

# Augmenting everybody's life



**9,000+**  
people  
working  
in R&D



**77%**  
of new products  
identified as  
responsible



**2011**  
launch of  
product  
stewardship  
program



Futurestarters, ST Shenzhen, China



# Sustainable financial performance

## AUGMENTING EVERYBODY'S LIFE

We create profitable growth, managing risks and increasing long-term value for all stakeholders.

**26.4%**

net revenue increase

**27.5%**

operating margin

**US\$3.96**

billion net income

Our net revenues increased 26.4% to US\$16.13 billion in 2022, driven by strong demand in Automotive and Industrial, and our engaged customer programs. All three of our product groups contributed to this growth.

Profitability improved year-on-year: gross margin was 47.3%, up from 41.7%; operating margin was 27.5%, up from 19.0%; and net income was US\$3.96 billion, almost doubling from US\$2.0 billion.

We generated strong net cash from operating activities. We invested US\$3.52 billion in capital expenditure (CAPEX) and delivered free cash flow of US\$1.59 billion. Our net financial position increased to US\$1.8 billion on December 31, 2022, from US\$977 million one year ago.

In 2022, we saw unprecedented demand across all geographies in Automotive, driven by increasing semiconductor demand, structural transformation, and inventory replenishment. We continued to execute our strategy for vehicle electrification in our silicon carbide business. In vehicle digitalization, we had a range of design wins with our microcontrollers and power solutions for new zonal car architectures. In automotive sensors, we continued to increase the scale of our business in inertial sensors, growing by over 40% year-on-year.

In Industrial, demand was very strong throughout the year, especially in power and energy, factory automation and robotics, and in industrial Infrastructure. In power and energy management applications, such as EV charging stations, photovoltaic systems and industrial power supplies, we had many important design wins with our power discrete portfolio of both silicon and wide-bandgap-based devices, and we further extended our product offer during the year. We grew our business for sensors for industrial applications, with revenue growth of around 50% year on year, with customer design wins in many areas, such as equipment condition monitoring, asset tracking, and healthcare.

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**US\$16.13  
billion**

revenues

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In Personal Electronics, we had many design wins in flagship smartphones with our motion and environmental sensors, Time-of-Flight ranging sensors, wireless charging products, touch display controllers, and secure solutions. We also leveraged our broad portfolio to address high-volume personal electronics applications, such as smart watches, headsets and other wearables, as well as gaming accessories from leading players in each area.

In Communications Equipment, we progressed well with engaged customer programs for selected applications in cellular and satellite communication infrastructure and received new awards based on our proprietary technologies. | 2-6 | 3-3 |



\* Communications Equipment, Computers and Peripherals

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](https://investors.st.com) ).



**Lorenzo Grandi**

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

*In 2022, ST increased revenue and profitability quarter-on-quarter and posted a record year with revenue and net income growth of 26.4% and 66.4%, respectively, compared to the previous year. These results confirm the strength of our market strategy and our product portfolio, the resilience of our Integrated Device Manufacturer model and the commitment of our team as we navigated the challenges our industry faced during the year. Our focus on operational excellence and on our value proposition for all stakeholders – sustainable and profitable growth, providing differentiating enablers to customers, and a strong commitment to sustainability – positions us well on the path to achieve further improvements in both revenue and profitability.”*

## Manufacturing

We continued transforming our manufacturing base throughout 2022 to enable our future growth and drive enhanced profitability, with a significant expansion of our 300mm capacity and a strong focus on wide-bandgap semiconductors.

In silicon carbide, we plan to increase front-end capacity tenfold compared to 2017 and have 40% of our substrate needs internally sourced by 2024. We are building an integrated silicon carbide substrate manufacturing facility in Catania (Italy) as an important step in our silicon carbide vertical integration strategy. Volume production is expected to start in the second half of 2023.

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## Investments driving future growth

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In addition, we further expanded our 300mm capacity in Crolles (France). We also signed a memorandum of understanding with GlobalFoundries to create a new 300mm semiconductor manufacturing facility adjacent to our existing facility in Crolles.

At our Agrate site (Italy), the first industrialization line and qualification of engineering samples was completed in 2022, and we are now ramping our new 300mm wafer fab.

All these initiatives will be aligned with our sustainability strategy and our sustainable manufacturing commitment in terms of energy consumption and greenhouse gas emissions, air, and water quality.

## EU Taxonomy

On July 12, 2020, EU Regulation 2020/852 of the European Parliament and of the Council of June 18, 2020 (EU Taxonomy Regulation) entered into force. The EU Taxonomy Regulation establishes the basis for a classification system to determine which economic activities can be considered environmentally sustainable. It is part of the EU's efforts to achieve the objectives of the European 'green deal', Europe's strategy towards climate neutrality in 2050. The EU taxonomy regulation is designed as a transparency tool to help companies and investors make sustainable investment decisions, with the overall purpose to steer financing towards more sustainable economic activities. Under the EU taxonomy regulation, we are required to disclose information on how and to what extent our activities qualify as environmentally sustainable.

The EU Taxonomy Regulation includes additional reporting obligations for the financial year 2022. As a non-financial undertaking, we have to disclose information on our eligible economic activities (taxonomy-eligible) and our aligned activities (taxonomy-aligned). For financial year 2022 in relation to climate change mitigation and climate change adaptation, we have included disclosure of: (i) taxonomy-eligible and taxonomy-aligned, (ii) taxonomy-eligible and taxonomy-not aligned, and (iii) taxonomy non-eligible economic activities within our turnover, capital expenditure and operating expenditure, see [EU Taxonomy](#).

## 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 2022, we maintained a strong presence in the major sustainability indices, including Dow Jones Sustainability Index World and Europe, FTSE4Good, MSCI (score AAA), Solactive Global and Europe CSR index, EuroNext VIGEO Europe 120, Eurozone 120 and Benelux 120, CAC 40 ESG, MIB ESG, ISS ESG Corporate Rating and VÉrité40.

Furthermore, we have been included in the Bloomberg Gender Equality Index since 2018.

We received an A score for CDP water security, 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 for CDP climate change, 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 C.

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

AUGMENTING EVERYBODY'S LIFE

We believe innovation is the fuel that drives our sustainability and growth.

**US\$1.9**

billion invested in R&D

**597**

patents filed in 2022

**186**

active R&D partnerships

Innovation is a driving force that fuels our growth and helps us achieve our business objectives: creating technology-driven products that solve real-world problems and contribute to a more sustainable future.

We believe technology plays a key role in helping to solve environmental and social challenges. In 2022, we invested US\$1.9 billion in research and development (R&D) to support innovation, representing 12% of our net revenues.

## How we innovate

### Building an internal framework

We view innovation as a collective task. We have therefore developed an ecosystem to initiate, develop and sustain innovation throughout the Company and beyond.

Our Innovation Office provides a framework for accelerating innovation processes and searching for disruptive technologies and applications. Its mission is to create both internal and external innovation opportunities by connecting emerging market and technology trends with our internal technology expertise.

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## Innovation Office

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Under the guidance of our Innovation Office, our Technology Council's mission is to review the most advanced R&D activities and develop a three-to-five-year roadmap. The council is supported by world-leading academic and industrial experts in technologies relevant to our business. [I 3-3 |](#)



## Alessandro Cremonesi

Executive Vice President, Chief Innovation Officer,  
General Manager, System Research and  
Applications

*Innovation is in our DNA. To sustain our future growth in a rapidly evolving environment, we are strongly accelerating our innovation rate by leveraging our internal and external capabilities. By continually developing, importing and delivering innovation, ST is at the center of a global innovation ecosystem that we nurture to accelerate global sustainable growth. Our Innovation Office drives this approach. It involves the whole of ST and our network of partners in a holistic process – what we call our 'deeply nested innovation model'."*

We also established cross-functional teams to contribute to breakthrough innovation in priority areas and support our business and sustainability objectives. These teams facilitate knowledge sharing between both internal and external innovators, including networking activities with startups, academia, and R&D leaders.

### Internal technology expertise

Over 9,000 employees work in R&D and design. This includes more than 800 technical staff members 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. Our expertise is recognized externally through our involvement and contribution at key scientific conferences. In 2022, ST participated in 250 scientific and technical conferences, with over 700 lectures by our staff.

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**Top  
100  
Global Innovator**

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Our sites around the world are helping to nurture the entrepreneurial spirit of our employees through our fab labs and hubs that help to connect our technical employees within local innovation ecosystems.

In 2022, we were named a Top 100 Global Innovator™ by Clarivate™, recognizing our position among the world's most innovative organizations.

### Leading-edge technologies

The focus of our innovation and the evolution of our technology is centered on three long-term trends reshaping industry and society and supporting the transition to a more sustainable world. These trends are:

- Smart mobility
- Power and energy management
- Internet of Things (IoT) and connectivity

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. In 2022, we filed 597 patents, an increase of 10% on the previous year. See more details about our technologies on [www.st.com](https://www.st.com) .

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**597  
patents filed**

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In 2022, we announced the expansion of our operations in Catania (Italy) with an integrated silicon carbide (SiC) substrate manufacturing facility to be built alongside the existing SiC device manufacturing facility. SiC is a compound semiconductor material with intrinsic properties providing superior performance and efficiency over silicon. The facility will be the first of its kind in Europe for the volume production of 150mm and 200mm SiC epitaxial substrates, integrating all steps in the



production flow. This development will support the needs of automotive and industrial customers in their shift to electrification and higher efficiency.

## Artificial intelligence

ST is a leading provider of diversified software and hardware artificial intelligence (AI) solutions for tiny devices, such as sensors and microcontrollers.

Our AI solutions range from sensing, through embedded computing to actuation, supporting customers in shaping smarter products in sectors such as personal electronics, industrial, and automotive.

In 2022, we continued to develop our AI ecosystem by releasing multiple, incremental versions of STM32Cube.AI and NanoEdge AI Studio. STM32Cube.AI now supports Deeply Quantized Neural Networks (DQNN), a highly innovative feature that reduces the inference time and memory requirements of neural networks.

We also opened a new AI competence center specialized in the development and support of the NanoEdge AI Studio tool in Toulon (France). It adds to our other AI competence centers around the world. This is part of our ongoing efforts to simplify access to embedded AI technologies and their integration into industrial and consumer equipment.

Furthermore, to strengthen our early investment in the MLCommons Tiny working group that began in 2020, we became an official member of MLCommons. This open engineering consortium is dedicated to accelerating innovation in machine learning. It focuses on industry benchmarks, datasets, and best practices to accelerate the market adoption of tiny devices.

### FOCUS

#### LAUNCHING OUR INTELLIGENT SENSOR PROCESSING UNIT

In 2022, we launched our Intelligent Sensor Processing Unit (ISPU), which combines a Digital Signal Processor (DSP) for AI algorithms and a MEMS sensor interface on the same silicon.

These smart sensors are able to sense, process and take action, offering seamless transactions with no discernible distinction between online and offline. ISPU also enables local decision-making, while substantially saving space and reducing power by up to 80%. This technology reflects the 'Onlife Era', where technology and everyday life come together.

AI training, machine learning, and the resulting neural network can run within the sensor itself. This enables 'in-the-edge AI' where, for example, smart inertial devices can perform advanced motion-detection functions within the sensor. This occurs without interaction with the external microcontroller and allows substantial power saving at the system level.



## Innovation ecosystem

Recognizing the importance of partnerships in the innovation process, we build strategic alliances, engage in bilateral research cooperation, and participate in standardization bodies. Overall, we were involved in 186 active R&D partnerships in 2022.

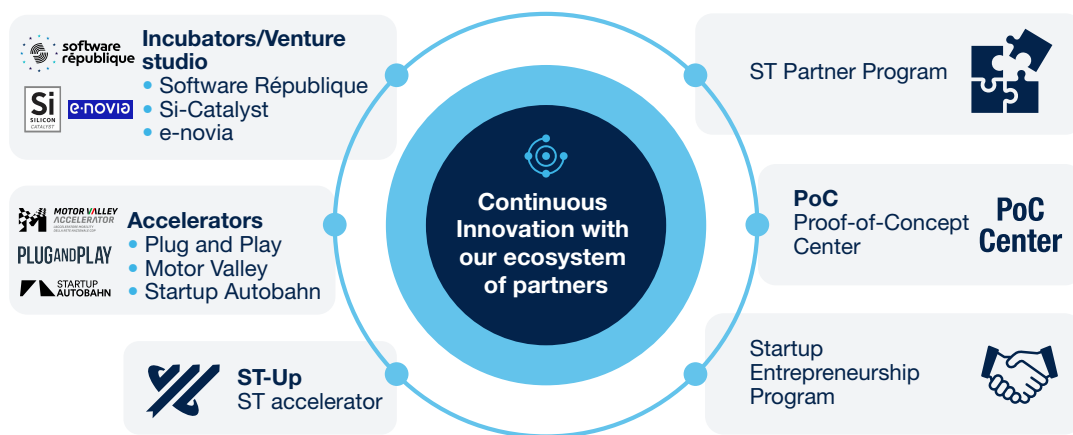
## External partnerships

We continued to develop our program of external partnerships. These bring together industry leaders from along the value chain to accelerate innovation, mainly in the automotive and industrial sectors, and diversify our scouting process in the smart mobility sector.

In 2022, the Important Project of Common European Interest (IPCEI) on Microelectronics successfully completed its technical activities in France. This was part of a French 5-year public-private strategic support program, called Nano 2022.

Thanks to Nano 2022, ST achieved major results in cutting-edge technologies for efficient computing, local data storage security, advanced connectivity, efficient power supply, novel and versatile optical sensors, efficient and faster data transmission, and connection. These technologies enable emerging applications in the automotive, IoT, industrial, security, space and aeronautics downstream markets.

The IPCEI program is still running in Italy, with additional objectives for technologies and products to be achieved by the end of 2024 on energy efficient chips, power semiconductors, and smart sensors.



We continually nurture our open innovation ecosystem through a range of programs.

- **ST Partner Program** raises the profile of authorized high-quality partners, showcasing their products and services through our website. We have more than 300 partners, including startups.
- **Proof-of-Concept (PoC) Centers** provide coworking spaces for small and medium-sized enterprises to speed up their proof-of-concept phase.
- **Startup Entrepreneurship Program** provides tailored incubation services, including hosting, technical support, and mentoring, to help commercialize designs by the hosted startups.
- **ST-Up accelerator program** supports hardware and technology startups through an 18-month, five-step process.
- **Accelerators** – we collaborate with accelerator initiatives such as Motor Valley and Startup Autobahn within the Plug and Play ecosystem.
- **Incubators** – we work with a global network of expert partners, such as Software République, Silicon Catalyst and e-novia.

To develop our partnerships, we continually engage in scouting activities. ST business leaders, R&D managers, as well as young talent are involved in the technical and marketing selection process. In addition to our own initiatives, we benefit from the scouting capabilities of a worldwide network of external partners, supported by our regional competence centers and fab labs.

In 2022, we partnered with over 70 startups, an increase of 50% on 2021. We also improved our process for managing the startup lifecycle to further enhance our capability to drive successful partnerships.

A notable event in 2022 was the 'Future of Mobility' event we jointly hosted with the US-based Plug and Play Tech Center. The event took place in Catania (Italy) and brought together more than 150 leaders from the global mobility industry to discuss topics such as electrification, sustainability,



radars, and digital twins. The aim was to increase and broaden innovation to shape future mobility solutions through a holistic, partnership approach involving both large players and startups.

Thanks to these programs, we are constantly exploring new sustainable solutions and enabling responsible applications for safer, greener, and smarter living (see [Sustainable technology](#)) via a model that supports both a push (inside-out) and pull (outside-in) approach to innovation.

## 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

## AUGMENTING EVERYBODY'S LIFE

Our technology plays a key role in helping to solve environmental and societal challenges.

2011

launch of product stewardship program

23%

of revenue from responsible products

77%

of new products identified as responsible

## A unique lifecycle approach

Since launching our product stewardship program in 2011, we have applied a product lifecycle approach at every stage, 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.

To better manage our risks and address business opportunities in fast growing sustainability markets, we further developed our product stewardship program in 2022. As a result, we reworked our lifecycle assessment (LCA) tool for higher automation and scalability, with the aim of better supporting our customers and providing more accurate data for investors. We then worked alongside an external consultant to define a roadmap for scaling up the adoption of the updated LCA tool and further integrating it across all ST systems.

The LCA methodology is developed in line 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. | 3-3 |

Today, we can undertake an LCA for any product in our portfolio based on specific product parameters. As well as climate change, the estimated footprint can be calculated for other categories, such as water demand, eutrophication or photochemical ozone formation.





**Olivier Zanellato**

Product stewardship and LCA, Corporate Sustainability


*Since taking on responsibility for product stewardship in 2022, I have witnessed an increasing demand for LCA, both from customers and regulators. The challenge for ST is to have a solution able to cover its diverse portfolio of over 20,000 products. Our new upgraded LCA tool can dynamically provide the footprint of any product on demand. In 2023, we will continue working on more accuracy, automation, integration, and coverage (biodiversity and social). Our ambition is to get our LCA approach certified in the coming years."*

## Program progress

### Paving the way to sustainable applications

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	
<b>Low carbon</b> Reduce production footprint	<b>Power-efficient</b> Consume less electricity	<b>Planet-friendly</b> Enable green solutions	<b>Human-welfare</b> 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 or environmental benefits. Examples of responsible products are available on [www.st.com](http://www.st.com) .

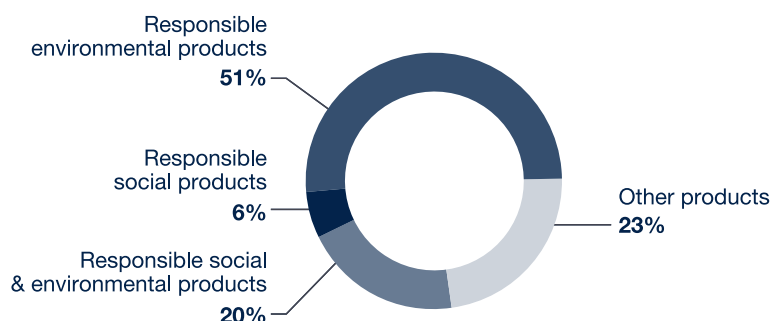
Enabling the transition to planet-friendly alternatives, our semiconductor solutions are used in a wide variety of environmental applications, from electric mobility and renewable energy grids to smart industries. In addition, our products and technologies cater to a wide variety of human-welfare applications with social benefits. These solutions help our customers create applications that ensure people lead safer and healthier lives.

**77%**

**of new ST products are responsible products**

We identified 77% of our new products as responsible in 2022, compared to 69% in 2021. This classification helps us identify and track revenues from our responsible product portfolio. In 2022, revenues from responsible products increased to 23%, compared to 20% in 2021. This is on track for our 2027 target to generate at least 33% of our revenues from responsible products.

### ST new products in 2022 | 417-1 |







**Jean-Louis Champseix**  
Group Vice President, Corporate Sustainability

*For more than 10 years, our strategy has been to create responsible technologies for a more sustainable society. All our products go through an eco-design and then a full lifecycle assessment, from 'cradle to grave'. Several environmental criteria are assessed such as greenhouse gas emissions and water impact. This comprehensive approach enables us to predict and reduce our manufacturing footprint. It also provides our customers with a competitive advantage through the improved handprint and positive environmental impact of our technologies and products during their use phase."*

## 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).

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 lower the environmental footprint of the end-devices they are embedded in.

### 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 greenhouse gas (GHG) emissions, reducing our energy, water and chemical consumption, and recycling waste.

### Power efficient products and sustainable applications

Reducing the power consumption of electronic devices is a major feature of our portfolio, helping to reduce our environmental footprint year after year. However, our products go beyond power efficiency and contribute in other ways to help solve environmental and social challenges.

## End of life recycling

We strive to ensure our products meet or exceed applicable environmental requirements such as REACH<sup>(1)</sup>, RoHS<sup>(2)</sup> and HSPM<sup>(3)</sup> (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 2022, 96% of our products exceeded RoHS directives and were rated ECOPACK2 or ECOPACK3.


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

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## ST technologies that are driving tomorrow

### NFC for sustainability

Near Field Communication (NFC) is a technology based on Radio Frequency Identification (RFID) that enables wireless communication between a reader and a tag. It can be used to connect products to the digital world, while also enabling innovative sustainability features. In 2022, ST published a [white paper](#)  outlining how brands, consumers and companies can benefit from NFC technology in our progress towards a greener planet.

An example from our NFC portfolio is the ST25 product family whose features make it suitable for sustainable applications, providing a wide range of benefits such as:

- consumer product sustainability information
- product eco-design
- product sustainability over lifecycle
- second-life advice
- health and safety
- circularity
- responsible supply chain management
- consumer reward programs

Since its release in October 2022, the white paper had more than 25,000 visits and 1,565 downloads.

### Connected health

ST is a trusted provider of high-quality technical solutions that enable the development of breakthrough medical systems. Our technologies have increasingly become an enabler for medical and healthcare applications, paving the way to connected health or e-health. They offer multiple benefits such as remote monitoring, privacy and integrity of patient data, compact devices for diagnostic measurement, increased processing power, and AI.

### Smarter mobility

With cars becoming more connected and therefore more vulnerable to cyberattacks, security has become a critical concern for automotive applications. ST is committed to providing secure solutions to address the challenges of this new era of digital technologies.

Our well-proven ST33-A hardware secure element, STSAFE-V and ST4SIM families were designed to guarantee passenger safety, avoid abnormal vehicle behavior, ensure data privacy in vehicle-to-network communications and incorporate digital key systems.

### Smart farming

The farming industry is becoming increasingly digitalized through the widespread adoption of the latest data and communication technologies. Real-time collection and analysis of field information,

<sup>(1)</sup> REACH: Registration, Evaluation, Authorization and Restriction of Chemicals.

<sup>(2)</sup> RoHS: Restriction of Hazardous Substances.

<sup>(3)</sup> HSPM: Hazardous Substance Process Management.

such as soil moisture, temperature, pH, and other quality parameters, is important to maximize the quality and yield of the harvest.

Our STM32 family of products, in combination with a market-proven selection of environmental and inertial sensors, offer comprehensive solutions to enable product tracking, irrigation systems, livestock position, crop health monitoring and smart tractors.

ST's product portfolio for irrigation systems caters to a variety of products and applications in two main categories:

- pumps, actuators, and valves, which are used to properly convey a controlled flow of water and ensure an efficient water supply
- sensing and control applications that provide real-time data for monitoring, effective irrigation control and water management, using the latest wireless technologies for reliable connectivity

The potential of ST products and solutions to play an important role in enabling the green transition has been increasingly recognized at numerous high-profile events, such as:

- Reuters Impact (United Kingdom), where ST President and CEO Jean-Marc Chery discussed how new technologies are accelerating society's transition to cleaner and smarter systems.
- CESA (France), which focuses on automotive electronics and sustainability, where ST was well represented by top executives.
- Electronica 2022 (Germany), where ST showcased technology for smarter mobility along with energy efficiency, industrial IoT and factory automation.

## FOCUS

### ST-ONE AND ONLY

The innovative ST-ONE power supply controller joins forces with our MasterGaN technology in a ground-breaking laptop/smartphone charger design with energy recovery. It is the world's first digital controller to integrate a programmable offline power supply controller. It is a turnkey solution for designing standard applications.



ST-ONE controls the MasterGaN chip, to make the best of its high-power density for even greater energy efficiency. The technology means that end products can be smaller and consume less energy. As a result, adapters built with ST-ONE can reduce both CO<sub>2</sub> emissions and the quantity of plastics used, providing significant sustainability and environmental benefits.

In addition, ST-ONE's energy recovery technologies optimize power supply control to recover energy normally dissipated as heat from conventional circuits. The device also simplifies circuit design with a significant reduction in the number of components. This enables more robust and affordable power supplies and encourages greater adoption throughout the market.

While using GaN substantially reduces carbon emissions, Domenico Arrigo, Industrial and Power Conversion Division General Manager, STMicroelectronics, said of its impact on packaging, "if one billion chargers worldwide were to use our technology, the world could save 200,000 tons of plastics and raw materials."

2027 sustainability goal	Status	Comments
SG2: Generate at least 33% of our revenues from our Sustainable Technology's most advanced responsible products by 2027.		23%





# Customer satisfaction

## AUGMENTING EVERYBODY'S LIFE

We have adopted a proactive approach to addressing our customers' expectations, helping us build strong relationships.

>83%

customers satisfied with online support

IATF

16949 certified since 2018

RBA

audit results shared with customers

Building strong and trusting relationships with our customers, considering their needs, and serving them effectively, is essential for our business. This includes the range, performance, quality, and reliability of our products, as well as our approach to the environment, health and safety, and social responsibility.

Among the most important factors influencing customer satisfaction at ST are sustainability, product quality, and continuous dialog. [I 3-3 I](#)


## Unlocking value with sustainability

Sustainability is an integral part of who we are. For nearly 30 years, we have prioritized sustainable practices, promoting transparency and accountability across our operations. With this vision, we create technologies that enable our customers to boost sustainability and seize opportunities. We believe this proactive approach creates value not only for our customers, but also for society at large.

We have adopted a proactive approach to addressing our customers' sustainability expectations. We have been a member of the Responsible Business Alliance (RBA) since 2005. All our manufacturing locations and major sites complete an annual self-assessment questionnaire on labor and human rights, safety, ethics, and environmental topics. In addition, our largest 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 with our customers through the RBA platform or via our online support.

### Audit results shared

with customers

Sustainability is a collective responsibility. We prioritize traceability and openly communicate the environmental and social impacts of our products 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 at [www.st.com](http://www.st.com)  or provide it through online support.



**Jérôme Roux**  
President, Sales and Marketing

*At ST, we strive to create long-term value for our customers and ensure the highest level of customer satisfaction. We believe in building trust with our customers through strong partnerships, high performance products and technologies, supported by our comprehensive commitment to sustainability.”*

## Customer satisfaction through quality

We are committed to delivering the highest-quality products and services that meet or exceed customer expectations. We are constantly looking for ways to improve and innovate in quality. This focus on quality helps us build strong, trusting relationships with our customers. By delivering the highest quality products and services, we aim to ensure our customers are satisfied with their experience with ST. Our quality policy is available at [www.st.com](http://www.st.com) .

### Our approach to 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. Our company-wide quality program, structure, and working model focus on meeting the needs of our global customers, bringing all our organizations and sites together to work as one unified team.

Our strategy is supported by our quality excellence culture, which we see as a competitive advantage and a differentiating factor for our Company and the products and solutions we provide. It is driven by our principles of strength, teamwork, resilience, innovation, value, and expertise.

This global approach has contributed to the improvement in our quality KPIs and customer perception. Our people, programs, and processes have helped us improve our quality performance and increase overall customer satisfaction and trust.

Moving forward, we will continue to focus on quality prevention measures through R&D and new product development, investing in leadership and expertise, and digitally transforming our quality processes to improve prediction, prevention, and detection. By continually improving our quality processes and investing in our people, we believe we can better serve our customers and drive customer satisfaction.

### Management systems

Our quality management system is the foundation of our quality approach. We have been certified to internationally recognized quality standards, such as ISO TS 16949, IATF 16949:2016, and ISO 9001:2015, which demonstrate our strong commitment to quality governance and compliance. Our company-wide certification has been renewed every 3 years since 2003, and ST has been certified IATF 16949:2016 and ISO 9001:2015 since 2018.

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**ISO 9001**  
**certified**

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## Quality performance

We achieved significant further improvement in our overall quality performance in 2022, including improved customer scorecards and quality KPIs. This demonstrates the effectiveness of our efforts and commitment towards continuous improvement.

### Quality

	2018	2019	2020	2021	2022
Customer incidents	79	84	66	57	50
Cycle time to process customer incidents	88	98	102	93	84

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.

### FOCUS

#### QUALITY WEEK: OUR ANNUAL EVENT TO STRENGTHEN CUSTOMER SATISFACTION

We hosted our sixth annual quality week in 2022. The event focused not only on building and strengthening customer satisfaction, but also celebrating it. ST employees from across the globe had the opportunity to attend both live and virtual events. These included interviews with key customers and interactions with quality leaders and ST executives from various groups and regions.

These activities gave us the opportunity to better understand how customers perceive ST and what they expect going forward. We gained further insights into the impact of quality in our value chain. Leaders were also able to share further information on Envision Quality 2025, our vision for the next stage of our quality journey.

During the week, sites also organized activities and exchanges on best practices to complement corporate events.

The week was hugely successful in engaging employees across the organization in the constant pursuit of excellence.





## Multiple channels for seamless customer support

We offer our customers various channels to obtain information about our products or find answers to any questions they may have about our business.

- Our website ([www.st.com](http://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 enable customer queries. We regularly review customer feedback and use it to improve our customer support processes. In 2022, more than 83% of our users were 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 develop our customers' skills.
- Regular newsletters keep customers and partners up to date on new products and events, including seminars, conferences, webinars, and online courses.
- Social media channels, YouTube videos, and blog postings reinforce communication and awareness.

**83%**

**of customers satisfied  
with online support  
service**

## 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 teams develop a deeper understanding of the customer, their internal processes, and their preferences. The relationships they build foster a high level of trust and satisfaction. We also work to build close 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 across the globe. Network personnel regularly visit customers to assess opportunities, present our product portfolio, and support them in their product design and development.

## 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 performance evaluation (such as technology, delivery, sustainability, and quality) can be analyzed and communicated to the appropriate functions within ST.

We make these scorecards and customer feedback available via our 'Vivavoce' internal portal. A summary of the customer scorecard is posted on our internal website, visible to all organizations within ST. This visibility provides each organization with customer feedback on its performance and is a driver for continuous improvement.

2027 sustainability goal	Status	Comments
SG21: Further reduce defects by 20% per production unit by 2027 (vs 2020).		-17%

# Business indicators

This section includes indicators and GRI standard disclosures.

## ST key figures | 201-1 |

	2018	2019	2020	2021	2022
Net revenues (US\$m)	9,664	9,556	10,219	12,761	<b>16,128</b>
Gross profit (US\$m)	3,861	3,696	3,789	5,326	<b>7,635</b>
Gross profit as a percentage of sales (%)	40.0%	38.7%	37.1%	41.7%	<b>47.3%</b>
Net earnings (US\$m)	1,287	1,032	1,106	2,000	<b>3,960</b>
Diluted earnings per share (US\$)	1.41	1.14	1.20	2.16	<b>4.19</b>
Market share versus TAM (%) (Total Available Market)	2.06%	2.32%	2.32%	2.30%	<b>2.81%</b>

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

	2018	2019	2020	2021	2022
Operating income	1,400	1,203	1,323	2,419	<b>4,439</b>
Net operating cash flow	533	497	627	1,120	<b>1,591</b>

## Net revenues by location of order shipment<sup>(1,2)</sup> (%)

| 2-6 | 201-1 |

	2018	2019	2020	2021	2022
Americas	13	14	11	12	<b>14</b>
Asia Pacific	61	62	69	68	<b>63</b>
EMEA	26	24	19	20	<b>22</b>

<sup>(1)</sup> 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.

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

## ST sales by market channel<sup>(1)</sup> (%) | 2-6 |

	2018	2019	2020	2021	2022
OEM	65	70	73	66	<b>67</b>
Distribution	35	30	27	34	<b>33</b>

<sup>(1)</sup> 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 |

	2018	2019	2020	2021	2022
Dividends	216	214	168	205	<b>212</b>

## ST new patents filed SDG 9.5

	2018	2019	2020	2021	2022
Total	549	588	557	543	<b>597</b>

## Research partnerships SDG 9.5

	2018	2019	2020	2021	2022
Contracts with higher education institutions or research labs	160	138	143	187	<b>186</b>

## On-time delivery

	2018	2019	2020	2021	2022
Delivery date in line with customer request	88	105	79	67	<b>66</b>
Delivery date in line with ST commitment	92	103	90	80	<b>78</b>

Baseline 100 in 2016.

## ECOPACK<sup>®</sup> labelling<sup>(1)</sup> (%) | 417-1 |

	2018	2019	2020	2021	2022
Non ECOPACK <sup>®</sup>	0.2	0.2	0.1	0.2	<b>0.1</b>
ECOPACK <sup>®</sup> 1: Compliant with the RoHS/ELV directives, second level interconnect lead-free <sup>(2)</sup>	6.8	6.3	4.2	3.9	<b>3.8</b>
ECOPACK <sup>®</sup> 2: as ECOPACK <sup>®</sup> 1, plus free of brominated, chlorinated and antimony oxide flame retardants	85.1	85.2	88.4	87.4	<b>88.5</b>
ECOPACK <sup>®</sup> 3: as ECOPACK <sup>®</sup> 2, plus free of halogens with no RoHS exemptions	8.0	8.3	7.3	8.5	<b>7.5</b>

<sup>(1)</sup> The sums may not add up to 100% due to rounding of the figures.

<sup>(2)</sup> 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
<b>Manufacturing sites</b>							
Agrate	✓	✓	✓	✓	✓	✓	✓
Ang Mo Kio	✓	✓	✓	✓	✓	✓	✓
Bouskoura	✓	✓	✓	✓	✓	✓	✓
Calamba	✓	✓	✓	✓	✓	✓	✓
Catania	✓	✓	✓	✓	✓	✓	✓
Crolles	✓	✓	✓	✓	✓	✓	✓
Kirkop	✓	✓	✓	✓	✓	✓	✓
Marcianise	✓	✓	✗	✗	✗	✗	✓
Muar	✓	✓	✓	✓	✓	✓	✓
Norrköping	✗	✗	✗	✗	✗	✗	✓
Rennes <sup>(1)</sup>	✓	✓	✗	✓	✓	✓	✗
Rousset	✓	✓	✓	✓	✓	✓	✓
Shenzhen	✓	✓	✗	✓	✓	✓	✓
Tours	✓	✓	✓	✓	✓	✓	✓
<b>Other sites</b>							
Castelletto	✓	✓	✓	✓	✗	✓	✓
Geneva	✗	✗	✗	✗	✗	✓	✓
Greater Noida	✓	✗	✗	✗	✗	✓	✓
Grenoble	✓	✓	✓	✗	✗	✓	✓
Le Mans	✗	✗	✗	✗	✗	✗	✓
Loyang	✓	✓	✗	✗	✗	✓	✓
Napoli	✓	✗	✗	✗	✗	✗	✓
Toa Payoh	✓	✓	✓	✗	✓	✓	✓
<b>Total</b>	<b>19</b>	<b>17</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>18</b>	<b>20</b>

<sup>(1)</sup> Rennes Space & High-Reliability Products.