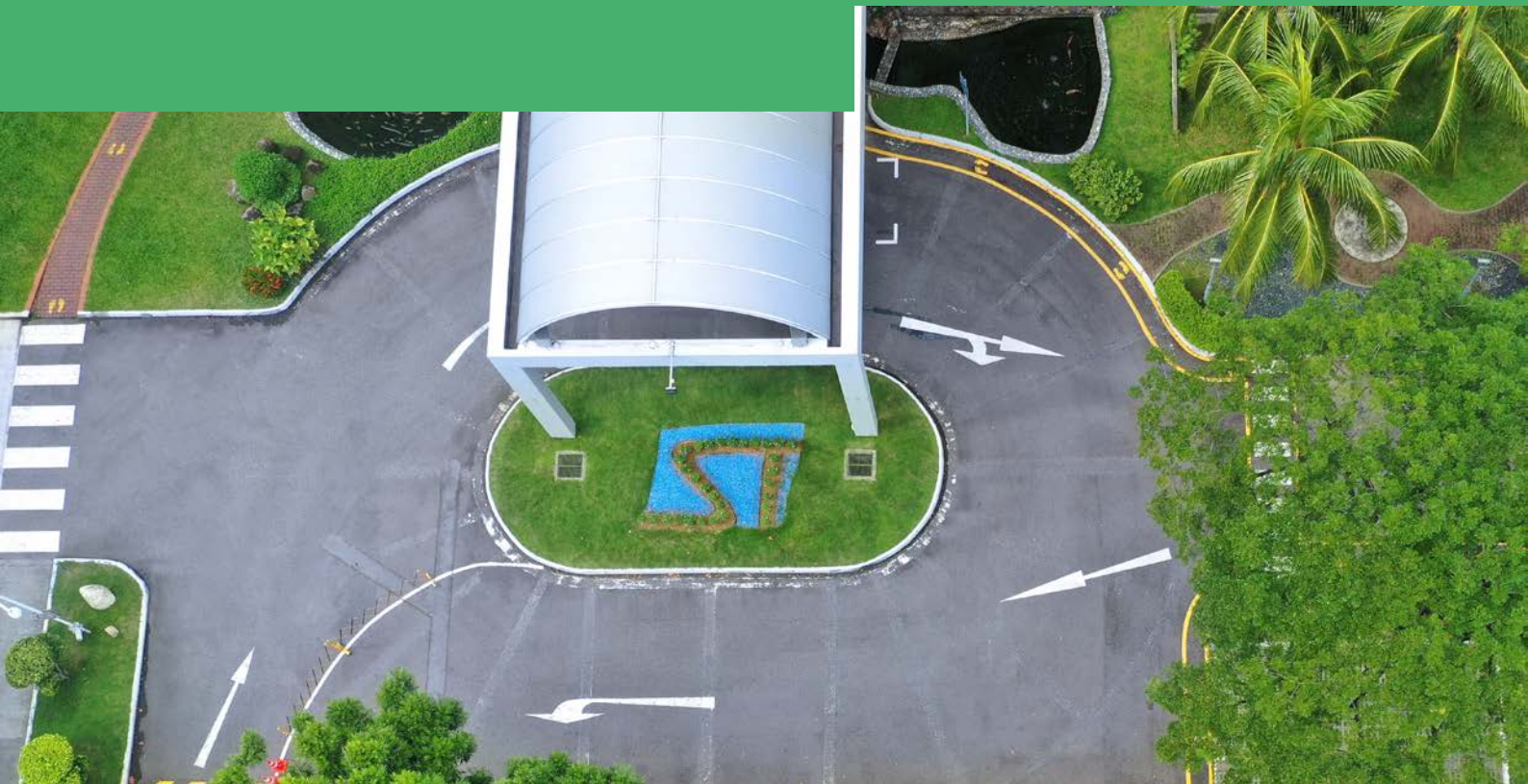
⁽²⁾ One subcontractor victim of a fatal accident in an electrical area at our Bouskoura site (Morocco).

Protecting the environment



Innovent wind farm supplying ST Bouskoura, Morocco

Our approach to the environment



ST Ang Mo Kio, Singapore

Longstanding commitment

Our first environmental report was issued in 1998, covering our 1997 performance. It stated ST's vision to be recognized as a leader in environmental care. It also set out our environmental mission: 'To eliminate or minimize the impact of our processes and products on the environment, maximizing the use of recyclable or reusable materials and adopting, as far as possible, renewable sources of energy, striving for sustainable development'.

This 25th edition of our sustainability report confirms that our commitment to respecting the environment has never faltered. In fact, it is now even stronger, following our decision announced at the end of 2020 to become carbon neutral by 2027.

Comprehensive management approach

Strong governance

Our Environmental policy (available on www.st.com) has been in place since 1993. It is supported by our sustainability charter (available on www.st.com), which outlines our commitments and goals for the next 10 years (see 2021 progress on sustainability goals). Under the leadership of the executive management, the Corporate Environmental team is responsible for developing environmental programs and procedures. These are then implemented and executed at operational level by dedicated environmental teams at each site.

Robust management system

Our environmental management is aligned with international standards such as ISO14001, ISO50001, ISO14064 and EMAS⁽¹⁾. Our performance and management systems are evaluated yearly through third-party surveillance audits, and our certifications are renewed every three years. In 2021, although we had to postpone some audits due to the COVID-19 pandemic, we adapted to the situation and performed a number of audits remotely. Despite these challenges, all our sites maintained their certifications.

10

EHS legal compliance audits

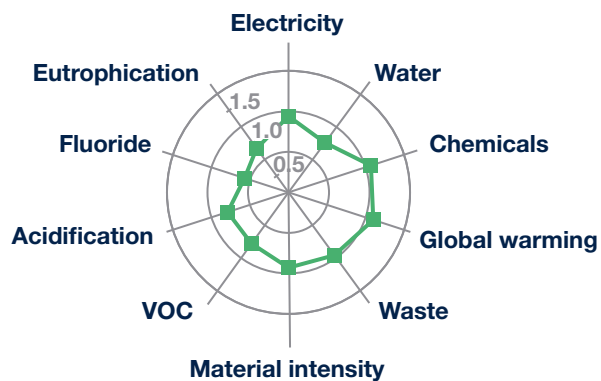
To support our culture of continuous improvement, we also conduct internal audits on a three-yearly basis. Moreover, to assess the compliance status of the sites and to limit any risks related to our license to operate, we have a three-year program to conduct third-party environment, health, and safety (EHS) legal compliance audits. This program covers 38 sites, including all our manufacturing sites, all our sites with more than 150 employees and some smaller sites and warehouses. In 2021, we conducted 10 EHS legal compliance audits.

[I 103-2 I](#)

Monitoring performance

We evaluate our overall environmental performance by monitoring multiple indicators, such as resource consumption, waste, and air emissions. Since 2001, we have used an internal tool to analyze data we have gathered on the inputs and outputs of our manufacturing operations. The smaller the footprint, the better the performance, with a score of 1.0 or below considered good. It allows us to compare the environmental impact of each ST manufacturing site, as well as our overall progress year on year. We analyze the results to identify potential improvements and define the priorities we need to address. In 2021, our eco-footprint score was 0.71. This was 0.07 better than our 2020 score and ahead of our 2021 target of 0.77. [I 103-3 I](#)

All environmental data within ST is collected and reported regularly (monthly, quarterly, and yearly) on our internal central environmental database. Managed by the environment managers and their teams, this platform helps us monitor multiple indicators across our sites. Tracking the progress of each indicator allows sites to constantly adjust and improve their performance. We share the results and best practices with all teams during quarterly environment steering committee meetings.



Close cooperation

Acting with employees

We all have a role to play in raising awareness of our environmental approach. This was reflected in our 2021 employee engagement survey results where 85% of our employees said that ST is taking action to protect the environment, 21 points above the GEEM⁽²⁾ norm.

In 2021, our Tours site (France) launched an innovative environmental escape game for ST employees and students. Participants become 'special environment agents' and receive different missions to tackle in order to progress in the game. The purpose of these missions is to identify energy savings, ensure effective treatment of wastewater, and control the sorting, disposal,

85%

of employees believe
ST is taking

action to
protect the
environment

⁽¹⁾ EMAS: Eco-Management and Audit Scheme.

⁽²⁾ GEEM: CultureIQ Global Electronic Equipment/Instruments Manufacturing norm.

and recycling of waste. More than 50 people participated in the first sessions, which received positive feedback.

Our employees also play a leading role in helping to make the change to a greener world. All our sites undertake initiatives to encourage people to respect the environment. For example, in 2021, our Kirkop site (Malta) launched a program called 'ST goes green' to encourage creative initiatives with a positive impact on the environment. During the year, the site collected innovative suggestions related to water, electricity consumption, office heating, outdoor activities, and other topics.

Similarly, the Green Committee of our Hong Kong site developed several activities to improve indoor air quality, recycle more, increase energy savings, and use sustainable supplies. The committee also launched a Green Certificate Reward program, where ST employees can accumulate points to win prizes by participating in the site's sustainability activities. The teams at our Rennes site (France) also demonstrated their commitment to sustainability by participating in the city's urban forest project and planting 1,300 seedlings on 400m² of land.

Biodiversity is essential for a healthy ecosystem. We are committed to preserving the biodiversity around our sites and our employees are very active in proposing and running initiatives adapted to the local context. Some examples of these are an insect hotel at our Tours site (France), beehives at our Rennes and Crolles sites (France), wild orchid protection at our Crolles site, an endemic plant garden at our Kirkop site (Malta), a butterfly farm at our Calamba site (the Philippines) and sheep at our Rousset site (France).

Participating in industrial and trade associations

We are members of numerous trade associations, working alongside other semiconductor businesses to define the future and consider the environmental impact of the electronics industry. In 2021, we continued our collaboration with the European Semiconductor Industry Association (ESIA), the European arm of the World Semiconductor Council, which was presided by Jean-Marc Chery, President and CEO of ST until the end of 2021. Pascal Roquet, our Corporate Environment Director, leads the ESIA EHS committee to align with our peers on a leading and proactive approach to EHS responsibilities. Throughout the year, our experts actively participated in working groups on resource conservation, air emissions and chemicals, as well as health and ergonomics. | [102-12](#) |

Energy and Climate Change



Innovent wind farm supplying ST Bouskoura, Morocco

At the end of 2020, we announced our commitment to becoming carbon neutral 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. | 103-1 |

By the end of 2021, we were on track towards our carbon neutrality targets, which include:

- compliance with the Paris Agreement's 1.5°C scenario by 2025, implying a 50% reduction in direct and indirect greenhouse gas (GHG) emissions vs 2018
- sourcing 100% renewable energy by 2027

To help us achieve these targets, we defined five main workstreams to focus on. | 103-2 |



by 2027

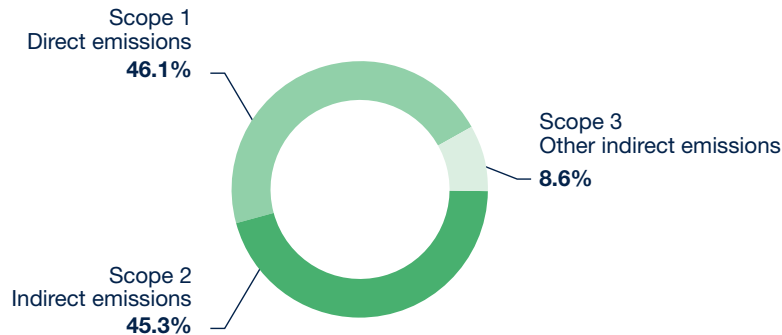


During 2021, we completed a full review of 14 major ST sites. Each site now has a roadmap to eliminate as much as technically possible all direct emissions, implement additional energy-saving investments and leverage opportunities for renewable energies.

Our comprehensive program

ST has been working on minimizing the impact of its operations on climate change for more than 25 years. The programs in place in all our manufacturing sites address our direct and indirect emissions, defined as scopes 1, 2 and 3 according to the GHG Protocol.

Summary of net CO₂ equivalent emissions in 2021 (%) | 305-1 | 305-2 | 305-3 |



Scopes 1, 2, 3 according to Greenhouse Gas (GHG) Protocol.

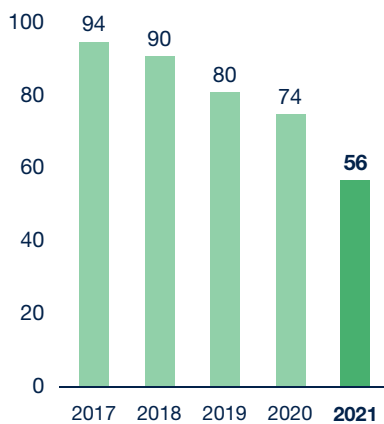
Reducing our direct emissions

The use of perfluorinated compounds (PFCs) in the manufacture of semiconductors accounts for a significant share of our direct air emissions, as defined by scope 1 of the GHG 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.

PFC emissions

| 305-4 |

Per unit of production – normalized values

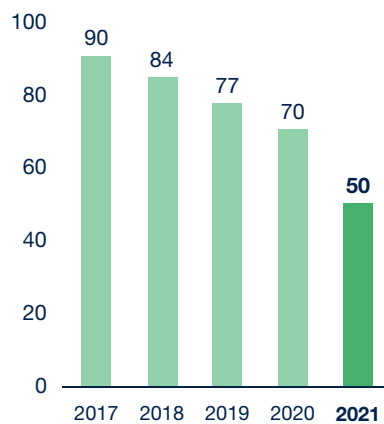


Baseline 100 in 2016.

CO₂ emissions equivalent

| 305-4 | SDG 13.1

Per unit of production – normalized values



Baseline 100 in 2016.

In 2021, as part of our commitment to reduce our direct emissions by 50% by 2025 vs 2018, we conducted assessments at all our manufacturing sites to explore the feasibility of introducing additional PFC abatement systems, and which types of system would be best.

Our Ang Mo Kio site (Singapore), one of the highest contributors to our total GHG emissions, has initiated several action plans and investments over the last few years. The site continued these efforts in 2021 by installing 19 systems, reducing direct PFC emissions by 9% compared to 2020. In the meantime, our Agrate site (Italy) reduced its PFC emissions by 8% thanks to the installation of a new thermal processing unit.

**Abatement
systems
to treat PFCs**

As part of our carbon neutrality journey, our Grenoble site (France) installed new uninterruptible power supply (UPS) battery backups to replace the five diesel generators used as electricity back-ups for many years. This will save diesel consumption as well as reduce particle emissions.



Christian Rivolta

Program Manager, Front-end Manufacturing Central Functions

I'm coordinating a cross-site working group looking to optimize process and cleaning recipes and use gases with a lower environmental impact. We are also identifying opportunities for lower energy consumption within the subcomponents of process equipment, such as pumps and chillers. The individual gains are small, but the high number of units installed makes the overall savings noteworthy. I am proud to be part of ST's journey towards carbon neutrality."

Saving energy

In 2021, we decreased our energy consumption by 18% vs 2020 (per unit of production), although we slightly increased our absolute energy consumption by 3%, due to a significant increase in production. This demonstrates that the actions we have implemented have improved our energy efficiency.

-18%

**energy consumption
vs 2020**

All our manufacturing sites develop initiatives to better manage and reduce their energy consumption. Environment, health and safety (EHS) teams at our major sites worked on 53 improvement projects during 2021, saving 35GWh of energy.

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INNOVATE TO SAVE ENERGY

In 2021, our French sites installed new-generation chillers to improve energy performance and reduce natural gas consumption. The project included installing refrigeration units with energy recovery, which offer two main advantages:

- cooling the clean room production equipment more efficiently than current units
- recovering heat to use for heating sites' offices

Our Rousset site pioneered and installed a free cooling system that uses the outside air to cool the production equipment, thereby reducing the use of refrigeration units during winter. With this project, the site estimates an energy saving of 3GWh per year.

These projects have reduced the use of gas boilers, saving 1,300 tons of CO₂ per year, and have also reduced electricity consumption, saving 6.9GWh per year.



As part of our carbon neutrality program, we conducted external audits of all our manufacturing and R&D sites to identify actions to further improve our energy efficiency. With our partner, Schneider Electric, we identified more than 200 potential actions and selected around 150 of them, which our sites will implement from now till 2027.

Increasing our use of renewable energy

Of the total electricity we purchased in 2021, 51% came from renewable sources, compared to 43% in 2020.

51%

of renewable
electricity

Our Bouskoura site (Morocco) is a good example of renewable energy sourcing. In 2021, the site finalized a power purchase agreement with Innovent for wind electricity supply. The wind farm started producing electricity in September and will reach its full capacity in the second half of 2022. With an annual output expected to reach more than 80GWh of green energy, the wind farm should supply at least 50% of the power needs of the site and contribute to reducing its CO₂ emissions by about 50,400 metric tons per year.

In 2021, the 1GWh of green electricity produced by the photovoltaic carport at our Bouskoura site (Morocco) partially powered the clean room. Similarly, the solar power installations at our sites in Catania (Italy) and Grenoble (France) produced 2GWh of green electricity.

By the end of the year, as part of the Apple clean energy initiative, we reached the target of supplying products to Apple that are manufactured with 100% renewable energy.

During the year, we also conducted a market study to identify potential green energy projects based on each site's local context. This analysis will enable us to build a robust and reliable strategy to reach 100% renewable energy sourcing by 2027.

Minimizing our indirect emissions from transportation

3

categories of scope 3
emissions

Reducing CO₂ emissions from the transportation of our people and products has been part of our sustainability strategy for 25 years. We report on employee commuting, business travel and transportation of our goods – the three most material categories we can act on out of the 15 categories defined in scope 3 of the GHG Protocol.

We noted a 5% increase in 2021 compared to 2020. This is mainly due to emissions related to goods transportation, which represent 53% of our scope 3 emissions and increased 15% during the year, due to a growth in our business activities and higher production volumes.

As in 2020, due largely to the COVID-19 pandemic, we were able to reduce emissions related to business travel by 28% in 2021 and encouraged eligible employees to work from home.

We also encouraged all employees to develop greener commuting solutions and promote local mobility plans. On this specific topic, our Rennes R&D site (France) organized a 'mobility week' with workshops and challenges to encourage more cycling, more car-pooling and more use of public transport. The 89 employees who participated in this initiative saved almost 9,000km of solo driving.

Offsetting emissions

To become carbon neutral by 2027, we will develop reforestation and innovative carbon sequestration programs. To help us achieve this, we worked with our partner, Schneider Electric, to review carbon market options, define project preferences and criteria, and review offset options for future implementation.

Over the year, the 6,200 hectares of forests planted on our behalf between 2002 and 2005 sequestered⁽¹⁾ 220,500 tons of CO₂. However, due to the age of these forests, they are not part of our carbon neutrality program and their impact is not considered in our emissions reporting.

⁽¹⁾ Internal calculation method.

Addressing climate-related risks

Since 2020, when we publicly declared our support for the Taskforce on Climate-related Financial Disclosure (TCFD), we have been working towards implementing TCFD recommendations (see also [Risk Management](#) and [TCFD index](#)).

We support the
TCFD

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

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

In 2021, our environmental and resilience teams worked closely together 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. This is illustrated in the table below.

Addressing natural hazards risks

	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	
Acute			Water stress	
	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, groundwater)	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	

Source: EU commission

We commissioned a specific science-based study from Axa Climate to assess current and future climate risks on our 140 most critical locations (ST and partner sites in 23 countries). The analysis was based on two climate change scenarios defined by the United Nations Intergovernmental Panel on Climate Change (IPCC):

- RCP4.5 (+2.4°C by 2100 vs pre-industrial levels)
- RCP8.5 (+4.3°C by 2100 vs pre-industrial levels)

For each scenario and for each location, climate projections for 2030 and 2050 show the likely impacts across a range of indicators, such as number of days of heatwaves, high winds, and heavy rain. This allows us to calculate a combined climate-related 'peril score' for each location.

We commissioned a second study from Quantis, a specialist firm, specifically focusing on the characteristics and impact of our carbon footprint and water scarcity (see [Water](#)).

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

Overall, the purpose of these different climate-related analyses is to inform 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.

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. Simultaneously, we are actively investing in researching new products to help our customers develop new energy-saving applications, transforming risk into opportunity (see [Sustainable Technology](#)).

Acting collectively

We firmly believe we can achieve more if we act collectively. Our carbon neutrality program aims to engage customers, employees, investors, future employees, and all our partners. We want to implement collaborative programs and partnerships in all our ecosystems to promote carbon neutrality among all stakeholders, and to encourage environmental innovations.

Joining the Science Based Targets initiative

As part of our carbon neutrality program, ST has joined the Science Based Targets initiative (SBTi), which provides a clearly defined pathway for companies to reduce their GHG emissions. By the end of 2021, we were the only semiconductor company with approved targets to limit warming to no more than 1.5°C, demonstrating our high level of ambition.



Transparency towards our stakeholders

By reporting to CDP, we demonstrate to our customers and investors that we are ahead of regulatory and policy changes, we proactively identify and tackle growing risks, and we continually seek new opportunities for action. In 2021, we scored A- in the CDP Climate Change questionnaire. Our answers are available in the CDP platform and accessible to all CDP members.

Third-party audits

In 2021, we achieved ISO 14064 certification across all our manufacturing sites. ISO 14064 is an international standard for quantifying and reporting GHG direct and indirect emissions at the organizational level. This gives our sites tools and guidance to select the appropriate GHG sources, data, and methodologies, and enhance our reporting.

11

sites certified ISO
50001

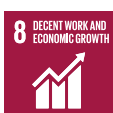
Similarly, ISO 50001 certification helps us to improve energy efficiency and so reduce GHG emissions and energy costs. Our Bouskoura site (Morocco) joined the 10 ST sites already certified (see [ST certifications](#)).

Contributing to the Sustainable Development Goals

Our commitments and programs related to Energy and Climate Change as described above contribute to:



SDG target 7.3 – By 2030, double the global rate of improvement in energy efficiency.



SDG target 8.4 – Improve progressively, through 2030, global resource efficiency in consumption and production.



SDG target 13.1 – Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.

2027 sustainability goal	Status	Comments
SG9: Be carbon neutral by 2027 in all direct and indirect emissions from scope 1 and 2, and focusing on product transportation, business travel and employee commuting emissions for scope 3.		1,044 KTCO ₂ (-34% versus 2018)
SG10: Adopt 100% renewable energy sources by 2027 through energy procurement and green energy installations.		46% of total energy (51% of total electricity)
SG11: Implement programs to reduce energy consumption by at least 150GWh per year by 2027.		35GWh savings implemented in 2021.
2025 sustainability goal	Status	Comments
SG12: Reduce energy consumption per wafer by 20% in 2025 vs 2016.		-19%
80% of renewable electricity by 2025.		51%
-50% absolute scope 1 and scope 2 GHG emissions by 2025 (2018 baseline).		-34%

Water



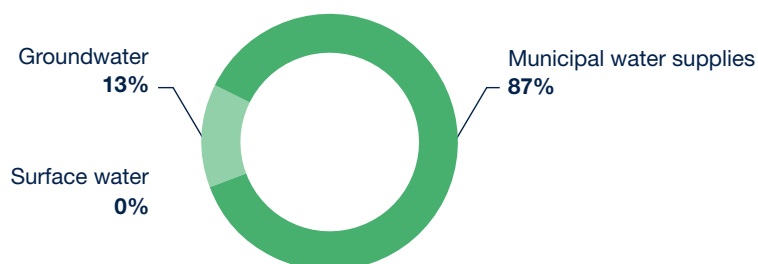
Water reclaim system with ultrafiltration, ST Shenzhen, China

Tackling the challenges of water scarcity and wastewater treatment has been part of our strategy since 1993. Water plays a key role in the manufacturing of semiconductors. Our processes require ultrapure water and generate wastewater that can be harmful to the environment and local communities. Our comprehensive management approach includes water stress assessment, conservation programs, water efficiency and wastewater treatment. [| 103-1 |](#)

Assessing and monitoring our impact

Water is a limited and shared resource, and we take responsibility for all water-related challenges wherever we operate. A reliable water supply is essential to the semiconductor manufacturing process. All ST 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 permits. One of our manufacturing sites uses groundwater for its operations. In 2021, 13% of the water used throughout our operations came from groundwater and 87% from municipal water supplies. [| 303-3 |](#)

Water withdrawal by source in 2021 (%) [| 303-3 |](#)  **SDG 6.4**



As most of our primary water supply is local municipal water, it is fundamental to ensure the continuity of water supplies in the areas where we operate. We therefore engage in regular discussions with local stakeholders and implement solutions to reduce water extraction and consumption. In 2021, we conducted a water assessment with an external partner to assess our global water footprint and identify water stress areas, water-related risks of our operations, and our impact on local communities.

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ASSESSING WATER-RELATED RISKS

In 2021, ST conducted a water risk assessment at corporate level for all our manufacturing sites. The aim was to identify our overall water footprint and assess operational and external water-related risks. Partnering with Quantis, we took the lifecycle assessment approach to evaluate our indirect impacts linked to upstream and downstream activities, and our direct impacts linked to our manufacturing operations.

We analyzed the external factors for each site, depending on its location, applying the Water Risk Filter 5.0 methodology. As a result, we identified that most of our manufacturing sites are at medium risk for both operational and external risks. This study confirmed that water scarcity and water quality are external physical risks, while the importance of water in our operations and the production of ultrapure water are drivers of our operational risks. As a next step, each site will consider risk level and type to formalize appropriate water saving action plans.



Quantis

Tatiana Fedotova
Global Water Lead, Quantis

Water and climate risks are a priority for ST. ST partnered with Quantis to update their water and carbon footprints, conduct risk assessments, and engage with all manufacturing sites to ensure the corporate water strategy addressed differing local contexts. The next phase will be to work with suppliers and step up commitments to address impacts in water-stressed basins."

Reducing our water use

Water efficiency

Our manufacturing processes require ultrapure water. We apply the best available water-producing techniques that meet the required purity levels while minimizing water use.

We aim to reduce our water use by continuously improving water efficiency across our operations. In 2021, we reduced our water consumption per unit of production by 16% compared to 2020, in line with our 2025 target to reduce our water consumption by 20% vs 2016. This is the result of the continuous efforts of all our manufacturing sites and teams.

16%

reduction in water consumption

For example, our Crolles site (France) initiated a working group with the facilities teams to reduce water consumption at source. By optimizing idle equipment modes, the site decreased water use by 4%. Other initiatives led to a 17% reduction in their global water consumption per unit of production, versus 2020.

In Morocco, where water is a particularly scarce resource, our Bouskoura site has implemented several action plans to reduce its water consumption and increase the water recycling rate for a number of years. In 2021, the site reduced its absolute water consumption by 6.5%. In one initiative open cooling towers were replaced with closed cooling towers.

Our Shenzhen site (China) improved its water efficiency in 2021 by deploying several actions, such as optimizing nozzles for rinsing operations and recycling flux rinse water.

Water recycling

In 2021, our water recycling rate reached 40% compared to 41% in 2020. This is mainly because of our requirements for ultrapure water, which significantly increased at our front-end manufacturing sites due to higher production volumes.

40%

of water recycled and reused

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 and scrubbers.

To improve its low water recycling rate, our Calamba site (the Philippines) continued a project initiated in 2020 to recover and treat water from manufacturing processes for use in the cooling towers. As a result, the site increased its recycling rate from 22% to 38%.

Efficient wastewater treatment

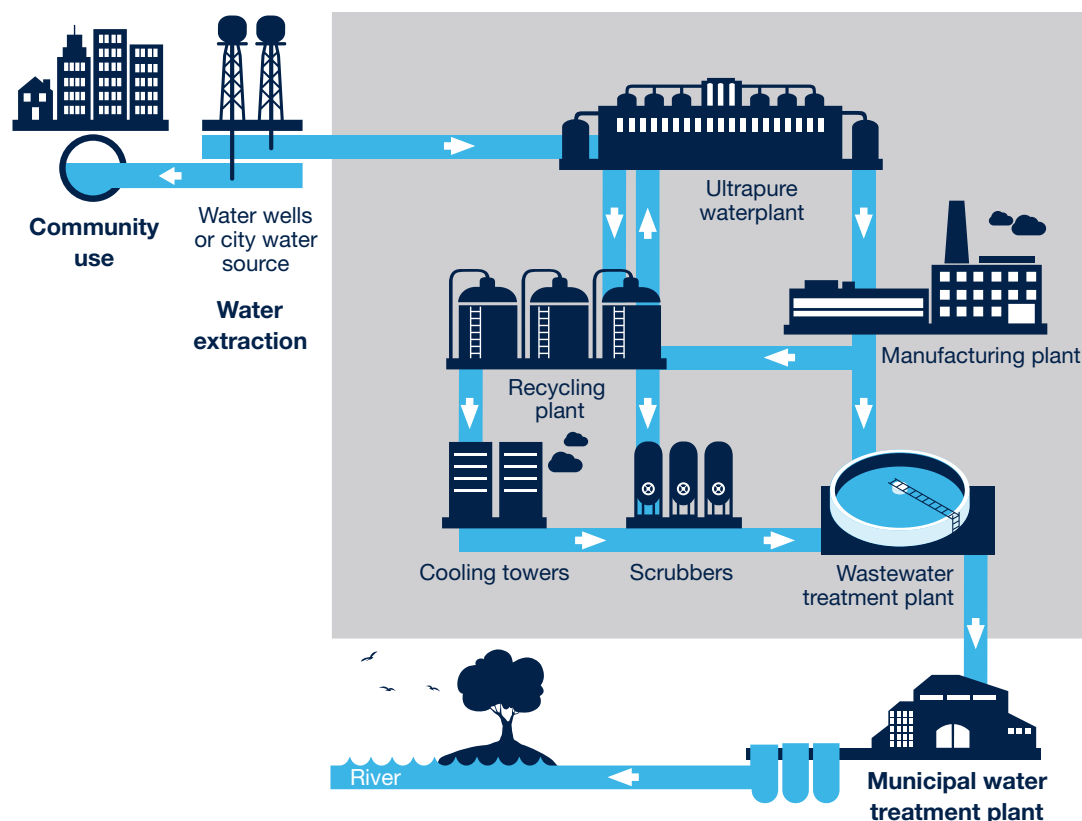
Wastewater from our manufacturing processes contains pollutants such as heavy metals and toxic solvents. To mitigate any risk of pollution, wastewater needs to be treated on site or in municipal treatment plants before being discharged back into the natural environment. Wastewater treatment involves physical, chemical, or biological processes. The quality of the discharged water is carefully controlled.

Our manufacturing sites are continually looking for ways to improve wastewater treatment and water discharge quality to minimize our impact on the environment.

As well as reducing the risk of pollution, optimizing wastewater treatment helps improve recycling efficiency, and so reduces the amount of water withdrawn. Further to the redesign of its wastewater treatment plant, our Bouskoura site (Morocco) improved its water recycling rate from 33% in 2019 to 53% in 2021.

Our Kirkop site (Malta) launched an original and innovative project to address heavy metals. The site initiated a program with the University of Alessandria (Italy) to study the effectiveness and efficiency of using phytoremediation to treat a drain containing heavy metals from plating. In this process, plants clean the wastewater by absorbing the metals through their roots. If successful, this method can potentially be used at other ST sites.

Typical ST water cycle



Transparency disclosure

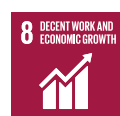
We have participated in the CDP since 2004 with the aim of sharing our water management performance transparently with all our stakeholders, including the associated risks and opportunities. It also allows us to compare our progress with peers in the semiconductor industry and identify improvement areas. In 2021, we received a B rating. This is lower than the previous year, but still higher than the sector average of B-. Based on the analysis of the results, we focused more on water-related risks in 2021 and plan to reinforce our water policy in 2022.

Contributing to the Sustainable Development Goals

Our commitments and programs related to Water as described above contribute to:



SDG target 6.4 – Substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity.



SDG target 8.4 – Improve progressively, through 2030, global resource efficiency in consumption and production.

2025 sustainability goal	Status	Comments
SG13: Improve our water efficiency by 20% by 2025 vs 2016.		-11%
Annual sustainability goal	Status	Comments
SG14: Recycle at least 50% of the water used each year.		40%

Waste



Waste sorting and storage, ST Calamba, the Philippines

Managing our waste

Our waste management strategy is based on the proper classification, separation, and safe disposal of waste. It is driven by local regulations as well as 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. Together with our customers and partners, we strive for zero waste, and promote a circular economy. | 103-2 |

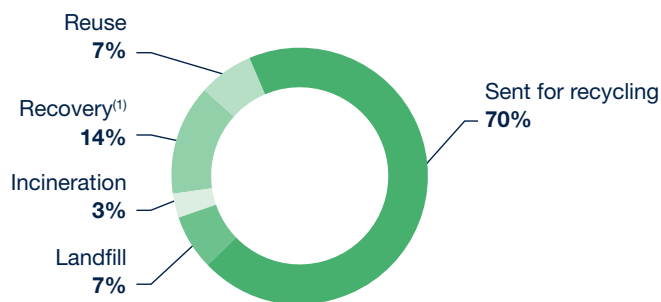
Continued performance improvement

In 2021, we reused, recovered, or sent for recycling 90% of the waste generated by our operations. This was two points better than 2020, making good progress towards our 2025 goal of 95%. However, the waste sent to landfill increased to 7% from 6% in 2020, above our annual target of $\leq 3\%$. This was caused by an issue with a waste disposal supplier at one of our manufacturing sites. The problem was corrected during the year.

90%

**of waste reused,
recovered, or sent for
recycling**

Reducing landfill waste is one of our priorities. Our Shenzhen site (China) successfully passed a third-party certification 'UL zero waste' related to landfill waste. It includes an assessment of disposal methods with a focus on reducing the amount of waste sent to landfill as much as possible. Our Calamba site (the Philippines) also joined the initiative.



⁽¹⁾ Waste burnt with recovery of energy (combustion).

Reducing waste at the source

The best waste is the waste we do not generate. We apply this approach at all our manufacturing sites to minimize unnecessary resource consumption and waste generation across our operations.

In 2021, our Shenzhen (China) site developed a comprehensive strategy to reduce waste at the source in daily operations. The site deployed a waste scorecard to provide a global view of the main waste streams. Based on this analysis, appropriate programs were developed. These include:

- reducing the thickness of the resin used in manufacturing processes, resulting in less resin waste
- compressing cardboard boxes, thereby reducing their volume for storage and transport
- implementing a highly efficient press filter, reducing the quantity of sludge generated by wastewater treatment
- optimizing chemical usage, such as ethanol and flux cleaning in manufacturing processes, reducing chemical consumption and the waste chemicals generated

As a result, the site has reduced the absolute amount of waste generated by 11%.



Haiyan Zeng

Sustainability Manager, Shenzhen (China)

We believe the best way to manage waste is to be waste free. Waste reduction at the source is the priority focus of our innovative waste scorecard initiative. The project, launched in 2021, enables our employees to get involved in exploring various waste reduction opportunities for materials, processes and waste treatment. A series of best practices has been developed to reduce waste sources, including optimizing process parameters, improving cleaning efficiency and optimizing production arrangements. As well as improving our environmental management performance, the project further enhanced the site's sustainability culture."

During the year, our Crolles site (France) launched a working group with facilities, environment, health and safety (EHS) and manufacturing teams to reduce sulfuric acid waste. Better waste segregation and the removal of several steps in the process resulted in a decrease of 1,000 tons of waste and 600 tons of raw materials. This also saved 76 tanker journeys between the site and the waste disposal supplier, representing 32,000km and 22 tons of CO₂.

Promoting a circular economy

Using waste to create value benefits the environment, people, and our Company. Therefore, we look for opportunities to valorize our residual waste wherever possible.

For several years, we have been implementing various circular economy initiatives to find new uses for the waste generated from our activities.

- Fluoride sludge is transformed into pellets for the metallurgy industry.
- Sulfuric acids are used for recycling batteries.
- Deflashing waste powder is sent for precious metal recovery.
- Palladium is recovered for reuse in the automotive industry.
- Electronic waste is dismantled; some parts are reused, and precious metals are recovered.
- Solvents are sent for distillation and reuse.
- Solvents are burned and the energy recovered.
- Ammonia in wastewater is treated and used in agricultural fertilizers.
- Landfill industrial waste is transformed into solid combustible material and used in cement factory furnaces.
- Silicon wafer scraps are used for aluminum production for the automotive, aviation and photovoltaic industries.
- Paper, cardboard, plastics, and wood are recycled.
- Organic waste is transformed into compost.
- Spent resin and sludge are used in the cement and brick industry.
- COVID-19 protection masks from our French sites are transformed into plastic pellets.

As an example, our Agrate site (Italy) has been working for more than 10 years with a waste recovery company near Milan. Every week, the site sends the company 35 tons of sludge from two wastewater treatment plants for treatment and recycling. The company checks the sludge to ensure there is no trace of heavy metals or hazardous substances. The sludge is locally dried and then sent to cement factories for reuse. Periodically, we audit the waste recovery company to check its processes and procedures meet our high standards. The last audit was at the end of 2021 and no issues were identified.

A new lease of life for 49 tons of quartz and plastic since 2012

A steady drive towards zero waste has enabled 49 tons of quartz and plastic from scrap photomasks, generated from our Singapore front-end operations, to be reused since the project started in 2012. To ensure the quartz and plastic remain in a reusable state, the team follows a defined process for cleaning and packing. In addition to quartz and plastic reuse, aluminum from the photomask's pellicle ring is recycled through a local metal recycling company.

Moving towards a circular economy

FOCUS

NEW SUSTAINABLE PACKAGING

Our STM32 product team is contributing to the collective effort of the Company to reduce its environmental impact. In 2021, it created improved eco-friendly packaging



that eliminates the need for plastic blister packs. The new packaging is sustainable for:

- **People:** the design is better adapted to hardware tools, creating a better user experience. The product also comes with a welcome letter and a QR code that redirects users to the dedicated page on www.st.com , thus eliminating the need for 'getting started' user manuals.
- **Planet:** the box is made from recycled cardboard and uses water-based ink, making it fully eco-friendly and recyclable. The toughness of the box also makes it 100% reusable.
- **Business:** the design of the box has been optimized for different sizes so that it can be easily adapted to other products. Along with the black and white design, this helps to save a significant amount of resources.

All these changes combined will reduce the annual plastic consumption for STM32 boards by around 15 tons per year.

Controlling hazardous substances

Our various manufacturing processes can generate hazardous or potentially hazardous waste, such as chemical substances and contaminated plastics. We pay attention to all types of hazardous waste (see [Chemicals](#)). We seek to identify the best solution among all available treatment technologies to minimize any adverse impact from our activities. In 2021, we identified 41% of our waste as hazardous, 96% of which was reused, recovered, or sent for recycling. The remaining waste was disposed of and treated locally by specially authorized companies.

Contributing to the Sustainable Development Goal

Our commitments and programs related to waste and effluents as described above contribute to:



SDG target 3.9 – Substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution, and contamination.



SDG target 6.3 – Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.



SDG target 12.4 – Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

2025 sustainability goal	Status	Comments
SG16: Reuse or recycle 95% of our waste by 2025.		90%
Annual sustainability goal	Status	Comments
SG15: Ensure an annual landfill waste rate below 3%.		7%

Chemicals



Technology analysis laboratory, ST Tours, France

Responsibly managing the chemical substances and materials used in our operations is critical for protecting people, preserving the environment, and complying with legal and customer requirements. | [103-1](#) |

Applying a rigorous approach

To prevent any potential negative impacts of the chemicals and materials used in our operations, we take a precautionary approach when assessing new processes, chemicals, and products, as set out in Principle 15 of the Rio Declaration. | [102-11](#) |

For all hazards identified at each ST site, the chemical committee evaluates the best management solutions, both for new processes and modification of existing processes. The site chemical committee meets regularly to discuss and review all decisions on chemical usage and handling by evaluating chemical compositions, hazards, use conditions, medical recommendations, and industrial hygiene requirements. This includes risk management measures, personal protective equipment (PPE), waste management and administrative controls. By rigorously applying this process, we are able to identify critical substances as soon as they are introduced or reclassified. | [102-11](#) | [103-2](#) |

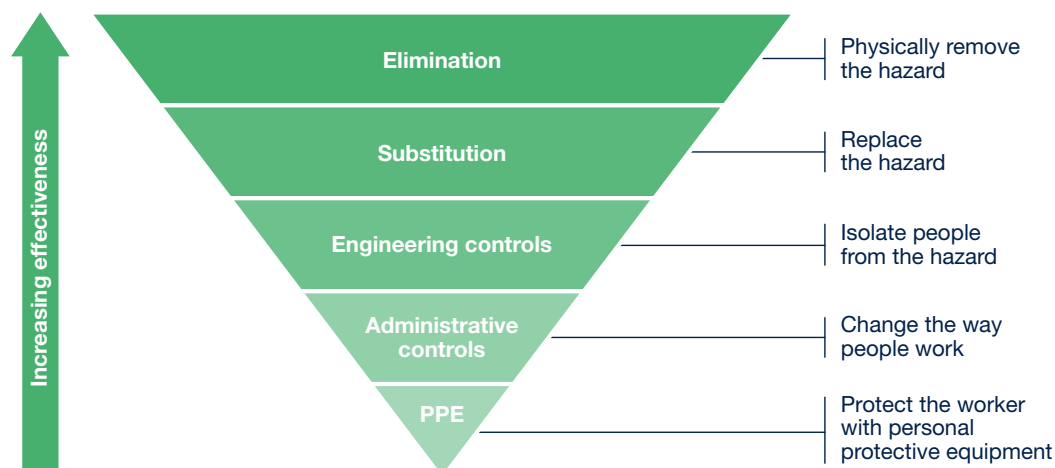
In 2021, we recorded 5,492 chemicals in use, and we conducted more than 700 new risk assessments, achieving more than 30,000 validated risk assessments by the end of the year. | [103-3](#) |

We apply the hierarchy of control approach in our chemicals management procedures. When specific chemicals or materials cannot be eliminated or substituted with less hazardous alternatives, we implement engineering measures to reduce workers' and environmental exposure.

>700

new risk assessments

Hierarchy of Controls



Typically, we install fully closed distribution systems in our manufacturing processes to deliver chemicals at the final equipment point of use, preventing accidental releases by design. For example, to further protect our people from hazards and to reduce potential accidental leakages, our Ang Mo Kio site (Singapore) innovated by developing a track autofill system and centralized distribution system for a chemical used in the surface treatment of wafers (Hexamethyldisilazane). Completed at the end of 2021 and installed on 33 pieces of equipment, this project reduced potential exposure and the risk of accidents, while improving productivity by eliminating equipment stops for manual refills.



Ken Leong

Head of Department, Photolithography, Ang Mo Kio (Singapore)

Our technicians are potentially exposed to Hexamethyldisilazane (HMDS) chemicals every day when performing manual chemical top ups, and this can be hazardous to their health. By deploying an HMDS chemical distribution system with full interlock protection, we have greatly reduced the risk of exposure to such chemicals. The team explored various options and finally we made it happen. This demonstrates our commitment to building a safe working environment for all our employees."

All types of equipment using chemicals are connected to centralized exhaust systems. Separate drains ensure all emissions (air and water) are treated to minimize environmental releases. Additional temporary exhaust mechanisms are provided during specific maintenance operations, while preliminary checks and cleaning operations are conducted before opening equipment or before workers are authorized to enter confined spaces.

A BEST-IN-CLASS CHEMICAL LAB

Our Fremont Lab (USA) develops new imaging products using quantum film technology. A new facility constructed at the lab was designed to include the most advanced systems to protect employees and the environment.

The facility features:

- a modern fire control system
- building ventilation with activated carbon scrubbers
- automated chemical waste consolidation and handling systems
- enclosed chemical handling and distribution to point of use
- substantial secondary containment systems
- leak detection systems
- uninterruptable power supply to ensure safe shutdown during power outages

During commissioning, the lab management collaborated with corporate environment, health and safety (EHS) to review the chemical hazards in detail, and ensure that employee safety and environmental exposure were addressed as a priority.

The result is a facility in which this new technology will blossom and in which the safety of employees and the environment is ensured, while also being above local air quality mandates.



Rigorous administrative controls and procedures are in place to avoid unintentional spills and releases. At many ST sites, specific emergency protocols are agreed with local authorities. In cases of abatement systems (exhaust systems to treat gases) malfunction, the site has the authority to stop the relevant production lines to avoid uncontrolled environmental releases.

Protecting our workers

We apply specific medical surveillance to workers based on potential exposure to chemicals, including biomonitoring – assessing human exposure to natural and synthetic chemicals, based on an individual's tissues, and fluids sampling and analysis. Moreover, to verify that the applied risk management measures are effective, we conduct regular analytical checks on the working environmental air. The results are compared to applicable threshold limit values (TLV). In 2021, the 22,501 measurements we performed worldwide were all below the applicable TLVs.

Workers are trained before being assigned to potentially hazardous tasks, and before implementing new process changes. Training is refreshed and updated regularly. In 2021, we provided more than 15,000 hours of training on chemicals management at our manufacturing sites.

15,000

hours of training on chemicals

Workers are trained to:

- identify specific hazards
- recognize and understand chemical labels
- apply management methods
- select and wear the required PPE
- be ready to react in case of contamination, contact, or an emergency
- ensure preventive maintenance
- properly dispose of spent chemicals according to waste management practices

Preserving the environment

We take particular care to identify ways to reduce environmental emissions in all three domains: air, water, and waste. As such, we treat our emissions (see [Water](#) and [Waste](#)), and we enforce replacement programs for hazardous substances to remove potential unwanted release all along our value chain. Volatile organic compounds (VOCs) are compounds that easily become gases or vapor, some of which may have adverse effects on human health and the environment. We pay specific attention to the control of VOC emissions and make sure our installations work properly with online monitoring. At our Crolles site (France), after installing new burners, VOC emissions decreased by 42% in 2021 compared to 2020.

Replacing hazardous substances

We seek to find the best solution among all available technologies and use innovation to replace hazardous materials in our manufacturing processes.

Finalizing the Di-ethylhexyl phthalate (DEHP) replacement program

DEHP, present in plastic tapes, is used in the assembly process at our back-end sites. Replacing DEHP in tapes is important for our upstream supply chain and to reduce the hazardous substances in waste, thereby increasing our ability to recycle the waste we generate.

The program started in 2012 when DEHP was first added to Reach Annex XIV, which meant it could no longer be used in Europe for tape manufacturing. Starting in 2013, we ensured that all products shipped to Europe were compliant. Furthermore, we decided to go beyond the regulation and become DEHP-free for all our products worldwide. In 2021, our sites of Kirkop (Malta) and Shenzhen (China) completed the substitution of DEHP, while our Muar site (Malaysia) will finalize its substitution in 2022.

Removing perfluorooctanoic acid (PFOA)-related substances

In 2021, we continued to work on the phase-out of PFOA-related substances. These are used in the photolithography process of front-end manufacturing for their resist-spreading properties. During the year, our Rousset site (France) won a CEO award at the annual ST recognition awards (STAR) for the complete eradication of PFOA-related substances in its operations by the end of 2020. The project was successfully implemented without disrupting the supply chain, while improving process quality and equipment efficiency.

97%

PFOA-free

By the end of 2021, only a few process flows remained to be modified at our Crolles site (France) and we expect the process to be completed in the first half of 2022. With a total replacement accomplishment of 97%, we are on target to reach our objective of being 100% PFOA-free by 2025, in line with the World Semiconductor Council statement and European Union regulation.

Substituting chemicals to ensure continuity of activities

During 2021, our Crolles site (France) managed to replace a chemical containing a Substance of Very High Concern (SVHC) under REACH⁽¹⁾ annex XIV, used in a manufacturing process chemical. The site chemical committee validated the replacement chemical, reducing the site's exposure to potential future use restrictions and ensuring manufacturing continuity.

Our Rennes site (France) made a similar breakthrough for the replacement of an SVHC-containing adhesive used to attach dies. In 2021, after 10 years of qualification tests and poor results using alternative materials available on the market, the site decided to develop its own products, according to its own specifications. As a result, two new materials were qualified.

Aligning with stakeholders' expectations

As a member of the Responsible Business Alliance (RBA), ST has embraced its updated chemical policy (available on the [RBA website](#) ) and will focus on the Industry Focus Process Chemical List (IFPCL). An initial analysis confirmed that almost all the chemicals listed in IFPCL have not been used in ST operations for several years. In 2022, we will complete this assessment throughout our direct supply chain.

Customers

Transparency is essential in our relationship with our customers. They monitor our chemicals management practices and request the disclosure of substances contained in the products we sell to them. This information is available on www.st.com , in the IPC 1752 material declaration.

We have been working on the deployment of Hazardous Substance Process Management (HSPM) to identify, control, quantify, and report any hazardous elements in components, according to the IECQ080000 standard. As part of this, we have collaborated with several customers by sharing information on substances used in the manufacturing processes of products we supply to them. In 2021, we participated in the [Clean Electronics Production Network \(CEPN\)](#)  initiative and completed the Process Chemical Data Collection. This was an opportunity to share and describe the chemical management system we use.

Compliance

We follow the highest standards to ensure compliance with applicable regulations on chemicals, for our manufacturing sites and our products. We apply hazardous substances process management (IECQ080000) to all the materials we purchase for manufacturing. In 2021, all employees involved in this process received third-party training.

We ensure products comply with applicable requirements such as RoHS⁽²⁾ and ELV⁽³⁾ by selecting only compliant materials when starting the R&D process. Furthermore, we strive to eliminate the use of restricted substances by design. Thanks to new designs, reduced dimensions and the lower energy consumption of our chips, we succeed year after year in decreasing the use of lead (Pb) in the assembly process (see our [ECOPACK results](#)). We also continue to identify new materials with reduced antimony and halogen content.

ST products may be subject to Substances of Concern In Products (SCIP) declarations, based on the presence of SVHCs. To ensure information is available for the safe end-of-life disposal of our products, in 2021 we continued to declare new products in the [ECHA](#)  portal.

Suppliers

We require our suppliers to respect our EHS-regulated substances list, which contains more than 3,300 substances and is regularly reviewed. We also require them to confirm their compliance through analytical certificates, safety datasheets and commitments.

We compare all new chemical and material compositions to our EHS-regulated substances list to ensure current safety compliance and anticipate future regulatory changes.

⁽¹⁾ REACH: Registration, Evaluation, Authorization and Restriction of Chemicals.

⁽²⁾ RoHS: Restriction of Hazardous Substances.

⁽³⁾ ELV: End of Life of Vehicles.

Contributing to the Sustainable Development Goals

Our commitments and programs as described above contribute to:



SDG target 3.9 – Substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.



SDG target 6.3 – Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.



SDG target 12.4 – Achieve the environmentally sound management of chemicals and all wastes throughout their lifecycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

2025 sustainability goal	Status	Comments
In line with the WSC statement, remove PFOA and PFOA-related substances in all manufacturing chemicals by 2025		97%

Environmental indicators

This section includes indicators and GRI Standard disclosures.

Our environmental data covers our 11 largest manufacturing sites, representing more than 95% of the overall environmental impact of the Company.

The methodologies used to calculate data are detailed in internal Company procedures, which are regularly reviewed during third-party environmental audits (EMAS, ISO 14001, ISO 50001, ISO 14064).

See [ST site certifications table](#) in business indicators.

ST follows the Greenhouse Gas (GHG) Protocol for managing its GHG emissions. The resulting CO₂ emissions are reported according to recognized international standards (Reference – World Resources Institute (2004) GHG Protocol – A Corporate Accounting and Reporting Standard).

Scope 1 – Direct emissions resulting from operations

- Combustion emissions: World Resources Institute (2008) – GHG Protocol Calculation tool for stationary combustion v.4.1
- PFC emissions: 2007 IPCC fourth Assessment Report Climate Change. Table 2.14. Lifetimes, radiative efficiencies and direct GWPs relative to CO₂ www.ipcc.ch

Scope 2 – Indirect emissions resulting from purchased electricity

- World Resources Institute (2014). GHG Protocol tool for stationary combustion. Version 4.8, GHG Protocol Scope 2 Guidance

Scope 3 – Emissions resulting from travel and transportation

- Mobile Combustion GHG Protocol tool v.2.6
- Supplement to the Corporate Value Chain (Scope 3) accounting and reporting standard

Environmental investments (%)

	2017	2018	2019	2020	2021
% of total Company investments	0.47	0.17	0.35	3.06	2.71

Consumption – absolute values | 302-1 | 302-4 |

	2017	2018	2019	2020	2021
Electricity (TJ ⁽¹⁾)	7,812	8,094	8,208	8,716	8,995
Water (1,000m ³)	17,064	18,204	18,843	20,223	21,445
Chemicals (tons)	20,118	23,127	21,780	20,641	24,881
Natural gas (TJ ⁽¹⁾)	695	666	696	706	754

⁽¹⁾ Terajoule.

Summary of net CO₂ emissions (KTons)

| 305-1 | 305-2 | 305-3 | SDG 13.1

	2017	2018	2019	2020	2021
Direct emissions Scope 1	605	644	557	486	481
Indirect emissions (purchased electricity) Scope 2 ⁽¹⁾	756	791	702	564	473
Other indirect emissions (transportation ⁽²⁾) Scope 3	132	137	143	86	90
Total emissions	1,493	1,573	1,402	1,137	1,044

⁽¹⁾ Market-based method calculation according to GHG Protocol standard.

⁽²⁾ The transportation emissions value is a global estimate of employee transportation and transportation of goods.

Environmental burden – net values SDG 3.9 - SDG 6.3

	2017	2018	2019	2020	2021
Emissions to air					
Global warming ⁽¹⁾ (MTCE)	407,290	428,912	382,277	310,041	284,726
Ozone depletion (kg R11 Eq)	0.00	0.00	0.00	0.00	0.00
VOCs (tons)	287	297	139	148	193
Atmospheric acidification (kg SO ₂ Eq)	36,084	43,856	46,018	51,207	62,178
Photochemical oxidant creation (kg ethylene Eq)	49,166	43,749	35,799	38,295	49,548
Air emission toxicity ⁽²⁾ (kg PH ₃ Eq)	1,595	2,240	1,414	3,192	3,717
Emissions to water⁽³⁾					
Eutrophication (kg (P+N))	176,555	164,027	169,575	126,286	184,147
Aquatic oxygen demand (kg COD ⁽⁴⁾)	595,257	605,100	632,625	656,045	1,213,093
Heavy metals to water (kg heavy metals)	11,560	14,222	9,233	6,880	9,162
Aquatic ecotoxicity (kg Cu Eq)	6,208	5,764	5,211	4,290	5,033

⁽¹⁾ Includes direct Greenhouse gas (GHG) emissions from our manufacturing plants and indirect emissions from energy consumption and transport, reported in Metric Tons of Carbon Equivalent (MTCE). Does not include GHG emissions from subcontractors and foundries.

⁽²⁾ Emissions of substances are considered only if they exceed the minimum threshold of 3ppm, expressed in phosphine equivalent. For Volatile Organic Compounds, Atmospheric acidification, Photochemical Oxidant Creation and Air emission toxicity, the particulate matter is not covered.

⁽³⁾ Domestic wastewater is included.

⁽⁴⁾ Total Chemical Oxygen Demand (COD).

Direct and indirect energy consumption by primary sources⁽¹⁾ (%) | 302-1 | 302-4 |

	2017	2018	2019	2020	2021
Green electricity purchased	25.8	21.2	26.4	39.6	46.5
Photovoltaic and thermal solar electricity produced by ST	0.1	0.1	0.1	0.1	0.1
Electricity purchased from nuclear (CO ₂ free)	12.1	9.2	6.9	6.1	6.2
Electricity purchased from fossil fuel sources	53.7	61.8	58.6	46.6	38.7
Natural gas	8.1	7.6	7.8	7.5	7.7
Other fuels	0.3	0.3	0.3	0.2	0.9

⁽¹⁾ The sums may not add up to 100% due to rounding of the figures.

Energy consumption by source | 302-1 | 302-4 |

	2017	2018	2019	2020	2021
Electricity (TJ ⁽¹⁾)	7,812	8,094	8,208	8,716	8,995
Natural gas (TJ ⁽¹⁾)	695	666	696	706	754
Others (TJ ⁽¹⁾)	24	22	22	31	96
Total energy (TJ ⁽¹⁾)	8,531	8,782	8,926	9,453	9,845
Energy from electricity (%)	91.6%	92.2%	92.0%	92.2%	91.4%

⁽¹⁾ Terajoule.

Renewable electricity (%)

	2017	2018	2019	2020	2021
Renewable electricity/total electricity purchased	28.3	23.1	30.0	43.0	50.9

Consumption of energy | 302-3 | SDG 7.3 Per unit of production – normalized values

	2017	2018	2019	2020	2021
Consumption of energy	88	81	86	99	81

Baseline 100 in 2016.

Consumption of electricity | 302-3 | Per unit of production – normalized values

	2017	2018	2019	2020	2021
Consumption of electricity	88	82	86	99	81

Baseline 100 in 2016.

Consumption of natural gas | 302-3 | Per unit of production – normalized values

	2017	2018	2019	2020	2021
Consumption of natural gas	86	73	80	88	74

Baseline 100 in 2016.

Carbon footprint of ST's products per mode of transportation (%)

	2017	2018	2019	2020	2021
Air <2,000km	19.2	18.6	22.0	0.7	0.8
Air >2,000km	78.9	79.7	76.4	97.9	97.6
Road	1.9	1.8	1.7	1.4	1.6
Ocean	0.0	0.0	0.0	0.0	0.0

Consumption of water Per unit of production – normalized values

	2017	2018	2019	2020	2021
Consumption of water	89	84	91	106	89

Baseline 100 in 2016.

Water withdrawal by source (1,000m³)⁽¹⁾ | 303-3 | SDG 6.4

	2017	2018	2019	2020	2021
Groundwater	3,055	4,236	3,029	2,880	2,747
Surface water	-	0	0	0	0
Municipal water supplies	14,009	13,967	15,814	17,342	18,698
Total withdrawal	17,064	18,204	18,843	20,223	21,445

⁽¹⁾ The sums may not add up due to rounding of the figures

Recycled and reused total water | 303-5 | SDG 6.3 - SDG 6.4

	2017	2018	2019	2020	2021
Ultrapure water used (1,000m ³)	-	-	11,243	12,331	13,194
Total water used (1,000m ³)	29,920	30,654	31,708	34,055	35,888
Total volume of water recycled and reused (1,000m ³)	12,857	12,450	12,870	13,833	14,445
Water recycled and reused (%)	43.0%	40.6%	40.6%	40.6%	40.3%

Total water discharge

	2017	2018	2019	2020	2021
Water discharge (1,000m ³)	14,406	14,926	15,621	15,912	17,878
Treated in ST wastewater treatment plant (%)	78%	68%	69%	85%	86%
Treated in external wastewater treatment plant ⁽¹⁾ (%)	58%	57%	55%	56%	59%

⁽¹⁾ Part of this water has already been treated in ST wastewater treatment plants, meaning that 100% of water discharged is treated either internally, externally, or both.

Waste in tons | 306-2 | SDG 12.4

	2017	2018	2019	2020	2021
Total hazardous waste	14,361	16,483	16,877	19,605	22,568
Total waste	39,615	44,828	43,593	49,012	55,672

Waste split in tons | 306-2 |

	2017	2018	2019	2020	2021
Reuse	1,543	2,097	1,614	3,628	3,825
Sent for recycling	32,182	34,434	33,607	33,653	38,952
Recovery ⁽¹⁾	2,244	4,642	5,224	5,944	7,559
Incineration	2,128	1,671	1,497	2,809	1,538
Landfill	1,519	1,983	1,651	2,977	3,798
Total waste	39,615	44,828	43,593	49,012	55,672

⁽¹⁾ Waste burnt with recovery of energy (combustion).

Non-hazardous waste split⁽¹⁾ (%) | 306-2 |

	2017	2018	2019	2020	2021
Reuse	3.7	5.0	3.5	10.0	9.7
Sent for recycling	88.9	83.9	86.1	69.1	72.6
Recovery ⁽²⁾	1.7	3.3	3.6	4.4	4.1
Incineration	1.4	2.4	2.4	7.8	3.2
Landfill	4.5	5.4	4.4	8.8	10.3

⁽¹⁾ The sums may not add up to 100% due to rounding of the figures.

⁽²⁾ Waste burnt with recovery of energy (combustion).

Hazardous waste split (%) | 306-2 | SDG 12.4

	2017	2018	2019	2020	2021
Reuse	4.1	3.1	3.1	3.5	2.7
Sent for recycling	62.7	71.8	70.9	68.0	66.1
Recovery ⁽¹⁾	18.5	18.3	20.0	23.8	27.5
Incineration	12.2	4.8	3.9	2.7	2.1
Landfill	2.5	2.0	2.1	2.0	1.7

⁽¹⁾ Waste burnt with recovery of energy (combustion).

WEEE

As a supplier of components to the electronics industry (and not a manufacturer of electronic equipment), our silicon products are not directly affected by the European Directive 2012/19/ EU Waste of Electrical and Electronic Equipment (WEEE). However, since 2018, demonstration and evaluation boards supplied by ST are subject to the Directive.

Consumption of chemicals SDG 12.4 Per unit of production – normalized values

	2017	2018	2019	2020	2021
Consumption of chemicals	97	100	98	101	96

Baseline 100 in 2016.

Elimination of Substances of Very High Concern (SVHC)

 SDG 12.4

	2017	2018	2019	2020	2021
Total number of action plans ⁽¹⁾ completed since 2008	23	23	23	23	24

⁽¹⁾ One substance can be subject to several action plans to be eliminated from different ST processes.

ST exposure to Substances of Very High Concern (SVHC)

	2017	2018	2019	2020	2021
SVHC total list	176	191	201	209	219
SVHC used in ST	23	26	27	30	34
SVHC Annex XIV used in ST	1	1	3	4	4
Total SVHC used in ST replaced since 2008	7	7	7	7	7

Deployment of ST substances specification to key suppliers and subcontractors (%)

	2017	2018	2019	2020	2021
Response rate from key partners	100	100	97	100	99
Commitment from key partners to ST substances specification	80	89	72	91	91

Spills in 2021 | 306-3 |

None

Fines and non-monetary sanctions in 2021

Ang Mo Kio (Singapore): \$400 paid for mosquito breeding offences according to the Control of Vectors and Pesticides Act, 1998.

Toa Payoh (Singapore): \$200 paid for mosquito breeding offences according to the Control of Vectors and Pesticides Act, 1998.

Acting together



ST is a partner of Yes We Code!, a CGénial program
Photo: CGénial Foundation

Responsible Supply Chain



Suppliers on site, ST Crolles, France

A responsible supply chain is essential to sustainable business success. At ST we are committed to partnering with suppliers who share our values of respecting people and driving business with integrity and excellence, and we expect the highest standards from them.

Our supply chain

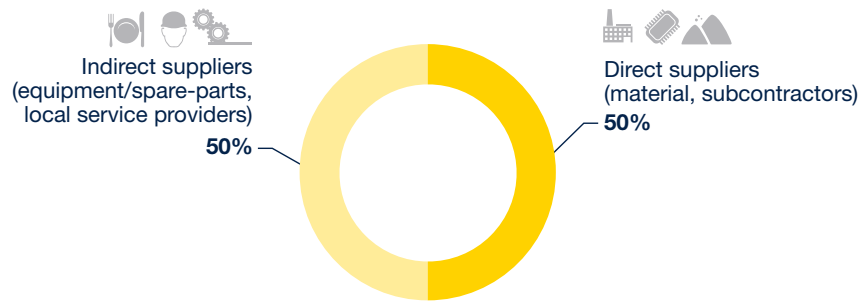
What we buy and where we buy it from

We procure materials, goods, and services from approximately 6,500 tier 1 suppliers of various types and sizes. Our suppliers range from external manufacturing subcontractors, material suppliers, equipment and spare-parts suppliers, to onsite service providers and labor agencies. In 2021, around 49% of our procurement spend was with suppliers based in Asia and 44% in Europe. 37% of our procurement volume is managed locally. The rest is managed centrally at corporate level. [I 204-1 I](#)

44%

**of procurement spend
in Europe**

Starting in 2021, we have aligned our suppliers' categories with the Responsible Business Alliance (RBA) definitions. Direct suppliers are those who provide services or materials for finished goods. Our equipment and spare-parts suppliers are now categorized as indirect suppliers, which represent half of our procurement volume.



Evolving legislation

We keep up to date with the numerous regulations that have been published regarding due diligence in the supply chain. All our tier 1 suppliers are screened automatically and continually against restricted party lists. We organize a due diligence committee twice a year involving different corporate organizations to discuss our supply chain sustainability management. At the end of 2021, we created an additional transversal task force that meets twice a month, which aims to adapt our supply chain management approach to reflect forthcoming legislation on forced labor.

Due diligence committee

Risk management

Business risks

In the current challenging conditions of the global economy, we identify strategic suppliers (critical for the business) according to the spend level, the scarcity of their product, and the availability of alternative sources. These strategic suppliers are periodically assessed, providing the flexibility our global procurement organization needs to secure business continuity.

We implemented a new supply chain risk management tool in our procurement team in 2021. Harnessing big data, machine learning and artificial intelligence technology, this real-time supplier information platform informs our buyers about any new threats or events potentially impacting our supply chain, triggering proactive action or recovery plans whenever necessary to prevent or mitigate the risk.

Sustainability risks

We perform an annual risk assessment of our tier 1 suppliers that enables us to identify, manage, mitigate, or avoid sustainability risks within our supply chain, if possible.

Our 2021 risk assessment was based on the results of a supply chain intelligence platform, using publicly available as well as audit data. We weighted this with specific semiconductor sector metrics, including the location of supplier facilities. This process allowed us to identify 810 suppliers with a score above 4.8 out of 10. We then fine-tuned the process for service providers, according to spend, regular presence of suppliers on site, and activities at risk.

Ultimately, 376 suppliers across 616 facilities were identified as being at risk in terms of sustainability.

Annual risk assessment

Monitoring

In our standard contract, suppliers declare that they have read and understood ST's Business Ethics and Corporate Responsibility Statement and that they acknowledge and agree to comply with the latest version of the RBA code of conduct. This established standard ensures that working conditions are safe, workers are treated with respect and dignity, and business operations are ethically and environmentally responsible. By agreeing to comply with the RBA code, suppliers are also required to deploy the code to their own supply chain.

In addition to this, our suppliers at risk follow a rigorous process based on the RBA methodology, adopted in 2005 and deployed progressively in our supply chain since then. It comprises three main steps.

Commitment letter	Suppliers sign a Supply Chain Responsibility Commitment letter, where, in addition to agreeing to comply with the RBA code, they agree to complete self-assessment questionnaires and accept second- or third-party audits.
Self-Assessment Questionnaire (SAQ)	Suppliers complete an RBA self-assessment. The results enable us to identify areas that require attention.
RBA audit & follow-up (VAP)	Suppliers receive a third-party RBA Validated Assessment Program (VAP) audit, or a second-party RBA-based audit, to monitor and control compliance and address areas of non-compliance with corrective actions

In 2021:

- 90% of our suppliers at risk signed the RBA commitment letter.
- 434 suppliers' facilities completed a SAQ.
- 38 facilities of direct suppliers (subcontractors, material suppliers) and 5 equipment and spare part suppliers' facilities had a third-party RBA audit.
- 36 local, indirect service providers (canteen, cleaning, security, gardening, dormitories, maintenance, labor agencies, etc.) had a second-party audit.

All audited suppliers with non-conformances are obliged to put corrective actions in place. These are verified in a follow-up closing audit.

If the supplier is unable or unwilling to meet these requirements, sanctions may be taken. Possible actions include:

- sending a warning letter from executive management
- selecting alternative products or services to decrease the supplier's market share
- temporary or definitive termination of the contract and the supplier being blacklisted

Top 5 audit findings of material, equipment/spare-parts suppliers and subcontractors⁽¹⁾

| 308-2 | 414-2 |



⁽¹⁾ Based on results of 43 third-party RBA audits.

Top 5 audit findings of local service providers⁽¹⁾ | 308-2 | 414-2 |



⁽¹⁾ Based on results of 36 local service providers' second-party RBA audits.

FOCUS

RECRUITMENT FEES REMEDiation: FROM POLICY TO PRACTICE

As an RBA member, ST is publicly committed to eradicating recruitment fees from its supply chain to protect vulnerable groups, including migrant workers. Direct communication with our suppliers, SAQs and audits allow us to detect if workers have paid recruitment fees or other related fees.

In such cases, we adopt an inclusive, multi-stakeholder approach involving the supplier, the recruitment agencies, and the workers in a transparent manner. We engage immediately in a remediation process, starting with an investigation, leading to the reimbursement of any fees paid. The supplier is also required to implement systemic changes, including a zero-fee policy, to avoid any future recurrence. Throughout the entire process, we provide the supplier's staff with free access to relevant training resources.

In 2020/2021, six suppliers reimbursed fees to workers totaling US\$167,500, while other remediation processes are still in progress.



Capacity building on sustainability

Training our buyers and executives

To increase awareness of responsible purchasing practices, our procurement teams, comprising 285 buyers and procurement managers, attended webinar sessions on supplier and subcontractor due diligence, with a focus on social risk and forced labor and an update on worldwide regulations.

In December, all ST buyers were also enrolled in the RBA's Responsible Procurement training. By the end of the year, 88 buyers had completed at least one training module. This training will continue in 2022.

In addition, we enrolled our sustainability council members in the RBA Responsible Mineral Sourcing e-learning program to increase their awareness of this important subject.

Training our suppliers

We are not only committed to controlling our suppliers, but also to supporting them in raising their awareness and capability to comply with required standards.

Our aim is to help our suppliers improve their performance sustainably, through dedicated e-learning on risks in areas such as labor (including working hours and forced labor), ethics, health and safety, environment, and management systems.

We deploy supplier e-learning in the RBA training platform, as well as webinars and in-person training. In 2021, we trained over 400 suppliers' employees representing more than 200 companies.

In addition to this, our worldwide community of experts supports suppliers' continuous improvement through ongoing dialog and sharing best practices. An example of this is the support provided by our ST Muar site (Malaysia) to one of our key suppliers.



Abdul Ghaffar Bin Attan
HR & ESH Manager, MEMC
Electronic Materials Sdn. Bhd.
(Malaysia)

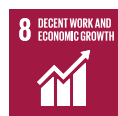
MEMC Electronic Materials' Kuala Lumpur team was invited by ST to visit its Muar (Malaysia) site in November 2021. It was a great learning experience to further enhance our knowledge of RBA requirements. The biggest challenge that we have encountered is managing foreign workers. From the visit, we learned that some of ST's foreign worker management methods could be adopted to improve our practices. The collaboration will be ongoing, with ST sharing information to assist us in enhancing RBA practices."

Grievance reporting

Like ST employees, our suppliers and their workers are encouraged to use our independent external hotline to share any concerns. This channel is reachable online or by phone in local languages and allows reports to be made anonymously if desired. In grievance cases, ST and the supplier must ensure complainants are protected against any retaliation.

Contributing to the Sustainable Development Goals

Our commitments and programs as described above contribute to:



SDG target 8.7 – Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor.

SDG target 8.8 – Protect labor rights and promote safe and secure working environments for all workers.



SDG target 17.16 – Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries.

2025 sustainability goal	Status	Comments
SG20: Conduct an annual risk assessment of our supply chain and audit 100% of our suppliers at risk by 2025.		Risk assessment conducted Audit: 28% with valid audit (2 year cycle – 172 out of 616 facilities at risk)
Annual sustainability goal	Status	Comments
≥ 90% of eligible suppliers signed an agreement to comply with the RBA code of conduct.		90%

Responsible Mineral Sourcing



Maintaining our vigilance

As a producer of electronic components, we need to source a diverse array of minerals and metals used at different stages of production in both front-end and back-end manufacturing.

This exposes us to a number of risks – notably human rights violations and environmental impact in the supply chain. The multi-tier nature of the supply chain adds further complexity, as does its global scale, which may include areas affected by conflict. We therefore need to strictly monitor our supply chain to ensure responsible mineral sourcing and to remain vigilant about the associated risks.

We have developed a holistic approach to identify, manage, and monitor responsible mineral sourcing. Although we do not work directly with smelters, we are closely engaged with our suppliers. We conduct due diligence in our sub-tier supply chain to ensure we do not procure raw materials that are directly or indirectly associated with human rights violations and to minimize environmental impact.

Beyond
tier 1 suppliers

Our policy statement is fully aligned with the OECD due diligence guidelines. It is available at www.st.com .

A long journey

Acting on conflict minerals

The term 'conflict minerals' refers to minerals (and the associated refined metals) that are mined, traded, controlled, supported or financed by illegal armed groups, causing serious human rights violations and environmental damage in the region of conflict, mainly in the Democratic Republic of the Congo (DRC) and neighboring countries. Tantalum, tin, tungsten, and gold, collectively known as the 3TGs, are all conflict minerals found in everyday consumer electronics such as smartphones and laptops.

We began taking action on conflict minerals in 2007. In 2011, we joined the Responsible Minerals Initiative (RMI), formerly CSFI⁽¹⁾, and started to implement a conflict minerals process focused on the DRC. In 2012, we released our first Conflict Minerals Reporting Template (CMRT). By 2017, after five years of diligent work with our supply chain, we achieved 100% conformance with the Responsible Mineral Assurance Process (RMAP) standard, meaning all our products were conflict-free.

RMI

member since

2011

In recent years, in line with OECD guidelines, we have expanded our focus on due diligence for minerals from conflict-affected regions to other high-risk areas.



Laurent Orsati

Responsible Minerals Program Manager, Product Quality and Reliability group

Since joining the RMI in 2011, the challenges we face have continually evolved, starting from an initial focus on the Democratic Republic of Congo, to now addressing unregulated minerals like cobalt. We are actively working with the RMI to extend the due diligence process to cover more minerals. Customer expectations of product reporting are also rising. This is a very complex topic to manage for a company like ST with a large product portfolio using thousands of different materials. We are working closely with our supply chain to drive further synergies and greater process synchronization."

Extending to cobalt

Cobalt is an essential material found in our products and technologies. As an active participant in RMI, we extended our monitoring efforts to include the cobalt supply chain. Multiple reports have highlighted concerns over the social and environmental impacts of cobalt extraction, including child labor and unsafe working conditions in artisanal cobalt mining.

In 2016, our first step was to identify the cobalt smelters in our supply chain and survey our suppliers using an internal reporting template. At the time, there was no standard template for cobalt monitoring. Two years later, cobalt became part of our standard process, and we published our first Cobalt Reporting Template (CRT), issued by the RMI. At the end of 2021, we started using the Extended Minerals Reporting Template (EMRT) which is a combination of the CRT and Mica Reporting Template (MRT).

In contrast with 3TGs, the lack of existing regulations on cobalt makes the smelter mapping and certification process more challenging. In addition to our own direct influence, we are counting on RMI's common actions and new regulations to speed up progress in the future. As an RMI member, we are contributing to the working group preparing a reporting template to address more unregulated minerals.

⁽¹⁾ Conflict-Free Sourcing Initiative.

Risk assessment and mitigation

An essential requirement for our suppliers is to use minerals originating from smelters that conform with the RMAP standard. Each new supplier is screened, and every new raw material used is systematically pre-assessed to determine whether it falls under the scope of our Responsible Minerals Sourcing program.

We are committed to removing all non-compliant smelters from our supply chain. Every year, suppliers complete a questionnaire on our requirements, enabling us to evaluate suppliers' maturity and their willingness to commit to due diligence. Additionally, suppliers are required to provide us with their updated CMRT. In case of changes in the supply chain, suppliers are expected to notify us within two weeks and provide a compliant reporting template within 90 days.

We ensure we remain vigilant by sharing any risks we identify with ST management every quarter.

We encourage any stakeholders concerned about non-compliance or risk of non-compliance to raise a grievance either on the [ST Misconduct page](#) or through the [RMI Grievance portal](#).

2021 achievements

Due diligence results

In 2021, we declared 189 smelters from 137 suppliers and subcontractors in our 3TGs supply chain.

At the end of the year, we had 99% of conformant smelters validated through RMAP, compared to 100% in 2020. The 1% reduction is due to a smelter that was declared non-compliant by the RMI in June. Since then, we have removed this smelter from our list of 32 suppliers. However, due to the complex internal process of qualifying an alternate supplier, one of our subcontractors still uses this smelter. We estimate its complete removal from our supply chain in the first half of 2022.

Conflict minerals – suppliers/subcontractors and smelters

	2017	2018	2019	2020	2021
Number of suppliers and subcontractors associated with at least one 3TG metal	126	128	124	124	137
3TG suppliers and subcontractors that have completed the RBA-RMI ⁽¹⁾ due diligence survey (%)	100%	100%	100%	100%	100%
Number of smelters identified in ST's raw materials supply chain	143	182	167	168	163
Number of smelters identified in ST subcontractors' supply chain	191	251	253	238	183
Total number of smelters identified in ST supply chains	197	251	253	239	189

⁽¹⁾ Responsible Minerals Initiative.

Downstream assessment program

In 2021, the EU regulation on due diligence came into force requiring importers to:

- establish a due diligence process aligned with OECD guidance
- publish a yearly report
- pass a third-party audit to verify their due diligence

Third-party audit

As an EU manufacturer, we published our yearly activity report in May 2021. We also passed a third-party audit organized by the RMI as part of the Downstream Assessment Program in November 2021. This program helped us confirm that our responsible sourcing practices are aligned with OECD due diligence guidance and validate information about our due diligence activities and practices. Participating in this program has been an opportunity to further strengthen our processes and demonstrate we are 100% aligned with expectations.

Transparent reporting

Just as we monitor our suppliers for responsible sourcing practices, our customers monitor our own practices. In 2021, we recorded more than 400 customer requests about our management of responsible mineral sourcing, raised through our [online support](#) page.

In addition to our EU conflict minerals report, we also published our [yearly report](#) on our due diligence process, in accordance with the SEC⁽²⁾.

>400

requests regarding
responsible mineral
sourcing

Recycling and recovery

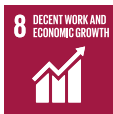
With emerging technologies and the fast-moving world we live in, there has been a considerable increase in demand for minerals. However, their supply is finite, and large-scale solutions must be found to accelerate the recovery and recycling of minerals that have already been extracted.

We have made efforts internally to facilitate the recovery and recycling of metals and minerals, but progress is low due to feasibility challenges. These efforts include implementing processes that help with metal recovery, such as palladium (see [Waste](#)).

However, no single company can solve this issue alone. For there to be a significant increase in recycling rates, there needs to be a concerted industry-wide response.

Contributing to the Sustainable Development Goals

Our commitments and programs as described above contribute to:



SDG target 8.7 – Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor.

SDG target 8.8 – Protect labor rights and promote safe and secure working environments for all workers.



SDG target 17.16 – Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries.

⁽²⁾ Securities and Exchange Commission.

Community and Education



Robotics for kids, Catania, Italy

We have a longstanding commitment to investing in the communities where we operate and believe we have a responsibility towards our local ecosystems and society at large.

We encourage our employees to engage in local community programs aligned with our sustainability strategy and with the local, operational and cultural context. We invest in the future of the communities we support, sharing with young people our passion for science and electronics in our 'STEM your way' program. | 103-1 |

Since 2012, we have measured our community involvement through the Business for Social Impact (formerly London Benchmarking Group) methodology, a global standard to measure and manage corporate community investment. | 103-3 |



Strengthening our performance

In 2021, we implemented 520 community initiatives worldwide, an increase of 56% on the previous year. These included:

- involvement of 33 sites in 20 different countries
- >138,000 hours of Company time, representing 68% of the total contribution
- US\$1.33 million in cash donations
- US\$1.33 million in in-kind donations

**>138,000
hours**

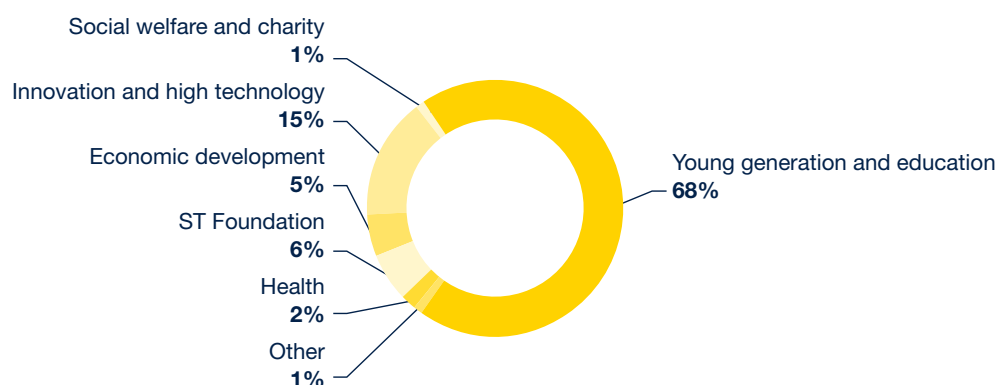
**working with local
communities**

520 initiatives

The large increase in the number of community initiatives is largely due to the expansion of our 'STEM your way' program. This is reflected in the global breakdown of initiatives, with 68% supporting education, compared to 43% in 2020.

Other areas we supported include the ST Foundation, innovation, and economic development with startup hosting (see [Innovation](#)), and healthcare. Our support for healthcare initiatives included donations to medical research groups in Italy and support to hospitals in regions badly affected by COVID-19, for which we gave oxygen concentrators (India), respirators (Tunisia) and FFP2 masks (Hong Kong).

Domains of involvement⁽¹⁾



⁽¹⁾ Among initiatives classified as young generation and education, some are also related to economic development, innovation and high technology.

STEM your way program

Our 'STEM your way' program is about raising awareness in young people about the importance of Science, Technology, Engineering and Mathematics (STEM) subjects and inspiring them to explore STEM-related careers.

>69,000

beneficiaries of our 'STEM your way' program

Our 330 STEM events and initiatives in 2021 reached more than 69,000 students and teachers. Despite the continuing pandemic, we successfully expanded the program with events in new countries, notably, Korea, Malta, Switzerland, and India, as well as rolling it out to smaller sites in existing countries, thanks to sharing best practices and the support of our major sites. The creation of a worldwide network of STEM champions and ambassadors has also allowed us to capture more data and so improve our reporting.

FOCUS

STEM YOUR WAY LAUNCHED IN INDIA

The 'STEM your way' program was launched in Greater Noida (India) at the beginning of 2021, with an awareness campaign and a call for volunteers. More than 60 employees volunteered to participate and five of them formed a steering committee. The committee decided to structure the STEM your way program around three existing initiatives: Dream Classes, the Digital Unify program – both



addressing underprivileged children and teenagers – and UniConnect, a program fostering links between the Greater Noida site and various universities.

To develop the STEM your way program, volunteers identified local educational needs with the help of schoolteachers and representatives. They created four basic science modules focusing on gravity, astronomy, electricity, and thermodynamics.

More than 300 students from junior and senior schools participated in webinars and workshops. ST employees also acted as mentors for an innovation competition. The next step is to deliver training on artificial intelligence, IoT and the handling of electronics. Content has been created during the year and will be delivered in 2022.

Starting young

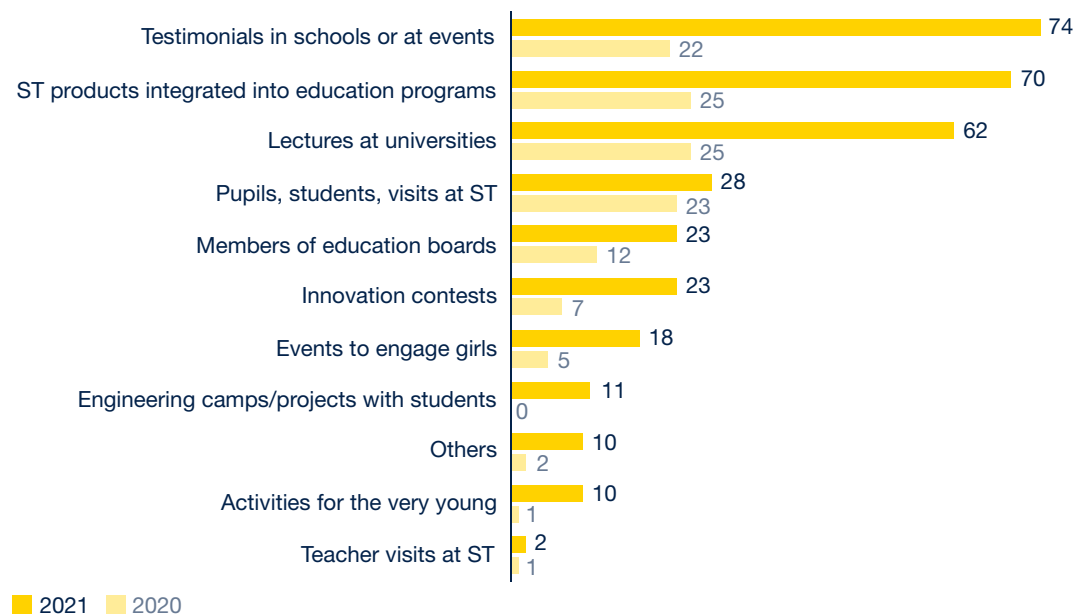
We recognize the advantage of inspiring young children who tend to be curious, open-minded, and less influenced by their peers. We developed several new activities for primary schools, such as a Tiny Teen Science Café in Kirkop (Malta). The aim of this activity is to promote the uptake of STEM subjects by bringing 10- and 11-year-olds closer to STEM professionals.

STEM for girls

We believe our industry needs more diverse talents to create a better future and that we have a role to play in combating gender stereotypes in science and technology.

We organized initiatives in France, Italy, Switzerland, and Singapore, targeting the empowerment of girls in science. Our site in Catania (Italy) made a particularly strong contribution with five remote events in 2021, reaching 655 students.

Number of STEM initiatives



Middle and high schools

To address digital skills at school, we invested in a project with **Vittascience** , a French startup specializing in educational tools. The collaboration aims to support education by providing tools for coding at middle and high schools. Vittascience developed a coding platform and **two hands-on kits**  (the Martian robot and the connected plant) integrating an ST microcontroller and sensors. The kits are available in English, French and Italian and can be shipped worldwide. These developments were funded by the Important Projects of Common European Interest (IPCEI) for Microelectronics program.

Martian robot and connected plant

kits for schools



vitta
science

Léo Briand

Vittascience – CEO and Co-founder

Thanks to the successful collaboration with ST engineers, we designed a coding platform, two hands-on kits and activity booklets to help boost digital learning in schools. The platform and the booklets are available in French, Italian and English. It is a great opportunity to spread the tools all around the world and help students acquire new skills to equip them for the future."

Building on our partnership with the French CGénial Foundation initiated in 2020, 50 kits were delivered to teachers in France, alongside training sessions by ST engineers and Vittascience developers. The kits were also presented to the public and middle and high school visitors during the 2021 French Fab Tour, a series of events across the country promoting French industry, co-organized by Bpifrance and UIMM⁽¹⁾, in which STMicroelectronics was a partner.

Higher education

At university level, we support students with our expertise and help to equip them with skills for their future careers.

Many of our technical experts work closely with universities and deliver courses and webinars. We have a large program with Chinese universities aimed at teaching how to use our products. We also have several partnerships with prestigious universities in the United States where, for example, we collaborate to develop open-source tutorials.

In 2021, our Tunis site (Tunisia) developed relationships with Tunisian universities by working on engineering projects with students. Our Agrate site (Italy) developed new courses to prepare future maintenance engineers for the microelectronics industry (see **Talent Attraction and Engagement**). Similarly, engineers from our Rousset site (France) joined I-NOVMICRO, an innovation program to develop and promote the microelectronics and electronics training sector in southern France, and created data analysis courses.

ST Foundation

The ST Foundation (see www.stfoundation.org ) continues to bridge the digital divide between those who have access to modern technologies and those who do not. The Digital Unify (DU) program, launched in 2003, has trained over 860,000 people in 28 countries since its inception.

>860,000

people trained in

28

countries since 2003

⁽¹⁾ Union des Industries et Métiers de la Métallurgie

In 2021, around 86,800 trainee students took part in classes on basic and advanced computer skills, and 'Tablets for Kids'. Out of this total, 206 courses were organized entirely online during lockdowns.

The pandemic and the increasing switch to digital technologies revealed further inequalities in digital access. Although new technologies offer great opportunities for distance teaching and learning for schools, teachers, and students, they also highlight significant disparities and gaps in skills and competencies.

In this regard, the ST Foundation continued its efforts to help schools and families better manage e-learning through a program named 'Society Digitalization'. With a focus on Italy and France, this program aims to:

- secure donations of equipment to digitally excluded families
- deliver new courses and content to support teachers with digital learning
- develop an e-learning platform

To achieve this, the Foundation received a wide range of support from ST, including:

- cash donation of US\$500,000
- electronic and IT equipment
- involvement of Italian volunteers in webinars on promoting digital careers
- appointment of one full-time person to manage the Foundation's activity in France, and one in Italy in 2022
- time devoted by employees to developing new courses, especially Italian and Indian volunteers
- support from Corporate External Communication to maintain the Foundation's website and produce its activity report to external stakeholders

Contributing to the Sustainable Development Goals

Our commitments and programs as described above contribute to:



SDG target 4.3 – Ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.



SDG target 10.2 – Empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.

2025 sustainability goal	Status	Comments
SG6: Engage employees in deploying STEM partnerships in 20 countries by 2025.		9 out of 20 countries*

* China, Czech Republic, France, India, Italy, Malaysia, Switzerland, Tunisia, USA

Communities indicators

This section includes indicators and GRI Standard disclosures.

Supplier agreement to comply with ST business ethics and corporate responsibility standards⁽¹⁾ (%)

	2017	2018	2019	2020	2021
Supplier agreement	66	65	79	89	93

⁽¹⁾ Percentage of total number of suppliers.

Number of suppliers and facilities at risk for sustainability⁽¹⁾

		2017	2018	2019	2020	2021
Direct procurement						
Material suppliers	Suppliers	99	96	87	89	103
	Facilities	244	242	237	240	277
Back-end subcontractors	Suppliers	29	28	26	28	26
	Facilities	41	45	39	40	54
Front-end subcontractors	Suppliers	5	12	7	6	11
	Facilities	14	17	18	14	23
Indirect procurement						
Equipment/spare-parts suppliers	Suppliers	79	74	80	58	59
	Facilities	63	102	94	75	85
Local suppliers	Suppliers	188	164	221	138	158
	Facilities	NA	NA	NA	NA	NA
Labor agencies	Suppliers	58	36	31	16	19
	Facilities	NA	NA	NA	NA	NA

⁽¹⁾ According to social, ethics and EHS criteria.

NA = not applicable

Suppliers' and subcontractors' Environmental, Health & Safety performance⁽¹⁾ (%)

	2017	2018	2019	2020	2021
ISO 14001 certified/EMAS validated					
Material suppliers	93	82	97	97	88
Equipment/spare-parts suppliers	80	5 ⁽²⁾	44	50	52
Back-end subcontractors	96	96	96	96	96
Front-end subcontractors	100	100	100	100	100
Overall	89	58	76	82	79
OHSAS validated					
Material suppliers	50	48	56	58	55
Equipment/spare-parts suppliers	23	1 ⁽²⁾	14	10	14
Back-end subcontractors	67	72	75	61	66
Front-end subcontractors	70	67	78	80	80
Overall	44	36	43	45	46

⁽¹⁾ For the number of eligible suppliers see the table 'Number of suppliers and facilities at risk for sustainability'.

⁽²⁾ Issue with data consolidation in 2018.

New suppliers screened using social and environmental criteria (%) | 308-1 | 414-1 |

	2017	2018	2019	2020	2021
Direct manufacturing	100	100	100	97	99
Indirect services	-	99	98	99	96
Total	-	99	99	98	97

Step 1 – supplier agreement to comply with RBA code or equivalent^(1,2)

	2017	2018	2019	2020	2021
Direct procurement					
Material suppliers	94	89	79	82	102
Back-end subcontractors	28	25	26	27	23
Front-end subcontractors	5	12	7	6	10
Indirect procurement					
Equipment/spare-parts suppliers	74	66	68	54	55
Local suppliers	177	158	209	135	135
Labor agencies	57	36	31	16	14
Total	435	386	420	320	339

⁽¹⁾ For the number of eligible suppliers see the table 'Number of suppliers and facilities at risk for sustainability'.

⁽²⁾ Number of suppliers who have signed a commitment to the current version of the RBA code of conduct or equivalent, and accept to complete assessments and audits.

Step 2 – supplier CSR self-assessment questionnaires^(1,2)(SAQ)

	2017	2018	2019	2020	2021
Direct procurement					
Material suppliers	205	215	197	214	257
Back-end subcontractors	39	43	34	34	44
Front-end subcontractors	14	17	16	14	20
Indirect procurement					
Equipment/spare-parts suppliers	51	74	82	70	82
Local suppliers	86	92	71	91	24
Labor agencies	18	18	11	8	7
Total	413	459	411	431	434

⁽¹⁾ For the number of eligible facilities see the table 'Number of suppliers and facilities at risk for sustainability'.

⁽²⁾ Completed at facility level.

Step 3 – supplier CSR audits^(1,2,3)

	2017	2018	2019	2020	2021
Direct procurement					
Material suppliers	1	4	5	12	21
Back-end subcontractors	6	3	9	4	14
Front-end subcontractors	2	7	3	6	3
Indirect procurement					
Equipment/spare-parts suppliers	0	1	0	5	5
Local suppliers	58	26	28	64	24
Labor agencies	8	0	4	2	12
Total	75	41	49	93	79

⁽¹⁾ For the number of eligible facilities see the table 'Number of suppliers and facilities at risk for sustainability'.

⁽²⁾ Completed at facility level.

⁽³⁾ RBA audits are valid for 2 years.

Supplier facilities average RBA SAQ score⁽¹⁾ (%)

	2017	2018	2019	2020	2021
Health and Safety section	90.7	90.7	90.3	89.6	89.4
Environment section	88.4	88.0	88.6	85.8	84.4
Labor section	92.2	91.1	91.7	91.7	90.9
Ethics section	93.6	93.1	94.0	93.4	91.3
Overall average	91.2	90.5	91.0	90.1	89.1

⁽¹⁾ Key suppliers' facilities (material, equipment/spare-parts suppliers, subcontractors).

Average number of findings per supplier audit

	2020	2021
Direct procurement		
Priority non-conformances	0.23	0.18
Major non-conformances	3.50	4.84
Closure rate ⁽¹⁾	-	40%
Indirect procurement		
Priority non-conformances	0.06	0.22
Major non-conformances	1.56	3.54
Closure rate ⁽¹⁾	-	83%

⁽¹⁾ Percentage of priority and major non-conformances closed during the year.

Recruitment fees reimbursed to workers by suppliers

	2020	2021
Total amount of fees paid back (US\$)	29,852	137,651
Number of impacted workers	22	42
Number of suppliers involved	3	4

Supplier RBA training in 2021

	2021
Number of suppliers trained ⁽¹⁾ on RBA standard	201

⁽¹⁾ Suppliers may have trained more than one person.

Suppliers terminated as a result of a negative social or environmental impact | 308-2 | 414-2 | SDG 8.7

	2017	2018	2019	2020	2021
Number of suppliers	1 ⁽¹⁾	2 ⁽²⁾	1 ⁽³⁾	1 ⁽⁴⁾	1 ⁽⁵⁾

⁽¹⁾ Recruiting conditions in cleaning services in Kirkop site (Malta).

⁽²⁾ Recruitment fees and detention of employee passports in a cleaning service supplier; and recruitment fees and levy deduction with a security service supplier in Muar site (Malaysia).

⁽³⁾ Legal requirement concerning social contributions not respected by a cleaning services company in Tunis site (Tunisia).

⁽⁴⁾ Contract not renewed with a security service supplier in Bouskoura (Morocco) due to excessive working hours.

⁽⁵⁾ Non-payment of social security contributions for its employees in Marcanise site (Italy).

Conflict minerals inquiry results 2021 SDG 8.7

	Gold	Tantalum	Tin	Tungsten
Number of smelters	63	33	54	39
Smelters which are RMAP ⁽¹⁾ validated (%)	100%	100%	98%	100%
Smelters which are active in the RMAP ⁽¹⁾ but were not RMAP validated as of December 31, 2021 (active smelters) (%)	0%	0%	2%	0%
Active smelters which have declared sourcing from L1/L2 ⁽²⁾ countries or recycled or scrap sources ⁽³⁾ (%)	0%	0%	2%	0%
Active smelters which have not provided a declaration regarding country or origin of recycled or scrap sources (%)	0%	0%	0%	0%

⁽¹⁾ Responsible Minerals Assurance Process (formerly Conflict Free Smelter Program).

⁽²⁾ Level 1 countries are not identified as conflict regions or plausible areas of smuggling or export from the Democratic Republic of the Congo and its nine adjoining countries.
Level 2 countries are known or plausible countries for smuggling, export out of region or transit of materials containing tantalum, tin, tungsten or gold.

⁽³⁾ Based on information presented by suppliers and subcontractors.

Community involvement – inputs | 201-1 |

	2017	2018	2019	2020	2021
Number of community involvement initiatives ⁽¹⁾	335	374	389	340	520
Total contribution (evaluated in US\$m)	8.2	8.0	7.9	10.4	8.9

⁽¹⁾ Multiple activities linked to the same program count as one initiative.

Geographical spread of community contributions (%)

	2017	2018	2019	2020	2021
Africa	7	10	2	1	2
Americas	1	0	0	0	3
Asia	13	16	11	11	11
Europe	59	57	73	76	69
Worldwide	20	17	14	12	16

Community contribution⁽¹⁾

	2017	2018	2019	2020	2021
Cash donations (%)	10	15	23	21	15
Staff time volunteering (%)	84	75	66	43	68
In-kind (%)	5	7	9	34	15
Management costs (%)	1	2	2	2	2
Number of employees engaged in volunteering ⁽²⁾	6,712	5,663	6,065	4,231	4,620
Number of hours contributed inside Company time	139,003	124,154	145,498	114,324	138,305

⁽¹⁾ The sums may not add up to 100% due to rounding of the figures.

⁽²⁾ Employees are counted for each initiative, so the same employee may be counted several times.

Reason for community contribution⁽¹⁾ (%)

	2017	2018	2019	2020	2021
Community investment	95	97	97	64	96
Charitable donation (gift)	4	3	3	36	4
Commercial initiative	1	0	1	0	0

⁽¹⁾ The sums may not add up to 100% due to rounding of the figures.

Community involvement – outcomes

	2017	2018	2019	2020	2021
Number of beneficiary organizations	1,722	1,384	1,856	2,938	3,111
Number of direct beneficiaries	105,117	103,703	117,136	163,497	132,004

Direct beneficiary groups (%)

	2017	2018	2019	2020	2021
Children/Teenagers	4	8	9	3	6
Students/Scientific communities	81	79	77	53	82
Affected by natural/man made disaster ⁽¹⁾	-	-	-	32	3
Local population	10	8	8	7	7
Senior/Elderly people	-	-	1	4	0
Others ⁽²⁾	4	4	3	2	2

⁽¹⁾ Mainly linked to COVID-19 pandemic.

⁽²⁾ Includes people on low incomes/unemployed, people with poor health, migrants and disabled people.

Awards 2021 overview

Every year, we receive external recognition for our sustainability approach. Here are some examples from 2021.

Global excellence in sustainability

At the 2021 BETA Awards organized by BISinfotech, a leading electronics and tech publication in India, ST received four innovation awards and a special award for Global Excellence in Sustainability Efforts. The special award recognized our strong commitment to social responsibility, carbon neutrality, meeting human needs equitably, living within our planet's ecological limits and building a prosperous economy for all.

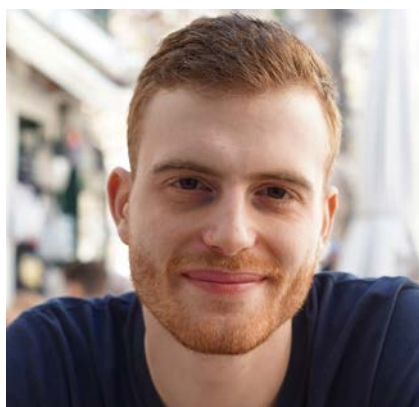


Sustainability leader

ST was named the Global Sustainability Company of the Year at the seventh edition of 'Best of Industry' awards, organized by Electronics Maker in India. The award acknowledges our sustainability approach and establishes a benchmark for companies that are looking to showcase the impact of sustainable business on society and the environment at large.

Smart cities innovation award

At the Consumer Electronics Show (CES) in Las Vegas, USA, hosted by the Consumer Technology Association, ST was recognized with an Innovation Award for a product in the smart cities category. The winning product, a MEMS inclinometer with machine-learning core, is a high-accuracy accelerometer which detects a range of movements such as earthquakes, unusual wind patterns, or dangerous structural loadings.



Best industry paper

ST was awarded a prize for the best industrial paper at the 2021 IEEE Radio Frequency Integrated Circuits (RFIC) symposium in Atlanta, USA. The award recognized the work of Guillaume Tochou, a PhD student from ST Crolles (France), and his paper on 'The Human Intranet'. Based on 28nm FD-SOI technology with very low power consumption and excellent efficiency, this project proposes solutions for optimized communication between medical sensors on the human body.

Sustainability innovation award

ST Shenzhen (China) received the 2021 Sustainable Development Innovation Award from the Shenzhen Association for Quality. The award recognized a series of initiatives on the improvement and innovation of people and processes, including automation upgrades and intelligent manufacturing. By developing management systems and applying innovative technologies, the site demonstrated an exceptional increase in productivity, product quality, and reduced energy and water consumption.



ST outstanding women

Dr Fairoza Amira Binti Hamzah from ST Muar (Malaysia) won the Rising Star title at the Asia Women in ICT Awards. She was recognized for demonstrating outstanding leadership in driving forward Artificial Intelligence (AI) and machine learning adoption in Malaysia. As the creator of Women in AI Malaysia, she has built a 600-member-strong community to nurture AI talent across the country.

Innovation in HR

ST India received the Asian Leadership Award which recognizes remarkable business leaders and organizations for their continuing commitment to excellence, developing best practices and innovative strategies. To ensure employees are highly engaged with the Company, the Human Resources team in India has been constantly developing partner-focused initiatives. This demonstrates how HR has gone beyond being a support function to become an enabling partner in the business.



Top employer Italy

ST Italy received Top Employer 2022 certification based on six major HR areas (2021 performance). ST Italy was also recognized as one of Italy's Top 200 Best Employers for Women by the German Institute for Quality Finance. The assessment criteria covered 45 topics, including business culture, professional training, and equal opportunity. Both these awards recognize the importance ST gives to people, the quality of our programs and initiatives for inclusion.

Top employer France

For the second consecutive year, ST was rated as one of the Top Employers 2022 in France (based on 2021 performance). The assessment criteria included our talent management strategy, work environment, training and skills development, well-being at work, and diversity and inclusion. ST France also received the Happy Trainees France 2022 certification, which recognizes our continuous engagement with interns and apprentices.





Triple environmental award

At the 12th Biennial Pollution Control Officers (PCO) General Assembly, our Calamba site (the Philippines) won multiple awards for its exemplary efforts in environmental management. The awards recognized a comprehensive program to ensure compliance with environmental laws and regulations, and continuously improve the site's ecological footprint. Robert Portento, ST Environmental Specialist, was a finalist for the PCO award for spearheading the program.

25 years of EMAS

Our Kirkop site (Malta) celebrated 25 years of being certified as an EMAS-registered organization. Having first been granted the certification in 1995, it is one of the first 10 organizations in the country to reach this milestone. EMAS is an EU certification for companies that have integrated an environmental management system into their business.



Green mobility hattrick

Three of our sites in France won separate awards for green mobility from their respective local authorities. Our Rennes site received the 'Label Développement Durable', Le Mans won the 'Défi Mobilité' trophy and Grenoble won two recognitions – second prize in the local ranking of 'Aire Grenobloise' and the third prize in the regional ranking 'Métropolises'. These awards demonstrate the sites' commitment and action plans to enable employees to opt for green mobility alternatives, such as public transport and bikes.

Prestigious IEEE milestone award

In May 2021, ST was honored with the prestigious IEEE milestone for inventing BIPOLAR-CMOS-DMOS (BCD), a family of silicon processes in the area of power management and analog data acquisition. The IEEE Milestones in Electrical Engineering and Computing program honors significant technical achievements. Milestones recognize the technological innovation and excellence for the benefit of humanity found in unique products, services, seminal papers, and patents.



EU Taxonomy

The EU Taxonomy Regulation

On July 12, 2020, Regulation (EU) 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 provides the basis for the EU Taxonomy, which is a classification system, on the basis of which a list of environmentally sustainable economic activities has been drawn up. 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.

Environmental objectives

The EU Taxonomy Regulation defines overarching conditions that 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 each environmental objective, a delegated act will be issued in which technical screening criteria (EU Taxonomy criteria) will be laid down, 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 Acts on climate change mitigation and climate change adaptation, entered into force. No delegated acts have currently entered into force for the other four environmental objectives.

Eligibility – alignment

Disclosure obligations under the EU Taxonomy Regulation will enter into force in multiple phases. For the financial year 2021, non-financial undertakings such as ST will only have to disclose information on the Taxonomy-eligibility of their economic activities. For the financial year 2022, non-financial undertakings such as ST will have to disclose information on the Taxonomy-alignment of their economic activities as well.

An activity can be considered Taxonomy-eligible when the activity is described as such in the relevant EU Taxonomy Delegated Act. To assess whether the activity can also be considered Taxonomy-aligned, an additional evaluation has to be made to identify if the EU Taxonomy criteria are met.

Applicability of EU Taxonomy to ST

As we are subject to an obligation to publish non-financial information pursuant to the Directive 2013/34/EU of the European Parliament and of the Council of June 26, 2013 (the NFRD), the EU Taxonomy Regulation is applicable to us, and subsequently, we must disclose information on how and to what extent our activities are associated with economic activities that potentially qualify as environmentally sustainable under the EU Taxonomy Regulation.

For the current financial year 2021, the disclosure for non-financial undertakings such as ST is limited to the disclosure of Taxonomy-eligible and Taxonomy non-eligible economic activities within their turnover, capital expenditure (CAPEX) and operating expenditure (OPEX) aiming at substantially contributing to climate change mitigation and climate change adaptation and the qualitative information relevant for this disclosure.

For the financial year 2022, we will perform the additional evaluation in view of Taxonomy-alignment for our reporting in 2023.

The following disclosures are prepared based on our current interpretation of the EU Taxonomy, while acknowledging that the EU Taxonomy Regulation is still under development and its interpretation and application is evolving.

ST and EU Taxonomy: Enabling activities

Whereas some sectors contribute directly to climate change mitigation and adaptation, we, as an intermediate product manufacturer, enable the manufacturing of low-carbon technologies. Our activities that significantly aim at contributing to climate change mitigation and adaptation, as per the definition of the EU Taxonomy Regulation, are the manufacturing of electronic components (NACE code 26.1.1) that enable other sustainable economic activities and applications. We identified all our products, technologies and detailed applications that aim at contributing substantially to climate change mitigation. This encompasses all products that aim at substantial GHG emissions savings across their lifecycle in other sectors of the economy (the GHG Saving Products).

Our taxonomy-eligible activities are therefore considered to be mainly based on the revenue derived from the sale of GHG Saving Products critical to enabling the activities listed in the EU Taxonomy as 3.6 Manufacturing of other low-carbon technologies.

With regard to climate change adaptation, it follows from our assessment that our activities are not covered by climate change adaptation as per the EU Taxonomy definition. Therefore, the proportion of turnover, CAPEX and OPEX that can be considered as Taxonomy-eligible with respect to climate change adaptation is 0%, and therefore is not included in our report on the eligibility assessment and eligible activities described below.

ST EU Taxonomy eligibility assessment

At ST, we believe that the semiconductor industry is a strategic enabler of a low carbon society as well as managing the transition towards carbon neutrality. As part of our value proposition, we aim at designing and manufacturing products that have the greatest positive impact on the planet and society. We therefore develop technologies to enable our customers to create responsible applications for safer, greener, and smarter living.

Our advanced technologies, such as SiC, GaN or FD-SOI, enable low carbon applications and bring competitive advantage in terms of GHG emissions.

Low carbon applications such as electric mobility, renewable energies, smart cities, or smart buildings have been and remain strategic markets for us.

We are a market leader in the design and manufacturing of power solutions or motor control enabling products, in which areas there are ample opportunities for short term impact on GHG emissions.

We also lead the semiconductor market in terms of ultra-low power ICs such as sensors or microcontrollers.

Lifecycle assessment: a key criterion for our EU Taxonomy reporting

For more than 10 years we have deployed a responsible product lifecycle assessment, which details the GHG footprint and handprint, as part of our sustainable technology program. We have set a target for 2027 of generating 33% of our sales to environmental and social issues, mainly for GHG reduction.

As a semiconductor manufacturer, we play a significant role in developing products enabling GHG reduction, so contributing to climate change mitigation. Our approach and methodology are based on climate change mitigation activities.

We use our advanced product lifecycle assessment experience in GHG emissions to report on the EU Taxonomy requirements. Our approach considers the full product lifecycle and its impact on the environment.

EU Taxonomy reporting – Taxonomy eligible activities related to climate change mitigation

Taxonomy eligible turnover

We have based the proportion of Taxonomy eligible turnover metrics on revenues from GHG Saving Products. The denominator is based on total revenues as reported on the consolidated income statement for the year ended December 31, 2021.

All product families have been reviewed by ST divisions, and their potential GHG reduction assessed. We have selected only product families that aim at substantial GHG reduction across the product lifecycle, from material sourcing to end of life. We have excluded products aiming at advanced functionalities vs power management, or products dedicated to comfort applications even if they are competitive from a power management perspective.

This results in Taxonomy eligible turnover amounting to 37% of total revenues reported for the full year, whereby the split by activity in our reportable segments is as follows:

Automotive and Discrete Group (ADG)	40%
Analog, MEMS and Sensors Group (AMS)	43%
Microcontrollers and Digital ICs Group (MDG)	26%
Total	37%

Taxonomy eligible CAPEX

The Taxonomy eligible CAPEX is based on capital expenditures related to our assets or processes associated with economic activities that are described in the relevant EU Taxonomy delegated acts.

The denominator is determined based on the 2021 additions to property, plant and equipment (including rights of use for leased assets), intangible assets (including capitalized development costs), as reported in notes 7.6.11, 7.6.12 and 7.6.13 of our consolidated financial statements for the year ended December 31, 2021 (2021 Statutory Annual Report including IFRS Financial Statements available on www.st.com)

Our methodology is mainly based on existing or future technologies enabling products that aim at substantial GHG reduction across their lifecycle. It also includes investments supporting our carbon neutrality program.

This results in taxonomy eligible activities amounting to 46% of the CAPEX.

Taxonomy eligible OPEX

The Taxonomy eligible OPEX is based on operational expenditures related to our assets or processes associated with economic activities that qualify as environmentally sustainable under the relevant EU Taxonomy delegated acts.

The denominator is determined based on research and development expenses, as reported in the consolidated income statement for the year ended December 31, 2021, after deducting expenses, primarily overheads, which are not directly associated with the development of new products or technologies.

Our methodology is mainly based on systematic review of new product development aiming at substantial GHG reduction across lifecycle. Standard costs have been reviewed based on related technologies enabling products that aim at substantial GHG reduction across their lifecycle.

This results in taxonomy eligible activities amounting to 36% of the OPEX.

To summarize, the following table sets forth the proportion of our turnover, CAPEX and OPEX which is Taxonomy-eligible, and which is Taxonomy non-eligible.

	Turnover	CAPEX	OPEX
Taxonomy-eligible economic activities (in %)	37%	46%	36%
Taxonomy non-eligible economic activities (in %)	63%	54%	64%
Total (in US\$ million)	12,761	2,726	1,157

Future developments

There is currently limited guidance published by European or Dutch institutes available on the discretionary leeway to assess whether or not certain economic activities are taxonomy-eligible or taxonomy non-eligible. Despite the fact that we have carefully balanced our assessment and disclosures on the EU Taxonomy, taking into account that this first reporting year is considered to be a transitional year, this reporting may differ from future disclosures as more guidance becomes available over time. Furthermore:

- Turnover is based on best estimate to our knowledge and available data regarding our eligible products;
- OPEX is based on best estimate to our knowledge and possible allocation of new eligible products or technologies' development costs; and
- CAPEX is based on best estimate to our knowledge and possible allocation of eligible products or technologies used in capacity increase or technological research and development.

In the coming years, we will continue to report under the EU Taxonomy with regard to our Taxonomy-eligible economic activities as well as our Taxonomy-aligned economic activities (as of financial year 2022). This entails a further and continuous review of our economic activities. Future guidance on the EU Taxonomy could result in updated definitions and other decision-making in meeting reporting obligations that may come into force. We expect that our reporting will evolve over time as more insights will be gained on how best to comply with the EU Taxonomy.

GRI Content Index

This report has been prepared in accordance with the GRI Standards, Core option.

I 102-55 I

General Disclosures	Disclosure	Reference(s)/URL(s)
GRI 102: General Disclosures 2016	Organization profile	
	102-1	Name of the organization About this report › Page 2
	102-2	Activities, brands, products, and services ST at a glance › Page 4 Our business model › Page 6 ST process technologies › Page 8 ST Products and solutions › Page 10 2021 Annual report (Form 20-F) at www.st.com (page 23)
	102-3	Location of headquarters About this report › Page 2
	102-4	Location of operations ST at a glance › Page 4
	102-5	Ownership and legal form Governance › Page 17
	102-6	Market served ST Products and solutions › Page 10 Business indicators › Page 55 2021 Annual report (Form 20-F) at www.st.com (page 23)
	102-7	Scale of the organization ST at a glance › Page 4 Business indicators › Page 55 2021 Annual report (Form 20-F) at www.st.com (page 28)
	102-8	Information on employees and other workers People indicators › Page 80
	102-9	Supply chain Our business model › Page 6 Responsible Supply Chain › Page 117
	102-10	Significant changes to the organization and its supply chain About this report › Page 2
	102-11	Precautionary principle and approach Chemicals › Page 107 Sustainability Charter at www.st.com/sustainabilitycharter
	102-12	External initiatives About this report › Page 2 Our approach to the environment › Page 89 Innovation › Page 41 International Standards › Page 148
	102-13	Membership of associations Governance › Page 17 Our approach to the environment › Page 89 Involvement in Industrial and International Organizations at www.st.com
Strategy		
	102-14	Statement for senior decision-maker CEO foreword › Page 5
Ethics and integrity		
	102-16	Values, principles, standards, and norms of behavior Ethics and Compliance › Page 20 ST's Code of Conduct on www.st.com/code_of_conduct
	102-18	Governance structure Governance › Page 17
Stakeholder engagement		
	102-40	List of stakeholder groups Stakeholder engagement › Page 32
	102-41	Collective bargaining agreements People indicators › Page 80
	102-42	Identifying and selecting stakeholders Stakeholder engagement › Page 32
	102-43	Approach to stakeholder engagement Stakeholder engagement › Page 32
	102-44	Key topics and concerns raised Stakeholder engagement › Page 32
Reporting practices		

General Disclosures	Disclosure		Reference(s)/URL(s)
	102-45	Entities included in the consolidated financial statements	Governance › Page 17 2021 Annual report (Form 20-F) at www.st.com (page 33)
	102-46	Defining report content and topic boundaries	About this report › Page 2 Sustainability strategy › Page 29
	102-47	List of material topics	Sustainability strategy › Page 29
	102-48	Restatements of information	About this report › Page 2
	102-49	Changes in reporting	About this report › Page 2
	102-50	Reporting period	About this report › Page 2
	102-51	Date of most recent report	About this report › Page 2
	102-52	Reporting cycle	About this report › Page 2
	102-53	Contact point for questions regarding the report	About this report › Page 2
	102-54	Claims of reporting in accordance with the GRI Standards	About this report › Page 2
	102-55	GRI content index	GRI Content Index › Page 141
	102-56	External assurance	About this report › Page 2 Assurance statement › Page 150

Material topics	Disclosure		Reference(s)/URL(s)	Omission
Sustainable Financial Performance				
GRI 103: Management Approach 2016	103-1	Explanation of the material topics and their boundaries	Sustainability strategy › Page 29	
	103-2	The management approach and its components	Sustainable Financial Performance › Page 37	
	103-3	Evaluation of the management approach	Sustainable Financial Performance › Page 37	
GRI 201: Economic performance 2016	201-1	Direct economic value generated and distributed	Our business model › Page 6 Business indicators › Page 55 People indicators › Page 80 Communities indicators › Page 131 2021 Annual report (Form 20-F) at www.st.com (page 7)	Payment to government by country not applicable as considered not relevant
Energy & Climate Change				
GRI 103: Management Approach 2016	103-1	Explanation of the material topics and their boundaries	Sustainability strategy › Page 29 Energy and Climate Change › Page 92	
	103-2	The management approach and its components	Our approach to the environment › Page 89	
	103-3	Evaluation of the management approach	Our approach to the environment › Page 89	
GRI 302: Energy 2016	302-1	Energy consumption within the organization	Environmental indicators › Page 113	
	302-3	Energy intensity	Environmental indicators › Page 113	
	302-4	Reduction of energy consumption	Energy and Climate Change › Page 92 Environmental indicators › Page 113	
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	Energy and Climate Change › Page 92 Environmental indicators › Page 113	
	305-2	Energy indirect (Scope 2) GHG emissions	Energy and Climate Change › Page 92 Environmental indicators › Page 113	
	305-3	Other indirect (Scope 3) GHG emissions	Energy and Climate Change › Page 92 Environmental indicators › Page 113	
	305-4	GHG emissions intensity	Energy and Climate Change › Page 92	
Water				

Material topics	Disclosure		Reference(s)/URL(s)	Omission
GRI 303: Water and Effluents 2018	303-1	Interactions with water as a shared resource	Water › Page 99	
	303-2	Management of water discharge-related impacts	Water › Page 99	
	303-3	Water withdrawal	Water › Page 99 Environmental indicators › Page 113	
Waste				
GRI 103: Management Approach 2016	103-1	Explanation of the material topics and their boundaries	Sustainability strategy › Page 29 Our approach to the environment › Page 89	
	103-2	The management approach and its components	Waste › Page 103	
	103-3	Evaluation of the management approach	Our approach to the environment › Page 89	
GRI 306: Effluents and Waste 2016	306-2	Waste by type and disposal method	Waste › Page 103 Environmental indicators › Page 113	
	306-3	Significant spills	Environmental indicators › Page 113	
Responsible Supply Chain				
GRI 103: Management Approach 2016	103-1	Explanation of the material topics and their boundaries	Sustainability strategy › Page 29 Responsible Supply Chain › Page 117	
	103-2	The management approach and its components	Responsible Supply Chain › Page 117	
	103-3	Evaluation of the management approach	Responsible Supply Chain › Page 117	
GRI 204: Procurement practices 2016	204-1	Proportion of spending on local suppliers	Responsible Supply Chain › Page 117	
GRI 308: Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria	Communities indicators › Page 131	
	308-2	Negative environmental impacts in the supply chain and actions taken	Responsible Supply Chain › Page 117 Communities indicators › Page 131	
GRI 414: Supplier Social Assessment 2016	414-1	New suppliers that were screened using social criteria	Communities indicators › Page 131	
	414-2	Negative social impacts in the supply chain and actions taken	Responsible Supply Chain › Page 117 Communities indicators › Page 131	
Talent Attraction and Engagement				
GRI 103: Management Approach 2016	103-1	Explanation of the material topics and their boundaries	Sustainability strategy › Page 29 Talent Attraction and Engagement › Page 69	
	103-2	The management approach and its components	Talent Attraction and Engagement › Page 69	
	103-3	Evaluation of the management approach	Talent Attraction and Engagement › Page 69	
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	People indicators › Page 80	
GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	People indicators › Page 80	
	404-3	Percentage of employees receiving regular performance and career development reviews	People indicators › Page 80	
Health & Safety				
GRI 103: Management Approach 2016	103-1	Explanation of the material topics and their boundaries	Sustainability strategy › Page 29 Health and Safety › Page 58	
	103-2	The management approach and its components	Health and Safety › Page 58	
	103-3	Evaluation of the management approach	Health and Safety › Page 58	
GRI 403: Occupational Health and Safety 2018	403-9	Work-related injuries	Health and Safety › Page 58	

Material topics	Disclosure		Reference(s)/URL(s)	Omission
			People indicators › Page 80	
	403-10	Work-related ill health	Health and Safety › Page 58 People indicators › Page 80	
Diversity, Equity & Inclusion				
GRI 103: Management Approach 2016	103-1	Explanation of the material topics and their boundaries	Sustainability strategy › Page 29 Diversity, Equity and Inclusion › Page 74	
	103-2	The management approach and its components	Diversity, Equity and Inclusion › Page 74	
	103-3	Evaluation of the management approach	Diversity, Equity and Inclusion › Page 74	
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees	Diversity, Equity and Inclusion › Page 74 People indicators › Page 80	For disability, data per employee category is not available
Labor & Human Rights				
GRI 103: Management Approach 2016	103-1	Explanation of the material topics and their boundaries	Sustainability strategy › Page 29 Labor and Human Rights › Page 63	
	103-2	The management approach and its components	Labor and Human Rights › Page 63	
	103-3	Evaluation of the management approach	Labor and Human Rights › Page 63	
GRI 412: Human Rights Assessment 2016	412-1	Operations that have been subject to human rights reviews or impact assessments	People indicators › Page 80	
Sustainable Technology				
GRI 103: Management Approach 2016	103-1	Explanation of the material topics and their boundaries	Sustainability strategy › Page 29 Sustainable Technology › Page 46	
	103-2	The management approach and its components	Sustainable Technology › Page 46	
	103-3	Evaluation of the management approach	Sustainable Technology › Page 46	
GRI 417: Marketing and Labeling 2016	417-1	Requirements for product and service information and labeling	Sustainable Technology › Page 46 Business indicators › Page 55	
Innovation				
GRI 103: Management Approach 2016	103-1	Explanation of the material topics and their boundaries	Sustainability strategy › Page 29 Innovation › Page 41	
	103-2	The management approach and its components	Innovation › Page 41 Innovation & Technology at www.st.com	
	103-3	Evaluation of the management approach	Innovation › Page 41	
Customer Satisfaction				
GRI 103: Management Approach 2016	103-1	Explanation of the material topics and their boundaries	Sustainability strategy › Page 29	
	103-2	The management approach and its components	Customer Satisfaction › Page 51	
	103-3	Evaluation of the management approach	Customer Satisfaction › Page 51	
Chemicals				
GRI 103: Management Approach 2016	103-1	Explanation of the material topics and their boundaries	Sustainability strategy › Page 29 Our approach to the environment › Page 89	
	103-2	The management approach and its components	Our approach to the environment › Page 89 Chemicals › Page 107	
	103-3	Evaluation of the management approach	Our approach to the environment › Page 89 Chemicals › Page 107	
Community and Education				

Material topics	Disclosure		Reference(s)/URL(s)	Omission
GRI 103: Management Approach 2016	103-1	Explanation of the material topics and their boundaries	Sustainability strategy › Page 29 Community and Education › Page 126	
	103-2	The management approach and its components	Community and Education › Page 126	
	103-3	Evaluation of the management approach	Community and Education › Page 126	

TCFD Index

The following index provides information and links to ST's disclosures on climate-related risks and opportunities, as recommended by the TCFD framework.

TCFD			
Disclosure	TCFD recommended disclosure	ST description	Disclosure location
Governance	Disclose the organization's governance around climate-related risks and opportunities.	Responsibility for sustainability lies with Rajita D'Souza, President, Human Resources and Corporate Social Responsibility, who chairs our Sustainability Council. Strategic sustainability updates and performance are reviewed by our President and CEO at quarterly executive committee meetings. Our President and CEO regularly updates our Supervisory Board on our sustainability roadmap, risks and opportunities, including climate-related risks, as well as our sustainability strategy and performance. At the end of 2021, our Supervisory Board decided to create a dedicated Sustainability Committee. Operational in 2022, its mission is to supervise, monitor and advise on the Company's sustainability strategy, targets, goals and overall sustainability performance including climate-related risks and opportunities.	Governance › Page 17 www.st.com investors.st.com
Strategy	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	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. Simultaneously, we are actively investing in researching new products to help our customers develop new energy saving applications, transforming risk into opportunity.	Risk management › Page 24 Sustainability strategy › Page 29 Sustainable Technology › Page 46 Energy and Climate Change › Page 92 EU Taxonomy › Page 137 2021 Annual report (Form 20-F) at www.st.com (page 19)
Risk Management	Disclose how the organization identifies, assesses, and manages climate-related risks.	Company-level sustainability risks are addressed by our Enterprise Risk Management program, which is aligned with ISO 31000. This is complemented by further ad-hoc analyses and studies, in particular at site-level. In 2021, one such specific science-based study conducted by an external party allowed us to assess current and future climate-related risks which are embedded into our site-level risk assessments. Our environmental and resilience teams are working closely together and with other corporate and site experts to address physical risks resulting from climate change and feed site-level improvement, adaptation, and mitigation plans.	Risk management › Page 24 Sustainability strategy › Page 29 Energy and Climate Change › Page 92
Metrics and targets	Disclosure of the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	ST follows the GHG Protocol for managing and reporting its GHG emissions. Our roadmap to carbon neutrality includes two specific targets validated by the Science Based Targets initiative and in compliance with the 1.5°C scenario defined at the Paris COP21: 50% reduction of direct and indirect emissions compared to 2018 by 2025, and the sourcing of 100% renewable energy by 2027. As an intermediate product manufacturer, we enable the manufacturing of low-carbon technologies and products that aim at reducing GHG emissions. 37% of our revenues derive from products that aim at contributing to climate change mitigation.	Energy and Climate Change › Page 92 Environmental indicators › Page 113 Sustainable Technology › Page 46 EU Taxonomy › Page 137

SASB Index

The following index includes ST's disclosures aligned with the Sustainability Accounting Standards Board (SASB) framework, Semiconductors standards.

SASB disclosure indicators – Semiconductors			
Code	Topic	Accounting metric	ST 2021 data and/or disclosure location
TC-SC-110a.1	GHG emissions	(1) Gross global Scope 1 emissions and (2) amount of total emissions from perfluorinated compounds	(1) 481,190 Metric tons (2) 413,676 Metric tons CO ₂ eq
TC-SC-110a.2	GHG emissions	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Energy and Climate Change › Page 92
TC-SC-130a.1	Energy management in manufacturing	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	(1) 9,844,957 GJ (2) 91.4% (3) 46.5%
TC-SC-140a.1	Water management	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High baseline water stress	(1) 21,445 thousand m ³ (2) 35,888 thousand m ³ (3) 20% of water withdrawn in water stress region
TC-SC-150a.1	Waste management	(1) Amount of hazardous waste from manufacturing, (2) percentage recycled	(1) 22,568 tons of hazardous waste from manufacturing (2) 96.3% of hazardous waste recycled
TC-SC-320a.1	Employee health and safety	Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards	Health and Safety › Page 58 Chemicals › Page 107
TC-SC-320a.2	Employee health and safety	Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations	As at December 31, 2021 and 2020, respectively, provisions for estimated probable losses with respect to claims and legal proceedings were not considered material. 2021 Annual Report (Form-20F) at www.st.com (page F-53)
TC-SC-330a.1	Recruiting & managing a global & skilled workforce	Percentage of employees that are (1) foreign nationals and (2) located offshore	ST's sustainability report includes headcount by region, by gender, by category (People indicators › Page 80). Percentage of foreign nationals is not disclosed.
TC-SC-410a.1	Product lifecycle management	Percentage of products by revenue that contain IEC 62474 declarable substances	We do not disclose this information. Our approach to product hazardous substances is available in Sustainable Technology › Page 46 and Chemicals › Page 107 sections.
TC-SC-410a.2	Product lifecycle management	Processor energy efficiency at a system-level for: (1) servers, (2) desktops and (3) laptops	We do not track this information. Our approach to product efficiency is available in Sustainable Technology › Page 46 and energy efficiency by product category and lifecycle on www.st.com .
TC-SC-440a.1	Materials sourcing	Description of the management of risks associated with the use of critical materials	Responsible Mineral Sourcing › Page 122 . Conflict minerals reports on www.st.com
TC-SC-520a.1	Intellectual property protection and competitive behavior	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	As at December 31, 2021 and 2020, respectively, provisions for estimated probable losses with respect to claims and legal proceedings were not considered material. 2021 Annual Report (Form-20F) at www.st.com (page F-53)

International standards

ST has been a signatory to the Global Compact since 2000 and a member of the Responsible Business Alliance since 2005. We also adhere to the following international guidelines and standards: International Labor Organization Conventions; United Nations Global Compact Principles; United Nations Guiding Principles on Business and Human Rights; Organization for Economic Cooperation and Development (OECD) Guidelines for Multinational Enterprises; International Organization for Standardization (ISO) 26000; ISO 9001; ISO 45001; ISO 14001; ISO 14064; Eco-Management and Audit Scheme (EMAS); ISO 50001; ISO 31000; ISO 22301; IECQ080000 and Hazardous Substance Process Management (HSPM). | [102-12](#) | [102-13](#) |



Alignment of ST sustainability programs with the United Nations Global Compact 10 principles

United Nations Global Compact 10 principles			ST Sustainability programs
Human rights	Principle 1	Businesses should support and respect the protection of internationally proclaimed human rights; and	• Labor and Human Rights • Responsible Supply Chain • Community and Education
	Principle 2	make sure that they are not complicit in human rights abuses.	• Labor and Human Rights • Responsible Supply Chain
Labor	Principle 3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	• Labor and Human Rights • Responsible Supply Chain
	Principle 4	the elimination of all forms of forced and compulsory labor;	• Labor and Human Rights
	Principle 5	the effective abolition of child labor; and	• Labor and Human Rights
	Principle 6	the elimination of discrimination in respect of employment and occupation.	• Labor and Human Rights • Talent Attraction and Engagement • Diversity and Inclusion
Environment	Principle 7	Businesses should support a precautionary approach to environmental challenges;	• Sustainable Technology
	Principle 8	undertake initiatives to promote greater environmental responsibility; and	• Energy and Climate Change • Water • Waste • Chemicals • Sustainable Technology
	Principle 9	encourage the development and diffusion of environmentally friendly technologies.	• Innovation • Sustainable Technology
Anti-corruption	Principle 10	Businesses should work against corruption in all its forms, including extortion and bribery.	• Ethics and Compliance

Alignment of ST Sustainability programs with the ISO 26000 guidelines

ISO 26000: 2010 standards	ST Sustainability programs
6.2 Organizational governance	• Governance
6.3 Human rights	• Labor and Human Rights • Responsible Supply Chain • Diversity and Inclusion • Community and Education
6.4 Labor practices	• Talent Attraction and Engagement • Health and Safety
6.5 The environment	• Energy and Climate Change • Water • Waste • Chemicals • Sustainable Technology • Responsible Supply Chain

ISO 26000: 2010 standards	ST Sustainability programs
6.6 Fair operating practices	• Ethics and Compliance • Responsible Supply Chain
6.7 Consumer issues	• Customer Satisfaction • Sustainable Technology
6.8 Community involvement and development	• Community and Education • Innovation • Sustainable Financial Performance

External assurance statement



STMicroelectronics NV – 2022 Sustainability Report – 2021 Performance Independent Assurance Statement

Introduction

DNV Business Assurance France Sarl ('DNV') was commissioned by the Management of STMicroelectronics NV ('ST') to undertake an independent assurance of the Company's 2022 Sustainability Report - 2021 Performance ('Report') including the Global Reporting Initiative (GRI) - Sustainability Reporting Standards.

ST is responsible for the collection, analysis, aggregation and presentation of information contained in the Report. The assurance engagement assumes that the data and information provided in good faith by ST are complete, sufficient and authentic. Our responsibility in performing the work commissioned, in accordance with the terms of reference agreed on with ST, is solely towards ST's Management. This Independent Assurance Statement is intended solely for the information and use of ST's stakeholders and is not intended to be and should not be used by anyone other than these specified parties.

Scope of Assurance

The scope of work agreed on with ST includes the following aspects:

- Analysis, in accordance with a *Moderate level* of Assurance, of data and activities related to sustainability between January and December 2021, as contained in the Report.
- Analysis, in accordance with a *Reasonable level* of Assurance, of the following indicators: "Recordable cases", "CO₂ emissions (scope 1 and 2)", "Percentage of women in management level job grade 18 and above", "Percentage of women exempt", "Employee engagement index", between January and December 2021, as contained in the Report.
- Evaluation of GRI Sustainability Reporting Standards principles and requirements.
- Evaluation of specific sustainability performance with regards to indicators defined by the GRI Sustainability Reporting Standards, for the "Core" option.

We understand that the financial data and information reported, are based on data from the "2021 Statutory Annual Report including IFRS Financial Statements", available on ST's website (<http://investors.st.com>). The review of the following aspects was not part of DNV's external verification exercise: financial data from the Annual Report and Accounts, information and data relating to the ST Foundation.

Verification methodology

Our assurance engagement was conducted in accordance with the DNV protocol for verification 'VeriSustain', which is based on our professional experience and international assurance best practice. These documents require, inter alia, that the assurance team possesses the specific knowledge, skills and professional competencies needed for an assurance engagement regarding sustainability information, and that the team complies with ethical requirements to ensure its independence.

In accordance with the Protocol, available on demand on our website, the Report was evaluated by considering the following criteria:

- Adherence to the principles of GRI Sustainability Reporting Standards.
- ISAE 3000, for the assessment of non-financial information.

Our verification was carried out from 15th December 2021 to 4th April 2022. As part of this engagement we audited selected sites based on their contribution:

- For the *Moderate level* of Assurance we audited the Corporate Functions, the Front-end manufacturing in Rousset (France) and Agrate (Italy), and the Back-end manufacturing in Shenzhen (China). This contribution represents 24,1% of the Group's consolidated environmental data and 25,1% of the Group's consolidated social data.
- For the *Reasonable level* of Assurance we audited, in addition to the Corporate Functions and the sites mentioned above, the Front-end manufacturing in Ang Mo Kio (Singapore) and Crolles (France), and the Back-end manufacturing in Muar (Malaysia). This contribution represents 58,5% of the Group's consolidated environmental data and 52,5% of the Group's consolidated social data.

Site audits were conducted partially on-site and remotely by the two verifiers in light of the COVID-19 pandemic and in consideration of the welfare of all individuals participating in this verification program.

We reviewed the sustainability-related statements and claims as part of the verification made in the Report as well as assessing the strength of the underlying data management system, information flows and controls.

We performed sample-based audits of the following:

- Mechanisms for the implementation of its sustainability policies, as described in the Report.
- Processes for determining the materiality of the contents to be included in the Report.
- Processes for generating, gathering and managing the quantitative and qualitative data included in the Report.

We interviewed the Corporate Sustainability Team and more than 50 company representatives (including data owners and decision-makers from various divisions and functions) who were involved in the operational management of matters covered in the 2022 Report. In addition, we interviewed three different stakeholders on their relations with the Company.

We evaluated the performance data using the materiality, stakeholder inclusiveness, responsiveness, completeness, accuracy, reliability, neutrality & balance and sustainability context principles, together with ST protocols for how the data is measured, recorded and reported. The performance data within the scope was in the form of Key Performance Indicators.

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Conclusions

It is the opinion of DNV that the 2022 ST Sustainability Report is an accurate and impartial representation of the Company's sustainability-related strategies, management systems and performance.

Based on the work undertaken, nothing came to our attention to suggest that the Report does not properly describe ST's adherence to the principles. Considering Key Performance Indicators, nothing came to our attention to suggest that this data has not been properly collated from information reported at operational level, nor that the assumptions used were inappropriate.

DNV believes that the report is in line with the "Core" option of the GRI Sustainability Reporting Standards. Further conclusions and observations on the adoption of reporting principles and specified performance information are made below, without affecting our assurance opinion.

Stakeholder Inclusiveness: The stakeholder engagement activities are well structured and shared within the Organization, with remarkable adherence of programs deployed at local levels with the CSR strategy. Stakeholder interviews undertaken as part of the Assurance process confirmed the strength of ST's partnership with its stakeholders on the long term.

Sustainability Context: The information and data shown in the Report adequately reflect the strategy, the commitments and the activities carried out by ST in relation to the sustainability context within which the Organization operates at global and local level. The five indicators selected for Reasonable Assurance in the 2022 verification are metrics for which employees' performance on sustainability topics is formally valued, demonstrating ST's commitment to its material topics.

Materiality: The Report includes the major material aspects concerning the Company's performance and stakeholders' concerns and adheres to the principle. The contents of the Report are the result of a consolidated mapping of stakeholders and a structured process for identifying the topics they considered relevant.

Completeness: The Report covers material impacts satisfactorily to enable stakeholders to assess ST's sustainability performance in 2021. The information contained in the report refers to the structure defined in the boundary.

Accuracy: Based on our data analysis and on the business processes that generate them, the data reported in the Report appears to be the result of stable and repeatable activities. The information contained in the Report is therefore accurate and detailed. We confirm a high level of maturity within the different sites, in collecting and elaborate environmental related indicators, following well-established procedures and practices. The quality of the network of Sustainability Champions, whose role is to deploy the strategy locally, plays a key role in the achievement of ST's sustainability goals.

Balance: The Report is an impartial description of ST's sustainability impacts. The document reflects the Organization's will to represent the activities and results for the reporting year in a way that is balanced and consistent with business strategies.

Clarity: The information presented in the report is understandable, accessible and usable by ST's stakeholders.

Comparability: The information reported enables stakeholders to analyse changes in the organization's current economic, environmental, and social performance against the organization's past performance.

Reliability: ST has developed an effective methodology for collecting information to be used in the Report. The data subjected to our verification was found to be identifiable and traceable.

Timeliness: ST reports regularly once a year making information available in a timely manner, to allow stakeholders to make informed decisions. No restatements were needed for previous disclosures.

DNV's Competence and Independence

DNV is a leading provider of sustainability services, including the verification of sustainability reports. Our environmental and social assurance specialists operate in over 100 countries.

DNV was not involved in the preparation of any statements or data included in the Report except for this Assurance Statement. DNV maintains complete impartiality toward stakeholders interviewed during the verification process.

DNV expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Assurance Statement.

For and on behalf of DNV Business Assurance France,

26th April 2022

Aude Debenest
Lead Verifier



Marc-Antoine Horenfeld
Reviewer



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Glossary

20-F	Annual report filed with the United States Securities and Exchange Commission (SEC)	3TG	Tantalum, tin, tungsten and gold
AC	Alternative Current	ADAS	Advanced Driver Assistance System
AI	Artificial Intelligence	ASIC	Application Specific Integrated circuit
ASSP	Application Specific Standard Products	CDP	Carbon Disclosure Project
CMOS	Complementary metal–oxide–semiconductor	CSR	Corporate Social Responsibility
DC	Direct Current	DEHP	Di-ethylhexyl phthalate
DJSI	Dow Jones Sustainability Indices	EHS	Environmental, Health & Safety
EMAS	Eco-Management and Audit Scheme	EMEA	Europe, Middle East & Africa
ESG	Environmental, Social and Governance	FD-SOI	Fully Depleted Silicon-On-Insulator
FTSE4GOOD	Financial Times and Stock Exchange responsible index	GaN	Gallium Nitride
GEEM	CultureIQ Global Electronic Equipment/Instruments Manufacturing norm	GNSS	Global navigation satellite system
GHG	Greenhouse Gases	GRI	Global Reporting Initiative
HSPM	Hazardous Substance Process Management	IC	Integrated Circuit
IECQ	International Electrotechnical Commission Quality	IEEE	Institute of electrical and electronics engineers
IGBT	Insulated Gate Bipolar Transistor	IoT	Internet of Things
IPCC	Intergovernmental Panel on Climate Change	KPI	Key Performance Indicator
LWDC	Lost Workdays Cases	MEMS	Micro-Electro-Mechanical Systems
MOSFET	Metal Oxide Semiconductor Field Effect Transistor	MCU	Microcontroller Unit
OECD	Organization for Economic Cooperation and Development	OHSAS	Occupational Health & Safety Assessment Series (OHSAS 18001)
PFCs	Perfluorinated Compounds	PFOA	Perfluorooctanic Acid
R&D	Research and Development	RBA	Responsible Business Alliance
RC	Recordable Case	REACH	Registration, Evaluation and Authorization of Chemicals
RF	Radio Frequency	RMI	Responsible Mineral Initiative
RoHS	Restriction of Hazardous Substances	SAQ	Self-Assessment Questionnaires
SASB	Sustainability Accounting Standards Board	SDGs	Sustainable Development Goals
SiC	Silicon Carbide	STEM	Science, Technology, Engineering, Mathematics
SVHC	Substances of Very High Concern	TCFD	Task Force on Climate-Related Financial Disclosures
UNGC	United Nations Global Compact	VOC	Volatile Organic Compounds
WEEE	Waste Electrical and Electronic Equipment	WSC	World Semiconductor Council



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Reference: BRSTREPORTS202

