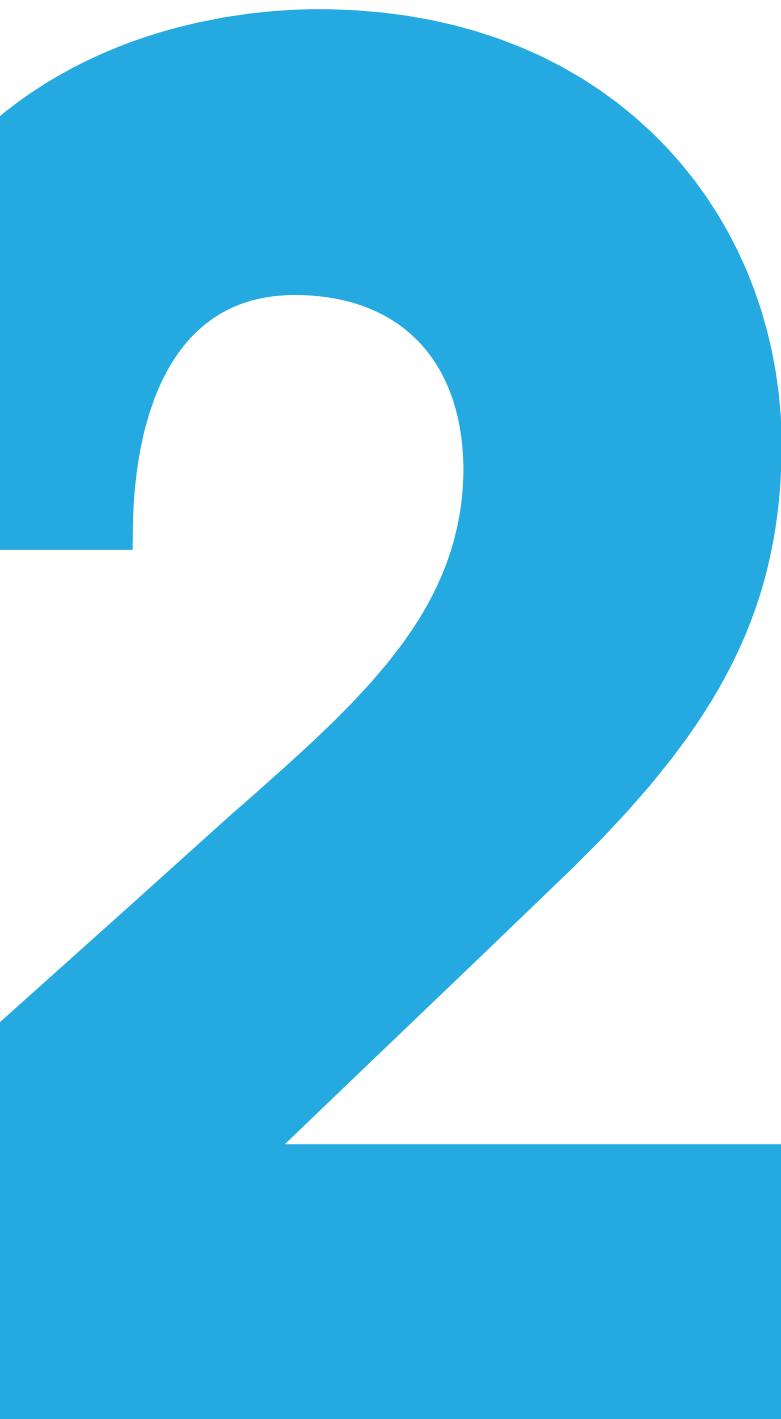


20th
edition



2017 Sustainability Report

2016 Performance

ST
life.augmented

Reader's Guide

Scope

Welcome to the 20th annual sustainability report from STMicroelectronics (ST). This report covers January 1 to December 31 2016, and describes our sustainability strategy, programs, and performance during the year. Unless otherwise stated, the information and data we show here include all of ST's activities and sites. We also disclose figures and information from previous years, to show ST's sustainability journey and commitment. Details about ST's structure and countries of operation are available on [page 10](#) (ST at a glance). | [G4-31](#) | [G4-28](#) | [G4-30](#) |

Report content

The report focuses on the sustainability issues that are material to our business, as identified in a materiality exercise we conducted in 2014 (described on [page 19](#)).

ST's sustainability strategy is based on three pillars and supports 13 priorities. Each of our sustainability priorities has a dedicated page within this report. These pages clearly set out our intentions, our management approach, our objectives, and the performance indicators that chart our progress. In response to our stakeholders' expectations and interests, we also include additional performance indicators at the end of each section. | [G4-18](#) |

In addition, we present examples of the concrete actions taken at ST sites, to illustrate how we deploy our programs and highlight their achievements. | [G4-26](#) |

There is no significant organizational change to report for 2016, and no restatement of information provided in previous reports. | [G4-13](#) | [G4-22](#) |

Use of symbols

Progress updates for each objective can be found in the objectives tables. The symbols used in these should be interpreted as follows:



Stakeholder inclusiveness

ST interacts with many different stakeholders and takes their expectations and interests into consideration. We carry out specific exercises targeting each of them, including surveys, evaluations and audits among employees, customers, investors, analysts, suppliers, industry international associations, academia and laboratories, national and local authorities, and local partners.

We report on these different approaches on [page 20](#) and wherever else that is relevant. We also include interviews with our stakeholders, enabling them to express their views on our sustainability issues and programs. | [G4-24](#) | [G4-26](#) |

Alignment with GRI and international standards

We have prepared and presented this report in line with the G4 sustainability reporting principles and guidelines of the Global Reporting Initiative (GRI). Throughout the report, wherever applicable we use disclosure labels to denote which GRI indicators are relevant to the text and data.

We list all references to GRI-G4 indicators and the corresponding page numbers in the GRI Content Index on [pages 91](#) and [92](#). The GRI organization has confirmed that this index is aligned with GRI-G4 sustainability reporting guidelines, in accordance with the core option. | [G4-32](#) |

We have been a signatory of the United Nations Global Compact (UNGC) since 2000, which commits us to fulfilling its 10 principles. This report describes the actions we took during 2016 to implement these principles. It therefore serves as our 2016 communication on progress.

The International Standards Index on [page 93](#) shows the correlation between ST's sustainability report, the 10 principles of the Global Compact and the UN Sustainable Development Goals (SDGs). | [G4-15](#) |

External verification

ST's Group Vice President of Sustainability has appointed DNV GL (Det Norske Veritas Germanischer Lloyd) to provide us with assurance services. DNV GL has verified the content and data for the 2016 period shown in this report, and has confirmed that it adheres to GRI-G4 requirements corresponding to the 'in accordance' core option. In doing so, DNV GL interviewed all relevant corporate departments and visited three sites – Ang Mo Kio (Singapore), Calamba (the Philippines), and Catania (Italy) – to review and validate our data-reporting process and provide assurance for this year's report. Information and data relating to the 20th edition and the ST Foundation were not part of DNV GL's external verification exercise. DNV GL's assurance statement can be found on [pages 96](#) and [97](#).

| [G4-32](#) | [G4-33](#) |

Availability

This sustainability report is accessible in PDF format at www.st.com/company-reports, along with last year's report (May 2016) and those from previous years. Printed copies are available on request. | [G4-29](#) |

Feedback

We value your feedback and encourage contributions and debate from all stakeholders.

You can email us at sustainable.development@st.com or write to us at our headquarters | [G4-5](#) | [G4-31](#) |

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

This report has been prepared following the GRI-G4 Guidelines. 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.

Carlo Bozotti
President and CEO

2017 Edition

This report has been prepared by:

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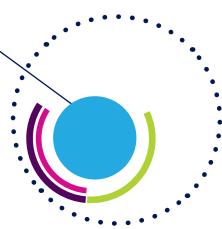
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We also would like to thank:

- 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 on ST sites, SE coordinators and EHS teams who support our activity all year round
- site directors and HR managers
- the teams audited in Ang Mo Kio, Calamba and Catania for their availability



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Photo contest

Thank you to all participants in our sustainability photo contest. The brief was to illustrate sustainability in ST.

A special thanks to our winner Rocco Marco Guglielmi whose photo is featured on the innovation page.

Although reasonable efforts have been made to ensure the consistency of the summary financial information for the year 2016 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 for the year ended December 31, 2016, as filed with the SEC on March 3rd, 2017, 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, 2016. 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.

Foreword by our President and CEO

I G4-11



This twentieth edition of ST's Sustainability Report highlights the efforts and achievements made in 2016 as well as over the course of the past 20 years. We are proud of what we have achieved in an ever-changing and competitive business environment. ST is today a much stronger company: our business is delivering sustainable growth, our people are committed to ST and to their local communities, and the mitigation of our operations on the environment is a key priority.

Our Business: another step towards sustainable and profitable growth

In 2016, the successful execution of our strategy focused on Smart Driving and the Internet of Things started to translate into an initial return to year-over-year revenue growth. Growth has come along with improved profitability and a solid capital structure: this makes ST a reliable, strong and long-term partner to work with.

Our R&D investment that was about US\$1.3 billion in 2016, among the largest in the semiconductor industry, has enabled us to strengthen our **product and technology innovation**.

- We passed the milestone of 2 billion STM32 microcontrollers shipped, making the STM32 one of the leading embedded processing platforms for the IoT;
- ST's position as leading supplier to the automotive industry has been further strengthened, with the latest generation of some premium car platforms using as many as 800 ST components;
- We continued the success of our FlightSense™ technology, now integrated in more than 70 smartphones from leading OEMs globally; and
- Our focus on smarter, more connected and less power-hungry devices led to the introduction, over the course of 2016, of 77 new responsible products: innovative ST products that provide clear environmental and social benefits.

In 2016, we also expanded our capabilities and tools to reach many more **customers**, providing them broader and better support. It is in ST's DNA to deliver outstanding service to global OEMs, and this promise we kept. But we also significantly improved our support structure for SMEs and developers: we built a strong software and hardware ecosystem around our STM32 family to support designers. We toured the world with design support seminars and built more focused support programs with our distributors; we launched a redesigned customer-centric website and a new user Community platform.

Our goal is to be recognized by our customers as among the best in guaranteeing business continuity. Therefore, in 2016 we completed the certification program for all our major sites to the latest ISO 22301 Business Continuity Management standard.

Engaged employees

Our 43,480 **Employees** are our most valuable asset and most important ambassadors whether they work in design, manufacturing, sales & marketing or support functions. Our 7,500 people working in Research & Development lead our innovation efforts. We have sharpened the focus of these efforts over the course of the past two years and, in line with our strategy, re-engaged and trained about 2,500 engineers to those areas where we see increasing opportunities: digital technologies for Smart Driving and microcontrollers for IoT applications. We also placed a strong emphasis on training related to change, innovation and leadership in 2016.



Safety First

We made further progress in **Health and Safety**. The number of medical check-ups in 2016 was 74,508 increasing by 19% over the previous year. In safety, our 0.17 recordable case rate remains among the industry's lowest, and we broadened our efforts by fully involving subcontractors in our 'Safety First' program, leading to a 12% year-over-year decrease in our subcontractor accident rate.

30 years of commitment to the environment...

ST has significantly reduced the environmental impact of its operations. Over the course of 20 years, we have reduced ST's water footprint by more than 73%, cut our energy footprint by 50% and reduced our carbon footprint per wafer by 75%. In 2016, we achieved strong results in decreasing our emissions related to the transportation of our products, cutting them by 17% compared to 2015.

...and to our communities

The ST Foundation brings IT technology to the less privileged members of our communities. Its "Digital Unify" computer literacy program trained 75,961 people in 2016, an increase of 37% compared to the past year, reaching 403,150 trainees since the beginning of the program in 2003. The ST Foundation is an important initiative for ST and, during 2016, our employees also contributed to its activities, delivering courses and translated material as well as participating in a number of projects. For example, in Muar (Malaysia), our employees helped to create a new Digital Unify laboratory for refugees in Kuala Lumpur, in collaboration with national and international authorities.

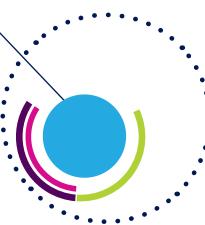
Looking ahead

Sustainability is about continuous improvement, striving for excellence in everything we do. Therefore, we recognize there is still much more to do. The future is about autonomous vehicles and connected systems and devices around us at home, at work and all around us. This future and its promises brings a vast array of opportunities but also some challenges, which ST is well equipped to help overcome.

ST's commitment is to continue to provide solutions that make the world safer and more efficient, more productive and simpler, improving our daily lives.

Carlo Bozotti
President and CEO

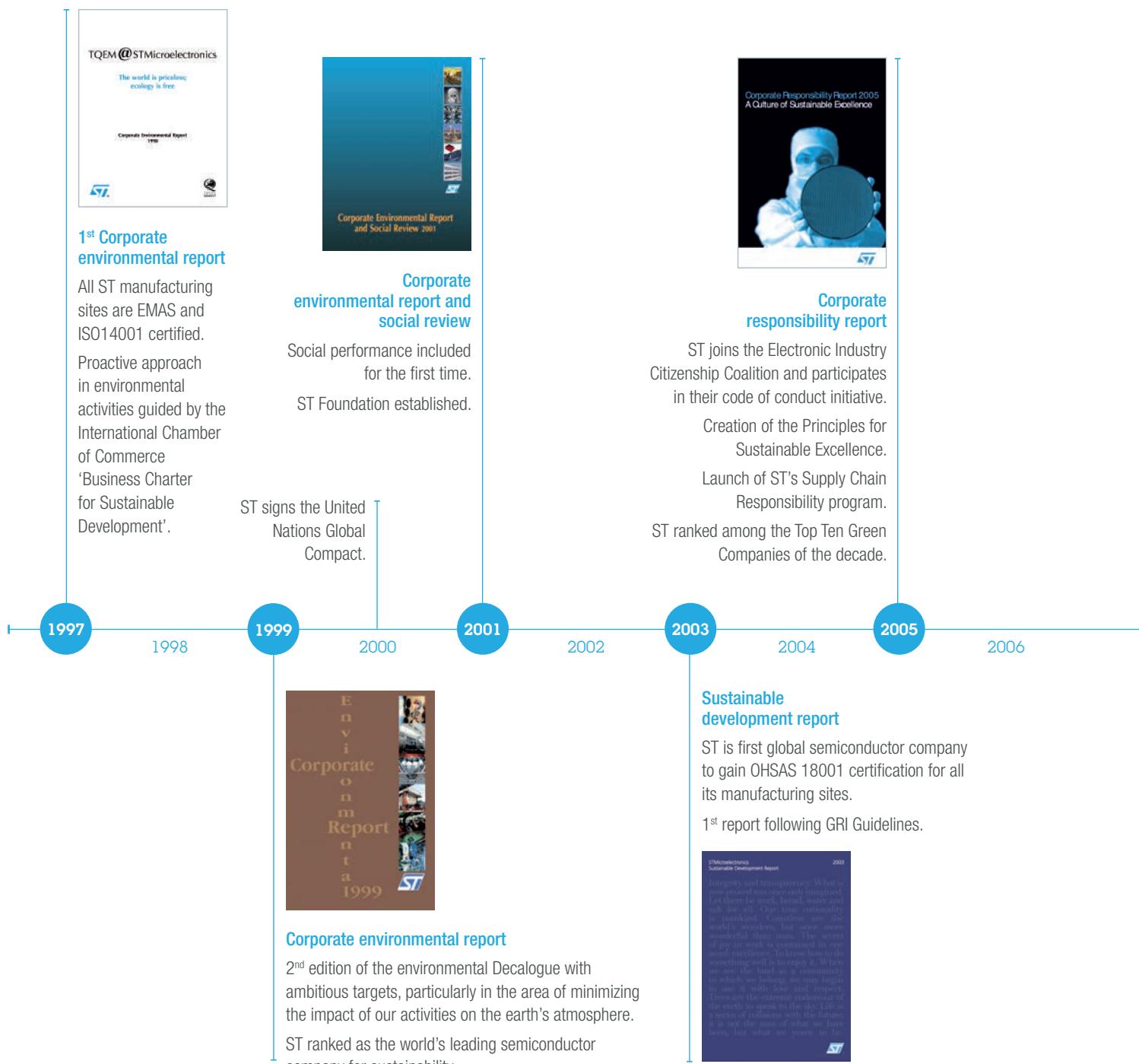




20th edition

This year, we are publishing the 20th edition of our sustainability report. Here are some highlights of our journey over the last 20 years.

When we published our first corporate environmental report disclosing our 1997 performance, we were convinced of our responsibility towards the environment and the community, as well as the importance of disclosing transparent information. Over the years, our annual reporting has evolved, embracing all aspects of sustainable development, adhering to international standards, aligning with the Company's business priorities and taking into account the evolution of society. But the purpose of our reporting remains the same: accountability, improvement, transparency, reliability, and engagement with all our stakeholders.



Today, more than ever, stakeholders expect companies to act responsibly and be transparent. At ST we believe that our sustainability performance combined with transparent reporting has brought us closer to our stakeholders and increased their trust in us. In 2017 we are revising our sustainability strategy to ensure we remain aligned with expectations, and naturally we will continue to report each year on our material topics, our successes, and the challenges we face.





The voice of our sites

To celebrate our 20th sustainability report and recognize the efforts of our sites, we asked the directors of our major sites to tell us about their most notable sustainability achievements over the years and the benefits they have brought to their site and ST.



Nunzio Martelli

Agrate and Castelletto, Italy

"The historical strong engagement of Agrate & Castelletto in sustainability has generated good results over the past 13 years, in terms of energy (-22%), water (-48%) and overall eco-footprint (-44%). This virtuous circle has led to notable savings while also improving our image as an employer of choice. Our sites are also extremely active in the local communities, especially in the field of education, and are amongst the most advanced in ST in terms of the technical community."



Virginia Melba A. Cuyahon

Calamba, the Philippines

"In ST Calamba, sustainability is the responsibility of each individual. We also collaborate among departments for many initiatives, such as minimizing our impact by recycling waste, economizing water and by reducing our energy consumption, for which we are recognized within the Company. We are proud as well of our achievements for the well-being of our employees through fair and safe working conditions, but also our wellness walk and our extensive health plan initiatives. In addition, we assume our responsibility outside ST, building long-lasting partnerships with the communities around us to sustain ST's growth and that of the entire ecosystem."



Bor-Yen Mao

Ang Mo Kio, Singapore

"Through various sustainability initiatives embedded in Ang Mo Kio's operations, including drastic reduction of fluoride discharges and energy savings, our eco-footprint has been reduced by 30% in the last 4 years. Since 2011, we have put in place industry reference EICC measures, such as training, assessments and audits, thereby securing high labor standards, management attention, people expertise and mindset change. Our sustainability strategy also looks outwards, fostering active engagement with the local community, and building extensive partnerships with education institutes for talent development and attraction."



Francesco Caizzone

Catania, Italy

"Being by far the largest private employer in Sicily, ST Catania is a role model for the local community, and so has a duty to support the development of the local ecosystem. This includes partnerships with schools and universities, but also the sharing of expertise with industry associations and research centers. As a consequence we have a very good level of talent retention, with the lowest turnover in ST. Our employees are also engaged in supporting local suppliers in the domain of sustainability and we are one of the most advanced ST sites in Europe in terms of monitoring our local supply chain."



Fabrice Gomez

Bouskoura, Morocco

"At ST Bouskoura, sustainability is simply a part of who we are and what we do and we are making good progress to further integrate sustainability into our daily operations. A safe workplace is particularly important and we are especially pleased about our achievement in dividing the number of first aid cases by 20 during the last 3 years. ST Bouskoura, supported by 3,000 talented and engaged employees, also strives to be a good corporate citizen by investing in our local communities, promoting education, and supporting the Digital Unify program in Morocco."



Gerard Matheron

Crolles, France

"At ST Crolles, sustainability is an integral part of our daily behavior, so it is difficult to highlight only one achievement. Where we made the most visible progress over the last few years is certainly in the safety domain with a continuous drop in the number of accidents, thanks to the managers' involvement and their shop floor safety visits. But we are also proud to share the vision, mission and results of our activities with all our employees through programs such as 'Applications week', and the monthly online news system, 'Dialog@Crolles', where each employee can send a question to site management."



Vivek Sharma
Greater Noida, India

"As a design and development center, ST Noida runs many initiatives to stimulate innovation and support our local ecosystem, including our 'Da Vinci' live demonstration lab that showcases a 'Smarter World', and our incubation program to host startups. But we also take care of our employees. When pulling out of the set-top box business, we successfully placed the majority of our impacted colleagues by inviting companies to our site to facilitate their hiring. Finally, our deployment of Lean methodologies in our R&D activities along with our OHSAS, ISO-TS and BCMS certifications will ensure our site's long-term sustainability."



Philippe Marc
Rousset, France

"The Rousset site is characterized by an entrepreneurial spirit which translates into many innovative initiatives, including in the field of sustainability. Thanks to our long-standing initiatives, we have the best environmental performance amongst ST's Front-end sites, with a 55% reduction in our eco-footprint since 2003, and for more than 20 years have been the undisputed leader within the Company in terms of environment. Rousset was also a pioneer in deploying the Lean approach 10 years ago, and the site is now the Company's reference for Lean, resulting in an efficient industrial performance and high employee engagement."



Patrick Dureault
Grenoble, France

"Our first mobility plan was created in 2000 on the Grenoble site, to address the fact that 40% of our GHG emissions were due to the daily commuting of our employees. Through this initiative we worked with local partners to propose alternative solutions for commuting, including tram, trains, buses, car-sharing and cycling. As a pioneer in France in this area, today we are still in a leadership position with 70% of our employees being part of this plan, and we have managed to reduce our GHG emissions by more than 40%!"



Acron Loh
Shenzhen, China

"The management team of Shenzhen is committed to ST's sustainability performance and to supporting the local ecosystem. 2016 has been another year of improvement in many fields such as training hours and even water management where we have been outperforming for many years, reaching 80% recycled water on die saw and gaining a water saving award. The 4,800 people of Shenzhen, who have expressed an overall satisfaction score of 83% in our 2016 employee survey, are our biggest asset to move forward to the next step."



Giancarlo Ginami
Kirkop, Malta

"Over the years ST Kirkop has received national and international recognition for sustainability. Our national awards include first prize in Malta's Sustainable Enterprise Award, the Environment Award for Industry and more recently Health and Safety employer of the year. At the international level we were awarded the EICC facility recognition for our good performance in the EICC audits. Thanks to their dedication and commitment, our employees have wholeheartedly supported the local community through social welfare and charitable activities. All of this has brought about changes in the way we think and act."



Christophe Ayela
Tours, France

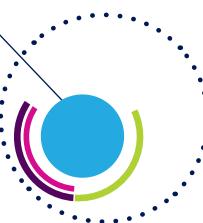
"Making efforts to reduce consumption of energy, water and nitrogen also pays off in terms of motivation, entrepreneurial team spirit, company image and costs. These efforts have led to an overall reduction of 52% in our eco-footprint over the last 13 years. We also have a strong commitment to diversity, with 45% women on our site, and more than 7% disabled workers. Ultimately, it was a great satisfaction for all of us to receive the CEO Award special mention as a recognition of our efforts."



Tan Chun Sheng
Muar, Malaysia

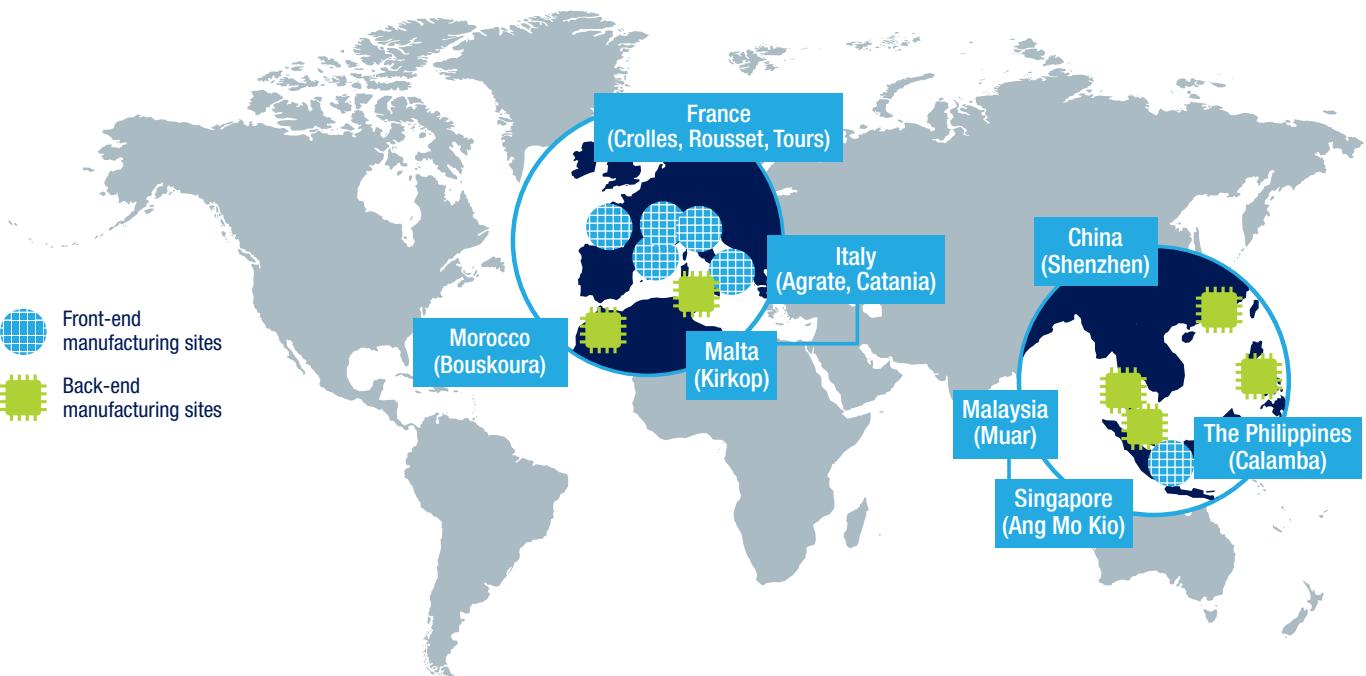
"The Muar team is using its advanced Lean culture to make significant achievements in sustainability, through visual management of safety, and the rapid implementation of new EICC requirements. Not only do we control our supply chain, we also make significant efforts to train our partners, in particular in the fields of labor and sourcing. The Muar team is also an active participant in the ST Foundation's Digital Unify program, having contributed to setting up three labs in Malaysia over the past 12 months."





ST at a glance

| G4-6 | G4-9 |



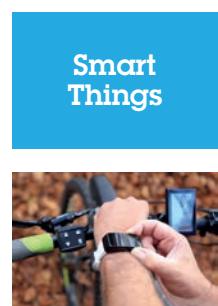
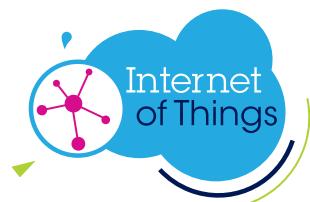
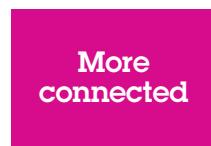
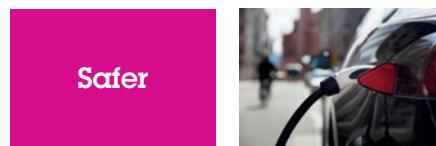
- 10
- A global semiconductor leader
 - A leading Integrated Device Manufacturer
 - 2016 revenues of US\$6.97Bn
 - Approximately 43,500 employees worldwide

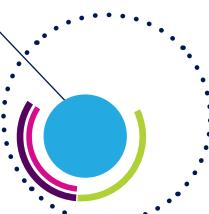
- 11 manufacturing sites
- Over 75 sales & marketing offices in 35 countries
- Listed: NYSE, Euronext Paris and Borsa Italiana, Milan

- Advanced research and development centers around the globe:
 - ~ 16,000 patents
 - ~ 9,500 patent families
 - 492 new patent filings in 2016
 - ~ 7,500 people working in R&D

Where you find us

| G4-4 | G4-8 |





Focus on a site

Zoom on Rousset (France)

Established 38 years ago, ST's facility in Rousset (South-East of France) is a fully integrated site that hosts Front-end manufacturing, Electrical Wafer Sorting, Research and Development, Product Design, and Sales and Marketing operations, as well as support, central and corporate functions. It also serves as the headquarters for the Company's Microcontrollers and Digital ICs Group (MDG).



PRODUCT GROUPS

- Automotive and Discrete Group (ADG), covering application areas from powertrain and safety to car body and infotainment.
- Microcontrollers and Digital ICs Group (MDG)-(microcontrollers, secure microcontrollers and embedded non-volatile memories) covering application areas such as the Internet of Things, industrial control, automotive electronics, credit cards, electronic passports and mobile payment.

MANUFACTURING ACTIVITIES

- Front-end 8-inch manufacturing facility
- 9,000 wafers per week
- 0.35 microns to 80 nanometers process technology
- qualified as 'automotive grade'
- Front-end Electrical Wafer Sort of 8- and 12-inch wafers

MAIN SUSTAINABILITY INITIATIVES

The ST Rousset strives to promote scientific careers for young people with innovative programs such as ST3e. The site also works to integrate people with disabilities (FAM handicap qualifying training program), and ensures gender equality.

To strengthen the R&D activities in the Provence-Alpes-Côte d'Azur region, ST Rousset partners with the local academic laboratories working in the field of microelectronics and is part of the 'Secure Communicating Solutions Pole of Competitiveness' that brings together leading local players from industry, research and academia.

ST Rousset site ranks very highly within the Company as an environmentally efficient site, with ST's best ecological footprint for 20 years, and, in 2016, the best performance ever.

In the last 20 years Rousset has:

- reduced energy consumption per unit of production by 40%
- reduced water consumption per unit of production by 60%

OUR EMPLOYEES

• Headcount: **2,670**

• Split by gender:

 **31%** women

 **69%** men

• Split by job category:



• Average age: **44.7** years

MARKETS SERVED



CERTIFICATIONS

Quality: ISO 9001, ISO/TS 16949

Environment & Energy: EMAS, ISO 14001, ISO 50001

Security: ISO 15408 (Common Criteria)

Health & Safety: OHSAS 18001

Business continuity: ISO 22301



ST Products and Solutions

The semiconductors we make are electronic components that serve as the building blocks inside all kinds of electronic systems and equipment. They are found everywhere today, and together with our customers we are enabling smarter driving and smarter homes, factories, and cities, along with the next generation of mobile and Internet of Things devices. [IG4-41](#)



12

It is estimated that 80% of all innovations in the automotive industry today are directly or indirectly enabled by electronics. ST's Smart Driving products and solutions are making driving safer, greener and more connected through the fusion of several of our technologies.

Automotive 77GHz radar chip for long-range applications

- multi-channel single-chip transceiver
- enhanced object recognition and resolution
- smaller and lower-cost systems



We make driving **safer** thanks to our Advanced Driver Assistance Systems (ADAS) products, which act faster than the human driver to avoid accidents or dangerous road behavior, protecting both drivers and pedestrians. Our products include vision processing solutions, radar, imaging and sensors, as well as our adaptive lighting systems, user display technologies and driver wellness sensors. We also supply chips for passive safety elements such as automotive airbags and anti-lock braking systems - key components of the most widely used automotive safety electronics systems today.

Accelerating electrification Silicon-Carbide power devices



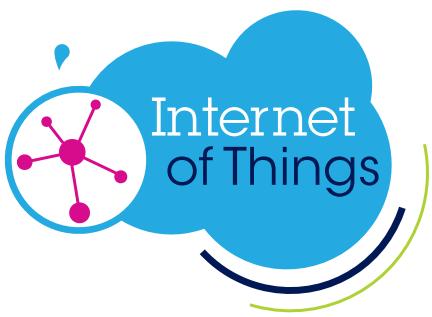
We make driving **greener** by supplying engine management ICs and sensors that continuously work to make vehicle engines run more efficiently, using less fuel and lowering emissions. We are also enabling the increased use of alternative energy sources with our Silicon Carbide technology for electric cars and charging stations. As the number of electronic components per car increases, it is important that all the components used to power, control and monitor the different car subsystems consume less energy. ST's high-efficiency Smart Power solutions and low-power processors do just that.

Best-in-class infotainment processor for all classes of vehicle



And we make the driving experience **more connected** for the driver, passengers and the vehicle itself using our vehicle-to-vehicle and vehicle-to-infrastructure (V2X) connectivity

solutions. ST's GNSS components enable precise positioning of the vehicle for navigation on any continent. However, additional connectivity requires additional security and our automotive grade secure telematics and car network products provide advanced security features to keep the hackers at bay. The connected car is also more entertaining with our infotainment solutions providing smartphone mirroring, advanced radio tuners, full-digital audio and noise-reduced telephone conversations.



All objects in the Internet of Things (IoT) need some common functions and ST has solutions to allow every object to sense, actuate, process, secure, connect, move and power those functions.

All-in-one eCompass enhances Dead Reckoning



IoT objects **sense** their environment using various types of sensors such as motion or environment sensors for every type of application. For example, such sensors can be used in smart homes to measure ambient environmental conditions and detect the presence of people in order to optimize lighting and heating conditions and save energy.

The same Micro-Electro-Mechanical-Systems (MEMS) that make sensors can also be used to generate actions – so-called **actuators**. For example, electric signals can move tiny mirrors to project light or cause small membranes to vibrate to generate sound in earphones or ultrasound to detect objects.

World's smallest ToF ranging sensor



Our sensors can also be used to improve existing functionality for consumers. For example, our ranging sensor using Time-of-Flight technology makes smartphone autofocus faster and more accurate by measuring the distance between the phone and the target object and allowing the phone to quickly focus on the right place.



Bluetooth® low-energy System-on-Chip

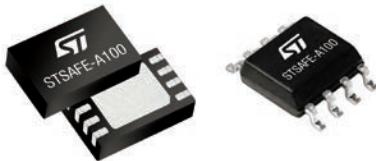
Every object in the Internet of Things needs to **connect**. There are many different types of wireless connectivity that can be used, covering distances ranging from centimeters to 10s of kilometers and with high or low data rates. ST has a corresponding broad solution offering including NFC and RFID, Bluetooth Low Energy, Wi-Fi modules and long-range low-power solutions based on Sub-1GHz RF supporting standards such as LoRa and Sigfox. The latter can be used to connect the low-power smart sensors systems that enable smart cities and smart agriculture.

STM32 high-perf MCU series Advanced 40nm Flash technology



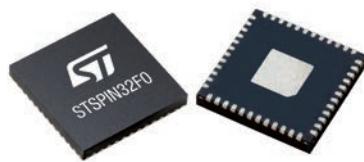
Every IoT object needs the capability to **process** data, analyzing what it receives and turning it into information that can be acted on. ST offers a range of microcontroller solutions to meet the needs of all kinds of objects from ultra-low power to very high performance. Our STM32 family of 32-bit MCUs offers over 700 different options for developers to choose from with a wide range of performance, memory sizes, peripheral and packaging to meet individual application needs.

Optimized secure element for IoT-device and brand protection



The need to secure data is an increasingly important topic for objects connected to the IoT. Every connected Thing needs to embed advanced security features to ensure the integrity and privacy of the information exchanged and the data stored in its memory. ST offers solutions that cover the range of needs for security ranging from software solutions embedded in general purpose microcontrollers to dedicated hardware meeting the highest security standards requirements.

Intelligent motion control for Smart Industry



To **move** things on a larger scale we need motor-control solutions. Highly intelligent and ultra-precise motor controls enable the creation of the robotic systems that play a critical role in the modern factory. These motors can power a range of machines from those using large and powerful motors to those requiring ultra-precise micro-motors. ST offers a complete suite of motor-control products, including microcontrollers, power-supply and -management systems, sensing devices, and connectivity modules. These smart motors provide the intelligence necessary to make the sort of minute spin-rate adjustments necessary to optimize performance and minimize wear.

Wireless battery-charging chipset for wearables



Power and energy management is at the core of every system. ST addresses the needs of all kinds of systems from the smallest wearable devices to smart home and city smart grid systems and solutions for smart factories of the fourth industrial revolution. We provide wireless charging for smart watches, and we power smart meters that help consumers and utilities track and balance consumption.

We offer analog products for signal conditioning and protection as well as a wide range of general purpose analog to fulfill the needs of any design.

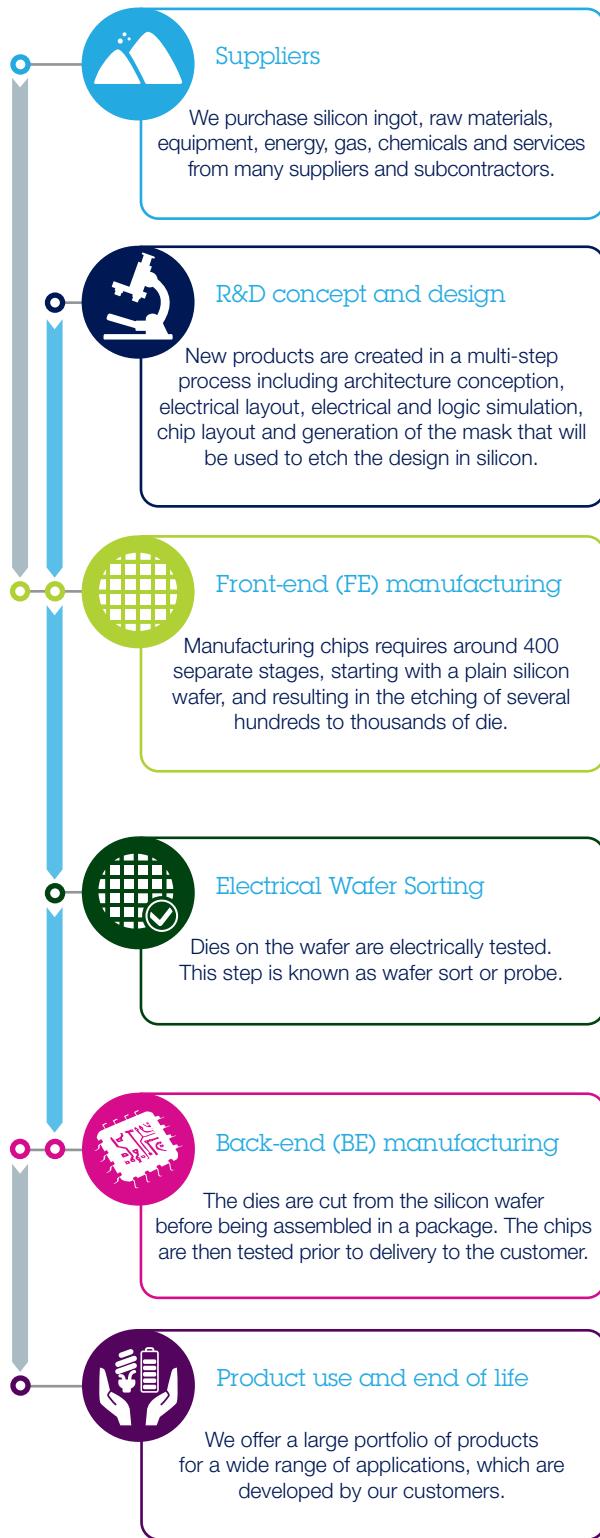
We also provide solutions for key parts of the **infrastructure** of the Internet of Things to make the cloud a reality. For example, our power conversion technology helps make data centers and server farms more efficient, our silicon photonics solutions deliver data at high speed over optical connections, and our mixed signal and FD-SOI ASICs are a key part of communications infrastructure systems.



Value Chain

| G4-12 |

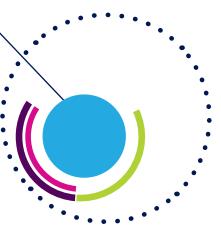
MAIN STEPS IN OUR VALUE CHAIN



MANAGEMENT OF OUR IMPACTS

- We implement the EICC standards in our supply chain and encourage ISO and OHSAS certifications to address ethics, social, environmental, health and safety risks. We participate in the conflict-free initiative.
- Through our Sustainable Technology program we design products systematically taking into consideration the environmental impact of the device during its whole life cycle, including raw materials, transportation, manufacturing, usage and end of life.
- FE manufacturing requires large quantities of water and some ST sites are located in water scarce regions. Through our water management programs we are continually reducing our water footprint through reuse and recycling.
- We implement our Code of Conduct and the EICC standards in all our sites to mitigate our ethics and labor and human rights risks. Although most of our FE production is based in Europe, we also have FE and BE manufacturing located in Asia where risks can be higher. We carry out regular assessments of our production sites.
 - We ensure the health and safety of our employees through advanced management systems and certification.
 - We manage 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. Consequently, even if our consumption of PFCs is relatively low, their impact is significant and requires actions to reduce the CO₂-equivalent emissions that they produce.
 - 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.
- Our products are designed to minimize the carbon footprint and consume as little energy as possible in the end-application.
 - We also develop innovative products to help our customers develop new energy-saving applications.
 - ST products are not subject to WEEE but our management of hazardous substances minimizes the impact of disposal and facilitates recycling.

■ Outside ST ■ Inside ST



2016 Significant Events

January

ST announced the decision to discontinue the development of new platforms and standard products for set-top-box and home gateway and to re-engage about 600 employees associated with the set-top-box business to support principally ST's growth ambitions in digital automotive and microcontrollers.

February

ST and Telepass S.p.A. announced the expansion of their 25-year cooperation on toll-collection systems. The two companies are now in advanced field trials of a new feature enabling secure access to protected areas.



ST and ARCCORE AB, an independent software company for AUTOSAR (AUTomotive Open System ARchitecture) solutions, announced a strategic cooperation that significantly reduces the cost, risk, and time-to-market for customers developing embedded automotive systems based on the AUTOSAR framework.

Developing innovative automotive-electronic systems



May

The Annual General Meeting of Shareholders was held in Amsterdam, the Netherlands. Salvatore Manzi was appointed as a new member of the Supervisory Board, for a three-year term, in replacement of Alessandro Ovi whose mandate terminated as of the 2016 AGM. Janet Davidson was reappointed as a member of the Supervisory Board, for a three-year term.

ST announced its participation in Weifu's Researching and Testing Institute of Engineering and Technology. The cooperative efforts will focus on the development and study of automotive core solutions, including diesel-engine fuel injection equipment, automotive exhaust post-processing, and intake systems.

Mobileye and STMicroelectronics announced that the two companies are co-developing the 5th generation of Mobileye's SoC, the EyeQ® 5, to act as the central computer performing sensor fusion for Fully Autonomous Driving vehicles starting in 2020.

Secure connected-car applications



June

ST announced its collaboration with ETAS, a provider of innovative solutions for developing automotive embedded systems, and ESCRYPt, an ETAS subsidiary focused on security for embedded software, to deliver a complete platform comprising microcontrollers, software tools, and security solutions that accelerates development of new automotive control units for the connected-car age.

June

ST announced that Qualcomm Technologies Inc., a subsidiary of Qualcomm Incorporated, intends to add software support for ST's inertial sensor solutions including its award-winning iNEMO™ inertial module. The companies expect that the support will enable the rapid introduction of Android™ smartphones based on Qualcomm® Snapdragon™ processors with minimized power consumption and high-performing sensor capabilities through the use of hardware features integrated into the sensor.

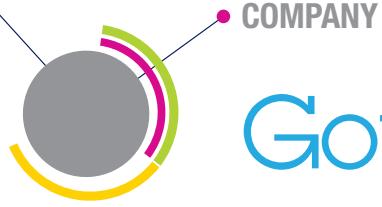


July

ST acquired assets from AMS related to Near-Field Communication and Radio-frequency identification reader business. This has added intellectual property, technologies, products, and business highly complementary to ST's secure microcontroller solutions serving mobile devices, wearables, banking, identification, industrial, automotive, and IoT markets.

November

ST and MicroVision, Inc. (NASDAQ: MVIS), a leader in innovative ultra-miniature projection display and sensing technology, announced that they plan to work together to develop, sell, and market Laser Beam Scanning (LBS) technology. The companies anticipate cooperating closely on market development efforts that will include joint sales and marketing activities for LBS solutions targeting pico projection, virtual, and augmented reality, 3D sensing and ADAS applications.



Governance

STMicroelectronics N.V. is registered in the Netherlands and is listed on the New York Stock Exchange (NYSE), Euronext Paris, and Borsa Italiana. Our policies and practices are designed not only to meet all our statutory requirements but also to incorporate international best practices.



ST headquarters, Plan-Les-Ouates, Geneva, Switzerland

ST celebrates its **30th**
anniversary
in 2017



Corporate governance

STMicroelectronics was formed and incorporated in 1987 following the merger of the semiconductor business of SGS Microelettronica, an Italian corporation, and the non-military business of Thomson Semiconducteurs, a French corporation.

STMicroelectronics N.V., our parent company, has its corporate legal seat in Amsterdam, the Netherlands. Our headquarters and operational offices are managed through our wholly-owned subsidiary, STMicroelectronics International N.V., and are located in Plan-les-Ouates, Geneva, Switzerland. Our operations are also conducted through our various subsidiaries, which are organized and operated according to the laws of their countries of incorporation and consolidated by STMicroelectronics N.V.

I G4-7 | G4-17 |

In accordance with Dutch law, we have a two-tier governance structure 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 and Supervisory Board Charter. These are available in the corporate governance section of our website, at <http://investors.st.com>.

Supervisory Board

Our Supervisory Board advises our Managing Board and supervises its policies and actions as well as overseeing the general course of our business and associated affairs. Our Supervisory Board is composed of nine members who are each appointed for a three-year term by our Annual General Meeting of Shareholders. This term may be renewed one or more times in accordance with our Articles of Association, upon the non-binding proposal of our Supervisory Board. The members of our Supervisory

95.5% average attendance at Supervisory Board meetings

Board are carefully selected in accordance with the profile defined and the Charter adopted by our Supervisory Board, which are available in the corporate governance section of our website at <http://investors.st.com>.

In performing its duties, our Supervisory Board is advised and assisted by four standing committees. Independent of the Managing Board and senior management, these are: the Audit Committee, the Strategic Committee, the Compensation Committee, and the Nominating and Corporate Governance Committee. **I G4-34 I** The Supervisory Board met 11 times in 2016, with an average attendance of 95.5%. Full details of the attendance rate at meetings of our Supervisory Board and its Committees can be found on page 60 of our Annual Report (Form 20-F), and in our Statutory Annual Report, both of which are available on our website at <http://investors.st.com>.

In May 2016, Mr. Salvatore Manzi was appointed for a three-year term as a new member of our Supervisory Board. He replaced Mr. Alessandro Ovi, whose mandate had expired. Ms. Janet Davidson was reappointed for a three-year term, which will expire at the 2019 Annual General Meeting of shareholders.

The biographies of the members of our Supervisory Board can also be found in the corporate governance section of our website at <http://investors.st.com>.

Managing Board

In accordance with Dutch law, our management is entrusted to our Managing Board under the supervision of our Supervisory Board. Carlo Bozotti, President and Chief Executive Officer (CEO), was reappointed to the Managing Board in 2014 for a three-year term that will expire at the end of our 2017 Annual General Meeting of Shareholders. Currently the sole member of our Managing Board, he has occupied his position since March 2005.

Corporate Audit

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

In his capacity as head of Corporate Audit, our Chief Audit and Risk Executive, Franck Freymond, reports directly to the Audit Committee of our Supervisory Board. He attends quarterly meetings with the Audit Committee and executive management. The current functional reporting line and practices in place ensure he has the appropriate level of organizational independence and unrestricted access to executive management and the Supervisory Board.

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

Sustainability governance

Our Sustainability Council validates our sustainability strategy and ensures that the means are in place for each department and site to deploy all related corporate programs. The Council comprises 12 Vice Presidents, representing Human Resources, Compliance and Ethics, Sales and Marketing, Purchasing, Investor Relations, Manufacturing, Product Groups, Communication, and Quality.

Reporting to the Chief Strategy Officer, Philippe Brun, Corporate Vice President, Human Resources and Sustainable Development, has overall responsibility for sustainability. He chairs the Sustainability Council and updates our senior management, including our President and CEO, at quarterly corporate staff meetings. At Company level, Group Vice President Jean-Louis Champseix manages the Corporate Sustainability organization, which is responsible for deploying our sustainability strategy and programs. The organization is supported by a network of over 100 local Sustainability Coordinators who deploy the programs and monitor our performance across all sites and organizations.

ST has been a signatory to the Global Compact since 2000 and a member of the Electronic Industry Citizenship Coalition (EICC) since 2005. In addition to adhering to these standards, 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; OECD Guidelines for Multinational Enterprises; ISO 26000; OHSAS 18001; ISO 14001; EMAS; ISO 50001; and IECQ QC 080000 HSPM. **I G4-15 I G4-16 I**

Independent audit function

Sustainability Council comprises

12 Vice Presidents

Network of over **100** local Sustainability Coordinators

ST has been a member of the EICC since **2005**



Sustainability Strategy

At ST, sustainability is embedded in our everyday business activities. It is about creating value and minimizing risks for customers, investors, employees, and partners. We aim to ensure long-term business success through the effective management of our economic, environmental, and social impacts.



Philippe Brun

Corporate Vice President,
Human Resources & Sustainable
Development

Signatory to the
United Nations Global
Compact since **2000**

Interview with Philippe Brun

ST is celebrating the 20th edition of its sustainability report. How would you describe the Company's long-standing commitment to sustainability?

Just after ST's creation in 1987 we started to address sustainability issues, initially with a strong commitment to business ethics and safety. This was soon joined by a focus on the environment, followed by the release of our very first environmental report in 1997. In the years that followed, we enlarged the scope to include social topics. Today, sustainability is deeply rooted in our daily activities. It is at the heart of the culture and values of our 43,480 employees, and we share it widely with our external partners. We pay careful attention to our impact on society at both a local and a global level through our sustainability strategy and programs. These are aligned with our business priorities and with our long-term goal of making a positive contribution to the lives of people across the world.

In 2000, ST was one of the first companies to sign the United Nations Global Compact (UNGC). Our next commitment was to participate in our industry's collective efforts to find solutions to shared sustainable development challenges; we joined the Electronic Industry Citizenship Coalition in 2005.

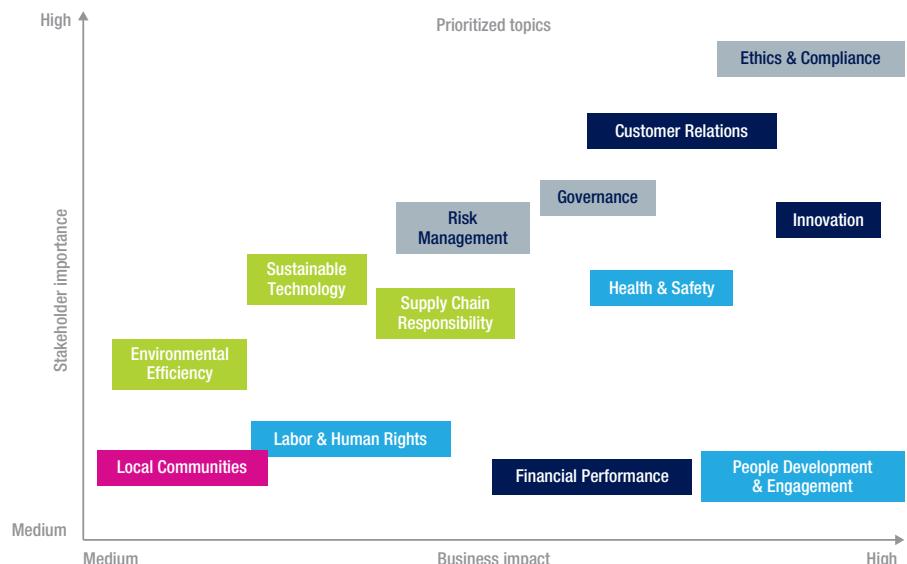
And how are you ensuring ST's sustainability programs meet your business strategy and stakeholders' expectations?

We aim to carry out an extensive materiality exercise involving all stakeholders every three to four years. The exercise we undertook in 2014 led to our current sustainability strategy. To identify the sustainability topics that were material for ST, we first took into account our impact on business, people, and the environment. We analyzed global issues, evolutions in the semiconductor industry, our customers' concerns, international standards and agreements, laws and regulations. Then we surveyed 300 stakeholders to understand the importance of these topics to them and to gain insight into their expectations. We published details of this process in our 2014 sustainability report and used those topics that were judged the most important to determine our sustainability strategy. | [G4-18](#) | [G4-23](#) | [G4-25](#) |

Our strategy is based on three pillars – People, Business and Environment & Operations. We also have programs and objectives that we monitor and report in this sustainability report for each of our 13 key sustainability priorities (see the materiality matrix). | [G4-19](#) |

Materiality matrix

13 key
Sustainability priorities



Between each major materiality exercise, we keep a continuous watch to assess whether our sustainability priorities continue to be the main material topics for ST and our stakeholders. This monitoring process includes screening global sustainability trends, new regulations, industry standards, analysts' questionnaires, and research on environmental and social issues. In 2016, we identified no significant elements that would require a review of our current sustainability strategy.

In the second half of 2017, we plan to undertake a comprehensive new materiality exercise. We will use this to decide if changes are necessary and to define our targets for the years to come.

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Supporting the region



FOCUS

ST supports Catania's ongoing local development

For the first time, the ST Catania site (Italy) and the Catania Branch of Confindustria (the General Confederation of Italian Industry) co-organized in October a conference on corporate social responsibility, occupational safety, and legal compliance. The event brought together a wide array of national and local authorities, plus SMEs and multinationals based in Catania.

The aim of the meeting was to encourage institutional partners and enterprises to cooperate in promoting the preservation and improvement of certain fundamental aspects of regional development. As a key player in the region, ST expressed the needs shared by companies. In one example of the progress made, local authorities agreed to ensure that access roads to the industrial zone are better maintained.

"We are keen to share our methods and best practices with other companies and institutions, because we understand their importance in enabling healthy economic development across the region. In our experience, the region will only evolve if everyone believes in and works towards safety, legal compliance, and social responsibility," said Carmelo Papa, Managing Director of ST Italy. Senator Camilla Fabbri, President of Italy's Parliamentary Enquiry Commission for Accidents at Work, made a poignant speech at the conference, in which she particularly praised the commitment of companies to health and safety issues. She also actively encouraged public bodies involved in this area to make timely and effective interventions that meet the needs of business.



Stakeholder engagement

At ST, we define our major stakeholders as employees, customers, suppliers, investors, industrial associations, and educational organizations. We list the key topics raised by our stakeholders for the materiality exercise in the diagram below.

We develop specific approaches for each stakeholder at local, national, and global levels depending on their characteristics, concerns, expectations, and interests. We use active communication, involvement, and open dialog to feed our understanding and contribute to the success and stability of our Company. [I G4-24](#) | [G4-26](#) | [G4-27](#) |





Ethics and Compliance

At ST, we are committed to conducting our business with the highest standards of ethics and integrity, as outlined in our Company Code of Conduct.



Code of Conduct

Our Code of Conduct is all about our values, which have been part of our corporate culture for three decades. The following commonly held values and principles are shared throughout our organization and are the top-level reference for guiding our behavior, decision-making, and activities.

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

Business ethics
principles since 1987

We refreshed and updated our Code of Conduct in 2015, merging into a single document our former Business Conduct and Ethics policy (initiated in 1987) and our Principles for Sustainable Excellence (initiated in 2006). Although our values remain the same, our new Code of Conduct describes them in easy-to-read language, and provides real-world examples of how to act and behave in various working environments and situations at ST. It also promotes a 'speak up' culture, which invites our employees to seek advice (at local or corporate level) and report their concerns without fear of retaliation.

Proactive
Awareness
campaign
targeting all employees
worldwide

In 2016, every ST employee worldwide received a printed copy of our updated Code of Conduct (available in 10 languages). We also launched a dedicated e-learning campaign on the Code of Conduct, including practical examples that provide employees with meaningful guidelines.

We also refreshed our dedicated Compliance & Ethics intranet website, which now includes short videos (covering topics such as bribery and corruption, conflict of interest, insider trading, fair competition, etc.), educational articles, guidelines, and other learning aids.

E-signature of Business Conduct and Ethics policy⁽¹⁾ (%)

2012	2013	2014	2015	2016
93	93	91	95	94

⁽¹⁾ Percentage of eligible exempts. Scope was extended to more job grades in 2016. From 2015 onwards the Business Conduct and Ethics policy is replaced by our Code of Conduct.

In addition, our Chief Compliance Officer, Philippe Dereeper, visited many of our main sites during the year, as part of a broad awareness campaign to discuss the importance of the principles set forth in our Code of Conduct and get feedback from our sites. He held a series of town-hall sessions addressing all employees, group meetings with local management teams, and train-the-trainer sessions, as well as a large number of one-to-one discussions with local leaders and employees. By the end of 2016, the campaign had reached 14 sites, addressing directly 1,500 employees. This campaign is continuing throughout 2017. | [G4-56](#) | [G4-DMA](#) |

Bribery and corruption

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

We reviewed our Anti-bribery and Corruption policy in 2014 and deployed it throughout the Company in 2015. It provides clear definitions regarding instances of bribery and corruption and includes a detailed description 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 non-compliance.

| [G4-DMA](#) |

Speak up and misconduct reporting

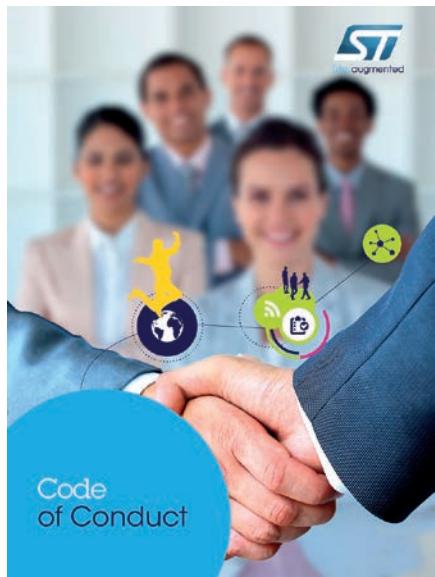
At ST, we promote a 'speak up' culture among employees. This encourages everyone to express, in good faith, any concern they might have that Company executives, managers, or employees might not be adhering to the Company's high ethical standards.

The framework for reporting misconduct is communicated to all employees in the 'speak up' section of our Code of Conduct. Contact details are available both on the 'speak up' page of the Company's intranet and through our external website, thus allowing any interested third party to raise a concern.

All concerns raised are duly assessed by dedicated professionals, following a structured approach, and investigated as required.

All reports received are strictly confidential. 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. Conversely, our investigative approach ensures that all steps taken to investigate allegations or suspicions of misconduct are fair to any targeted employees and third parties.

The Audit Committee of the Supervisory Board, the Corporate Ethics Committee, and Certifying Officers receive information on the progress and status of assessments and investigations on at least a quarterly basis.



'Speak up' culture

Corporate and Local Ethics Committees

In 2016, we selected a service provider and a tool to make it easier to report any concerns. An online platform will soon allow potential whistleblowers to report misconduct and communicate with internal investigators by completing a form online. The platform will help us improve the quality of the information we capture and how we manage our open cases. The implementation of this platform, which began in the second half of 2016, is scheduled to be completed in 2017.

Ethics committees

Our Corporate Ethics Committee (CEC) was formed in 2007, and currently comprises nine senior managers appointed by our President and Chief Executive Officer. The CEC was established to provide support to the Company's management in its efforts to foster a business ethics culture that is consistent across regions, functions, and organizations.

The CEC's role and responsibilities include:

- discussing and evaluating the ST Code of Conduct, as well as ethical breaches, allegations, and related investigations
- issuing guidance or recommendations on ethical dilemmas
- coordinating a network of four Local Ethics Committees in France, Italy, Asia Pacific, and the Americas

These Local Ethics Committees, covering individual countries or regions, meet on a regular basis. Their roles, responsibilities, and organizations are defined locally based on guidelines issued by the CEC.

Misconduct reporting

| G4-S05 |

	2016
Number of incidents under review as of January 1 st	2
Number of incidents reported or identified during the year	9
Actual fraud cases identified through audit or management review	0
Incidents closed by a formal investigation report	5
Number of confirmed external fraud cases	1
Number of confirmed internal fraud cases	2
which led to employees being dismissed or disciplined	2
which led to terminating or not renewing contracts with business partners	0
Incidents closed after preliminary assessment	6
Incidents still open at year end	0
Number of public legal cases regarding corruption brought against ST or its employees	0

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OBJECTIVES

	Status	Comments
Strengthen the ethics committee network by formalizing the links and reporting lines between the Corporate Ethics Committee and Local Ethics Committees and by communicating on this updated framework to ST employees.		Dedicated ethics committee page on Company intranet. See article.
Modernize whistleblowing channels by creating an online misconduct reporting platform.		The implementation of the new tool is ongoing. See article.



Risk Management

Our goal is to be recognized by our stakeholders as a best-in-class company for risk management and business-continuity management. We aim to do this by meeting and exceeding customer requirements and expectations and complying with local and international legal requirements as well as international standards.



The path - Jan Cattaneo - photo contest

Enterprise Risk Management

Enterprise Risk Management (ERM) has two key purposes at ST:

- to maintain a holistic management system for systematically identifying, evaluating, and treating risks
- to seize opportunities to achieve the Company's objectives and enable continuous sustainable growth

In this context, our ERM process systematically, consistently, and effectively identifies, evaluates, and manages all kinds of risk across the board. It also enables us to establish effective risk-mitigation action plans for identified key and top-priority risks at both Company and organizational levels.

Risks are grouped into the following categories: governance; strategy; innovation and execution; intangible assets; operations; products; market environment; external events; legal, regulatory and compliance; people, skills and organization; finance; and information systems.

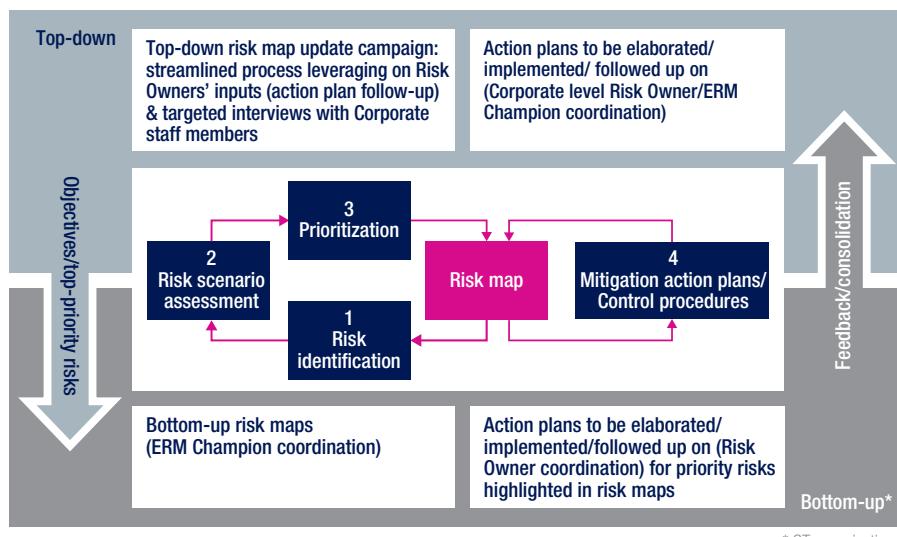
Identified risks are systematically and periodically assessed in terms of: impact (financial, human, operations and reputation); likelihood (the probability of occurrence, from unlikely to almost certain); and margin for improvement (from none to very significant).

Our Chief Audit and Risk Executive is responsible for:

- leading the development and maintenance of the ERM framework
- overseeing the execution of ERM processes, procedures, and infrastructure. This ensures that ERM activity is aligned with Company objectives and serves as a key enabler for achieving the organization's business objectives in growth and sustainability.

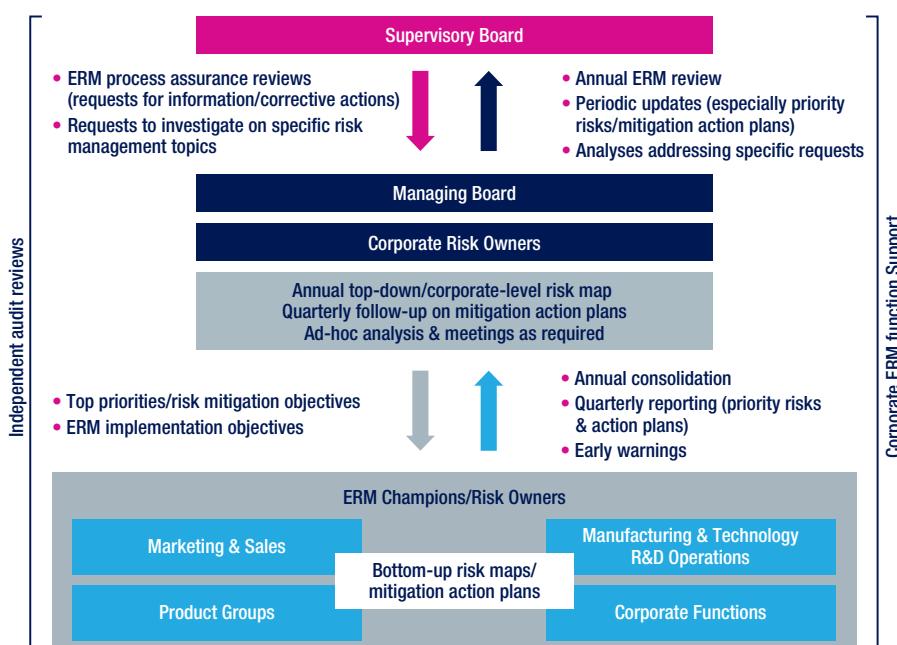
ST's ERM process is aligned with
ISO 31000

Our ERM management system has been developed to be aligned with the principles and guidelines of the ISO 31000 standard. It applies a holistic approach, addressing top-down (Company-level) and bottom-up (organization-level) perspectives. It is built on a comprehensive risk universe, comprising generic risk areas that allow consolidated and comparative analysis across ST. The system is delivered through the activities described in the diagram.



* ST organizations

ERM governance



25

Top-down and bottom-up risk assessment

2016 achievements

ST's Supervisory Board Charter provides information regarding the respective risk-management duties and responsibilities of the Supervisory Board and the Audit Committee.

This was updated in May 2015 and is available in the Corporate Governance section of our website at <http://investors.st.com>.

Our top-down approach

We carried out a review with executive management of our top-down risk assessment. The output from this exercise was a risk map, including six top-priority risk areas. Risk owners (Executive and/or Corporate Vice Presidents) were appointed for each of these risk areas to develop risk-mitigation action plans. These are reviewed by executive management on a regular basis and periodically monitored by the Audit Committee.

Corporate EHS risk analysis

determines sites to be audited

16 sites
ISO 22301 certified

Our bottom-up approach

With the bottom-up approach, we aim to embed risk identification, evaluation, and management activities at the most effective level within each organization. We have deployed the bottom-up risk assessment approach in organizations throughout the Company, including Marketing & Sales, Product Groups, Manufacturing & Technology, and Research & Development, as well as corporate functions such as Human Resources and Sustainability.

ERM tool

In 2016 we deployed a Risk Management Information System (RMIS) in support of the ERM process. This allows us to easily capture and consolidate risk data from across the Company, follow up and monitor mitigation action plans, and provide reports to executive management, the Audit Committee and the Supervisory Board.

Risk reporting

We reported regularly on ERM activities to executive management, the Audit Committee and the Supervisory Board.

Sustainability risk management

Our sustainability priorities and programs are included in our bottom-up corporate risk assessments. We also manage sustainability risks at each stage of our value chain (see [page 14](#)).

Through an annual corporate risk analysis we determine which of our sites are selected for:

- internal Environment, Health and Safety (EHS) audits
- labor and human rights self-assessments
- third-party Electronic Industry Citizenship Coalition audits

In addition to our own operations, we also conduct risk assessments for our supply chain. These cover the social, ethical, and EHS risks facing our key corporate subcontractors and suppliers as well as local suppliers. For more information see Supply Chain Responsibility, [page 74](#).

We initiated a program for our manufacturing sites to identify and mitigate social and ethical risks during 2016, taking into account the local context and any specific local risks. All manufacturing sites are now working on their risk analyses. They plan to complete their first full cycle, including the action plan, in 2017.

Business continuity

Our goal is to be recognized by our stakeholders as being among the best companies for guaranteeing reliable business continuity. We do this by meeting and exceeding our customers' requirements, all local and international legal requirements, and international standards.

In 2016, we completed the certification program we announced two years earlier, with all 16 of the identified sites achieving certification to the latest ISO 22301 Business Continuity Management standard.

The certification process involved:

- developing methodologies to systematically evaluate the risks and threats that could affect our business
- minimizing the risks linked to our supply chain
- ensuring that our main critical processes are identified and protected by appropriate business continuity procedures against major disruptions

We have put in place a worldwide business-continuity community, which promotes best practices as well as sharing documentation, reporting tools, and processes. Each site has developed a plan to address various risks and threats. These include disasters due to natural hazards (such as earthquakes, floods, snowstorms, volcanic eruptions, tsunamis), industrial accidents (fire, explosion, pollution), and major impacts related to human activities (terrorism, strikes, pandemics).

The certification process contributes to improved, more efficient customer service delivery.



Electronica, Munich, Germany

Business



492
new patents
filed in 2016

- ST is ISO 9001 certified company-wide
- ~ 7,500 employees dedicated to R&D
- A portfolio of ~16,000 patents in ~9,500 patent families



19%
of net revenues
invested
in R&D



58%
increase in net
income vs. 2015



Financial Performance

Our commitment to sustainability is a key enabler of long-term business success and improving financial performance. Our actions to drive sustainable progress are designed to improve our financial performance, decrease risk, and support and improve our reputation among stakeholders as a long-time pioneer in our industry. [I G4-DMA I](#)



Capital Markets Day, New York, USA

Company financial performance

2016 was a year of important progress for ST. During the year, our financial performance progressively improved, translating into significant improvement across all our key financial metrics. This progress confirms the soundness of our application-based strategy focused on Smart Driving and the Internet of Things, the results of our product innovation, and the initial payback from our restructuring efforts, which are now substantially behind us.

First, we saw a return to year-over-year revenue growth with ST's revenue for 2016 increasing 1.1%, or 2.4% excluding our discontinued business. This was thanks to our broad product portfolio, the momentum we generated with new products, and the strength of our sales channels.

Second, we significantly improved our profitability through the combination of revenue growth, manufacturing efficiencies, and control of operating expenses. Operating income before impairment and restructuring was up 76% to US\$307 million, and net income up 58% to US\$165 million.

Third, we made progress on improving our operating margin before impairment and restructuring. This stood for the full year at 4.4%; while importantly, we exited the year at 8.2%.

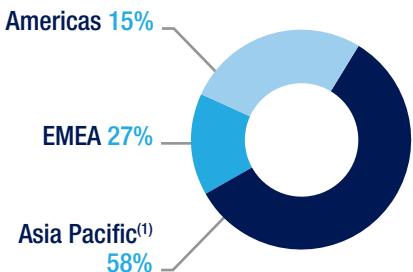
We also saw a strong increase in net cash from operations. Free cash flow, excluding acquisitions, was US\$390 million for the year. We invested US\$78 million in an acquisition during the year. While this was small in size, it is very important from an Intellectual Property complementarity point of view, enabling us to strengthen our product portfolio in secure microcontrollers. We also paid cash dividends to shareholders of US\$251 million.

58% increase in net income vs. 2015

Major investments planned for 2017

Net revenues by location of order shipment (%)

| G4-8 | G4-9 | G4-EC1 |



⁽¹⁾ Greater China, South Asia and Japan-Korea were merged.

Reached milestone of
2 billion STM32
microcontrollers shipped



We expect to invest approximately US\$1 billion to US\$1.1 billion in capital expenditure in 2017, to support ST's innovative product portfolio and fuel significant revenue growth in 2017 and beyond, particularly from new specialized technologies and products. Specifically, the Company is investing in 300mm Front-end manufacturing and in Back-end assembly and test to support new products. In particular, we anticipate that a newly won program will ramp with substantial revenues in the second half of 2017.

ST key figures | G4-9 | G4-EC1 |

	2012	2013	2014	2015	2016
Net revenues (US\$m)	8,493	8,082	7,404	6,897	6,973
Gross profit (US\$m)	2,783	2,614	2,498	2,332	2,455
Gross profit as a percentage of sales (%)	32.8%	32.3%	33.7%	33.8%	35.2%
Net earnings (US\$m)	(1,158)	(500)	128	104	165
Earnings per share (diluted) in (US\$)	(1.31)	(0.56)	0.14	0.12	0.19
Market share versus TAM (%) (Total Available Market)	2.87%	2.60%	2.20%	2.06%	2.06%

Operating income and cash flow | G4-EC1 |

	2012	2013	2014	2015	2016
Operating income (US\$m)	(2,081)	(465)	168	109	214
Net operating cash flow (US\$m)	34	(179)	197	327	312

Product group performance

Automotive & Discrete Group (ADG)

In 2016, ADG revenues grew 3% compared to 2015, and the operating margin was 7.5%.

Increasing ST content in cars is driving growth in Automotive. Today some of the latest and more advanced car models in the premium segment contain over 800 components from ST, delivering benefits that include making driving safer, greener, and more connected.

Despite the weak peripherals and PC market in 2016, Power Discrete started to recover in the second half of the year. Along with silicon carbide for automotive and non-automotive applications, our protection devices for smartphones were among the many successful new power-discrete products that we introduced in 2016.

Microcontrollers and Digital ICs Group (MDG)

In 2016, MDG revenues were substantially flat compared to 2015, with an operating margin of 4.7%.

Our microcontroller business was driven by our general-purpose STM32 family, where we recently shipped the 2 billionth product and passed the milestone of 1 million STM32 development kits.

We also made an important acquisition of assets in July 2016. This has strengthened our secure microcontroller solutions, which embed NFC connectivity while complementing our NFC/RFID EEPROM tag offering with RFID Readers.

In Digital, the Company continued to make progress on restructuring the set-top box business. It was on track at year-end, having achieved about US\$110 million of the total US\$170 million of targeted annualized savings we anticipate upon completion.

Analog, MEMS and Sensors Group (AMG)

In 2016, AMG revenues decreased about 5% compared to 2015, and the operating margin was 4.2%.

Our MEMS business recovered during the year. We not only continued our success with long-time smartphone customers, both with devices and accessories, we also continued to diversify our customer base with strong sales of our 6-axis gyroscope to Android-based players, especially in China.

In Analog, we introduced new products for Bluetooth Low Energy and SubGHz RF for Smart Things and Smart Home & City applications. For Smart Industry, we introduced an intelligent motion-control device in our STSPIN family, as well as a number of analog products for industrial applications.



Carlo Ferro
Chief Financial Officer

"In 2016, we clearly directed ST's financial performance towards growth and improving value for customers, employees and shareholders. We responsibly discontinued our set-top box business while creating and fueling significant opportunities for 2017 and beyond.

Going forward, we see more opportunities for sustainable revenue growth to contribute to margin expansion. We are working to further improve our performance along the following four drivers:

- operating leverage on revenue growth
- improved loading in our factories
- manufacturing scale and technology evolution reducing wafer cost
- growth fueled by innovation-boosting improvements to the product mix

More than ever, our innovative products are making the world **smarter** – we recently shipped the 2 billionth STM32; **safer** – there are over 800 ST components in the latest, most advanced cars like the Mercedes Class E; and **greener** – with a world-leading portfolio in power discrete, low-energy analog and Silicon Carbide technologies.

Thanks to our technology, products, and application focus, and more importantly our 43,480 talented and engaged people, our 2017 priority is simple – deliver **sustainable profitable growth**."

Imaging Product Division

Our Imaging business delivered a successful year for our proprietary Time-of-Flight technology. Our FlightSense™ technology for ranging and autofocus applications has been integrated in over 70 smartphones globally.

Extra-financial performance

Socially Responsible Investment (SRI) rating agencies, analysts, and investors regularly evaluate our corporate behavior and performance. In addition to analyzing publicly available information, some also request detailed feedback on a wide range of topics covering governance, ethics, risk management, labor and human rights, the environment, and community involvement.

This sustainability report, combined with our Company website, is designed to give stakeholders a transparent view of our programs and performance, and to provide the relevant information analysts and investors need to evaluate us.

In 2016 we continued to maintain a strong presence in sustainability indices such as the Financial Times Stock Exchange's index FTSE4Good, Ethibel, and Euronext Vigeo. However, we were not included in the Dow Jones Sustainability Index (DJSI) Europe in 2016, despite having our best-ever overall score of 77/100.

Participating in these evaluations gives us an opportunity to assess our performance within a wider context, benchmark ST against our peers, measure our progress, and identify areas for further improvement. It also enables us to monitor investment trends and identify new risks and opportunities.

FlightSense™
Time-of-Flight technology
integrated into over
70 smartphones





Customer Relations

At ST, we maintain a continuous and open dialog with our customers to ensure that we meet their expectations in all respects, including quality, service, and timely delivery.



Mobile World Congress, Barcelona, Spain

Customers are among our principal stakeholders, so it is vital for our business that we take their needs into consideration. This is the case whether in relation to our product offering, the quality of our products and services, or requirements relating to environment, health and safety (EHS), and social responsibility.

Customer voice

New ST Community platform

Listening to our customers, fulfilling their needs, and building strong partnerships help us and our customers alike to maintain competitiveness and identify new opportunities. The design-in process, where our customers design and test their electronic devices and finalize their choice of products, can take many months. It is important that we support our customers during this phase, as well as ensuring that the quality of our products and that our delivery times meet our customers' expectations.

Our sales account teams are responsible for measuring and managing the satisfaction of their assigned customers. Each team collects customer feedback, and identifies positive points and areas for improvement. They then involve the appropriate resources within ST to determine any relevant actions, and they monitor all agreed improvement action plans until the targets are reached.

To be certain we reach all our customers, in 2016 we extended our online presence beyond our website by releasing the ST Community platform (see Focus on [page 33](#)). We also launched the ST blog (<http://blog.st.com/>). This focuses on sharing views and insights on how semiconductors are changing the world and how ST solutions and products are positively contributing to this change.



Brian Mielewski
Vice-President of Quality,
Region Americas

"Our customers have been, and will likely continue, raising the bar in terms of their expectations. An ever-expanding group of our largest customers expect absolute perfection in terms of the quality and reliability of our products. They expect that we respond quickly to their requests for a wide variety of information – everything from information related to social responsibility to information regarding the proper application of the products we sell. Along with all of these increased expectations, our customers continue to demand best-in-class pricing, service, and support. ST believes that satisfying customers is our highest priority, and this is reflected in the emphasis placed on customers in our corporate priorities as well as our quality strategy. We work every day to make sure that our customers feel that we value their business and will meet their needs and expectations."



OBJECTIVES	Status	Comments
Delinquency on requested date to be at 0.35 week of sales.		0.42 due to increase in demand.
Reduce customer complaints per million units by 6% by Q4 2016 compared with a 2011 baseline.		27% decrease in customer complaints in 2016 (74 vs. 101 in 2015, baseline 100 in 2011).

Enhancing support

Answering our customers

We opened our Support Center at our Coppell site (USA) in 2015 to help us respond quickly to worldwide customer requests and to promote the use of our products. In early 2016, we started to implement a set of standardized processes that enable the Support Center to respond to customer requests without the need to escalate to experts. This is reducing the time taken to fulfill customer requests. As a result, the center's ability to handle customer requests without escalation has grown from 33% in 2015 to more than 75% in 2016.

We also improved the Support Center process by adding a weekly status check of customer requests and daily quality checks to verify that our processes are effective and actively minimize customer cycle times.

The Support Center can help with requests on:

- information on products
- datasheets and application notes
- corporate responsibility, environmental, health, and safety issues
- product obsolescence
- reliability data
- commercial matters (such as eSamples)
- product authenticity

This list continues to grow in 2017 as we use the Support Center for additional support activities.

Details of how to contact the Support Center can be found at http://www.st.com/content/st_com/en/contact-us.html (calls) and http://www.st.com/content/st_com/en/support/online-support.html (online requests).

Quality | G4-PR5 |

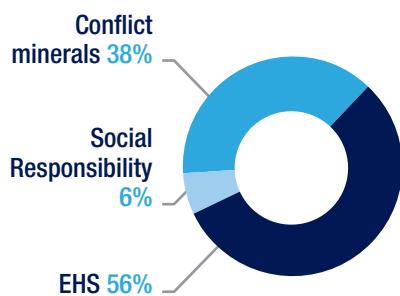
	Q4 2012	Q4 2013	Q4 2014	Q4 2015	Q4 2016
Customer complaints	97	87	86	101	74
Cycle time to process failures analysis	112	113	112	104	118
Customer Quality returns	46	48	49	37	42

Baseline 100 in Q4 2011.

Improved monitoring of customer demand

Customer focus a key quality priority

Customer requests on sustainability



Customer Relationship Management (CRM)

Using efficient CRM tools is key to helping us carry out a comprehensive analysis of our customers and their needs, thereby strengthening customer relationships. In 2016, we completed the implementation of specific sales tools so that our customers always benefit from timely, accurate, and complete responses. These tools include:

- **Salesforce**, which has been deployed worldwide through all our Sales and Marketing organizations. It enables us to monitor all actions associated with customers' needs, and ensures they are completed on time. It also streamlines the communication of essential information about our customers and provides visibility of opportunities to all interested parties within ST.
- **ModelIN Channel Sales**, which we use to monitor inventories in the distribution channel for our mass-market customers. It has been deployed worldwide, and is now giving us 100% visibility on distributors' resale activities, inventories, and ship/debit claims in a unified tool. As such, it is allowing us to monitor and better meet customer demand.

Our quality strategy

In 2016, we redefined and strengthened our quality strategy, making customer focus a key priority. This is based on three main principles:

- listen
- communicate
- service

Being aware of the need to grasp the intentions and desires of our customers, we are dedicating more resources to them and are developing new methodologies and standardized processes. Our ultimate aim is to understand and anticipate their expectations better.

We are deploying the redefined strategy during 2017.

Customers and sustainability

Transparency is essential for maintaining trust. Customers need accessible and adequate information about the positive and negative environmental and social impacts of the products and services they buy. This includes information on product compliance, material declaration, the working conditions of our employees, the safe use of products or services, and the sourcing of materials.

Led by regulations and better awareness, customer interest in sustainability continues to increase. Over the last few years, we have adopted a more proactive posture to satisfy our customers' interest in these topics. As part of this, we have increased the depth of relevant information available on www.st.com and provided our customers with the most current Conflict Minerals Reporting Template (CMRT)⁽¹⁾. We have also provided customers with access to the self-assessment questionnaires (SAQs) and audit reports published on the Electronic Industry Citizenship Coalition (EICC) platform. During 2016, we received more than 1,000 customer inquiries on sustainability; 56% were related to EHS, 38% to conflict minerals, and 6% to social responsibility.

⁽¹⁾ Developed by the Electronics Industry Citizenship Coalition (EICC) and the Global e-Sustainability Initiative (GeSI)

ST Community



FOCUS

Sharing and collaborating

In December 2016, ST used a best-in-class, mobile, and user-friendly platform to launch the new ST Community (<https://community.st.com>). The new platform provides significant improvements for all the customers, developers, makers, and universities that use our products in the way they collaborate, connect, communicate, and share insights via our social community.

Users can share their projects, post events, engage with communities and benefit from use cases posted by others. There are forums, a university community, and a space to share activities and post videos about ST products. Easy access to key support material including a resource library, archives, and a user directory, facilitates and enriches the user experience.

"It is very important for us to listen actively to our customers, developers, and partners," said Nathalie Magniez, Senior Director eMarketing. "It is in our interest to encourage the sharing of knowledge in our space."



Innovation

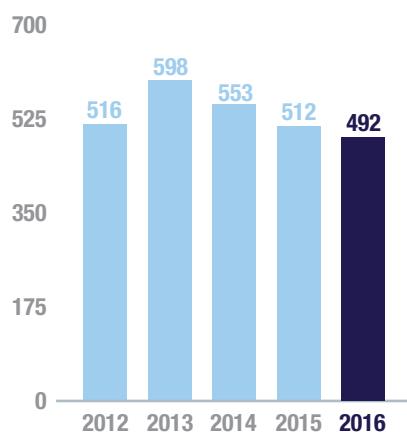
At ST, we aim to contribute to a sustainable world by fostering innovation wherever microelectronics can have a positive impact upon people's lives.



NeaPolis Innovation Technology day, Naples Italy - Rocco Guglielmi - photo contest

~7,500 employees dedicated to R&D and product design

ST new patents filed



Product and technology innovation has always been at the core of ST's strategy. Our innovation is market-driven, with the goal of turning state-of-the-art technologies into cutting-edge commercial products, directly resulting in value creation for our customers and a positive impact on the lives of the end-users.

Attention to customer expectations and to societal trends gives us the agility we need to anticipate breakthroughs in technology and product innovation. These innovations enable end-products to be made significantly smaller, faster, more energy efficient, more reliable, and embedded with new functions that help people fulfill their aspirations and resolve the challenges they face in their daily lives.

To support innovation, every year we invest a significant percentage of our revenue into Research and Development (R&D) activities. Our R&D investments totaled US\$1.34 billion in 2016, representing 19% of our net revenue. We currently have about 7,500 employees dedicated to R&D and product design.

Technical expertise

ST constantly develops and recognizes expertise. Our worldwide technical staff community plays an instrumental role in bringing experts together to collaborate, share knowledge, and work on incubating new projects. The community currently comprises 580 senior technical experts and leaders who are actively involved in the most advanced R&D projects. As well as working in cross-functional teams on disruptive

580 technical staff
members

innovation, they also support incremental innovation. They are a valued partner of our product divisions for the technical experience they bring to new projects. Our technical staff members have developed over 20 training courses which they regularly deploy to share their technical knowledge throughout ST and educate junior colleagues. They also organize events including Technical Days for technical staff to collaborate and inspire innovation, recognition ceremonies, and knowledge-sharing seminars. They have created a highly successful and distinguished lecture program (see Focus).

Innovation activity

	2012	2013	2014	2015	2016
Median age of immature projects (months)	18	15	15	20	20
Immature projects⁽¹⁾ younger than 1 year (%)	28	39	37	27	23
Projects⁽¹⁾ maturing within year (%)	30	41	25	17	21

⁽¹⁾ Projects: product development projects, defined in accordance with IFRS criteria, measured in asset value, not yet at Maturity 30 (full production) at the end of the year.

Innovation framework

We developed an innovation framework in 2015 to boost our innovation processes, and this was deployed across all ST organizations in 2016. The framework includes tools that allow each organization to assess its innovation practices and monitor its progress. We have used gap analysis to identify four priorities for 2017 and beyond:

- build innovation-leadership through dedicated training
- align our innovation-management practices on all sites
- enhance our open innovation model for local ecosystems
- collaborate faster to reduce cycle time through our f@ST.labs

f@ST.labs

Our French technical staff initiated the f@ST.lab collaboration program in 2016. The principle is to offer a brainstorming area to support innovators and makers. It provides a collaborative space to enable the development of ideas, and to accelerate and facilitate the execution of disruptive innovation. It also gives access to a strategic internal and external network. Working groups were established on four sites to define how the program should be implemented locally.

The first f@ST.lab became operational at our Crolles site at the end of 2016. A team of 12 has been trained to facilitate the brainstorming process. They provide the link with technical staff, who follow the innovators of new ideas until the end of the proof-of-concept stage. At that point, the idea can either be adopted by ST through a business unit, R&D, or open innovation. f@ST.labs are also planned for our Rousset, Tours, and Grenoble sites in France during 2017.

Distinguished lecture series



FOCUS

Bringing international experts inside ST

In 2016, our Italy Technical Staff Steering Committee, chaired by Davide Pandini, organized two series of distinguished lectures. In these, recognized world-class experts in fields of strategic interest to ST were invited to give lectures to ST employees worldwide.

The professors all delivered the lectures from their own premises via WebEx, in a similar way to the keynote speech of a leading international conference. Six two-hour lectures were organized, each including a 30-minute Q&A session. Participants could interact with the speakers and ask questions related (but not limited) to the content of the lecture.

This initiative brought international experts inside ST and gave employees the chance to learn about state-of-the-art breakthroughs and progress in technology, design, market trends, and vision.

The program has been a great success, with an average of 80 attendees per lecture and a total of 3,420 visits to the intranet page where the presentations are available for download. The initiative continues in 2017 with a third series of three lectures.





Dennis Sylvester

Electrical Engineering and Computer Science; Michigan Integrated Circuits Laboratory; IEEE Fellow

"I have a long relationship with ST and its many excellent researchers, having served on the ST Technology Council⁽¹⁾ for many years. I am always impressed with the way the engineers within the Company balance necessary short-term (product-oriented) goals with a desire to learn about, and implement, the latest state-of-the-art developments in areas such as ultra-low power integrated circuit design. In 2016, I gave a lecture via WebEx to a large audience of ST engineers. It was a pleasure to continue my interactions with ST in this way. While in-person discussions are always preferred, this medium represents a reasonable compromise between costs and a desire to keep ST technical staff informed of new research directions."

⁽¹⁾ A joint board of ST senior managers and technical experts and world-class leading professors.

A worldwide network of strategic alliances

36

228 active research partnerships with universities and research laboratories



OBJECTIVES

Status

Comments

Increase efficiency of product development:

- Reduce median age of development projects to 18 months.
- Increase proportion of projects less than 1 year old to 30%.



In 2016 we revised our strategic focus and reorganized our product groups.

Open innovation

Although we have identified open innovation as a priority for 2017, we have recognized the importance of partnerships in the innovation process ever since ST's creation 30 years ago. We frequently leverage external knowledge and technologies from private, public, and academic worlds in order to enhance the efficiency of our innovation processes.

We have also established a worldwide network of strategic alliances. These include product development with key customers, technology development with other semiconductor manufacturers, and development alliances with suppliers of major equipment and software design tools.

These industrial partnerships are complemented by a wide range of research programs conducted with leading universities and research institutes around the world. These include our long-standing partnership with CEA-LETI, a French public research authority dedicated to electronics with whom we jointly developed the FD-SOI technology.

In total, we had 228 active research partnerships with universities and research laboratories during 2016.

Supporting local ecosystems

As part of our initiative to support local ecosystems, we continue to run our innovation booster for startups (see 2015 report). In 2016, we hosted a total of 16 startups at our French sites.

We also built local strategic alliances with SMEs (Small and Medium Enterprises). A good example is our partnership with EVEON, a French company that creates solutions for automated and safe preparation and administration of new fluidic therapies and biologic drugs. In 2016, EVEON released its new Intuity® platform, a smart medical device to prepare and administer biological medicine. The electronic system is developed by EVEON using key components supplied by ST.

Another example of support for our local ecosystems is the Neapolis Innovation Technology day, which took place at our Naples site (Italy) in November. This high-tech exhibition gave SMEs, startups, Fab Labs, and students the chance to present their innovative electronics solutions and to network with large companies. This fifth edition brought together a record 170 visitors from 31 different companies, and seven teams of students and researchers from the five universities in the Campania region of Italy. It is one of our 2017 priorities to develop new partnerships that complement those already in place.



Thirty years of innovation

In 2017, as we celebrate our 30th anniversary and publish our 20th sustainability report, it is incredible to see how fast and far semiconductor devices have evolved.

The creation of new types of devices, such as MEMS sensors and actuators, has enabled semiconductors to penetrate a wide array of new markets. These include sensors and instrumentation, chemicals and advanced materials, energy and utilities, environment and sustainability, health and wellness, medical devices and imaging, and advanced manufacturing and automation.

In terms of the products that did exist 30 years ago, they have evolved so much they are now unrecognizable.

	1987	2017	Future
	ETC9410 	STM32L011F3P6TR 	Michel Buffa Microcontroller Division General Manager “While our chips will be delivered in Chip Scale Packages (CSP), System In Packages (SIP) will play an important role by integrating a complete function, certified if required, which is composed of several chips or components diffused in different technologies. For the microcontroller itself, I see a concept of ‘pay-as-you-go’. Very high performing (high speed and low consumption) generic microcontrollers will embed lots of peripherals and IPs, which are set up on demand. The desired IPs will be enabled either by ST during the final test for high volumes, or by the customer himself through the cloud.”
Microcontroller unit	4-bit	32-bit	
Package Size	32.6 x 14 mm	2.1 x 2.1 mm	
Frequency	4 MHz	32 MHz	
Internal oscillator (clock)	None	16 MHz	
Current consumption	5.0 mA	1.3 mA	
Flash memory	0.5 Kbytes	16 Kbytes	
RAM	128 bytes	4096 bytes	



Business Indicators

This section includes indicators and GRI G4 Guidelines Disclosures.

On-time delivery

	2012	2013	2014	2015	2016
Delivery date in line with customer request	104	101	97	103	84
Delivery date in line with ST commitment	100	97	95	98	89

Baseline 100 in 2011.

Dividends paid | G4-EC1 |

	2012	2013	2014	2015	2016
Dividends (US\$m)	355	346	354	350	251

ST sales by market channel⁽¹⁾ (%)

| G4-8 |

	2012	2013	2014	2015	2016
OEM	78	74	69	68	67
Distribution	22	26	31	32	33

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

Net revenues by location of order shipment⁽¹⁾ (%)

| G4-8 | G4-9 | G4-EC1 |

	2012	2013	2014	2015	2016
Americas	15	15	15	16	15
Asia Pacific ⁽²⁾	60	61	59	58	58
EMEA	25	24	26	26	27

⁽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⁾ Greater China, South Asia and Japan-Korea were merged.

Taxes

| G4-EC1 |

	2012	2013	2014	2015	2016
Tax expense for the year (US\$m)	79	72	67	75	74



Lean workshop closure meeting, Rousset, France

People



ST recordable
case rate
0.17



Employee
Engagement
score
72%



Average of
46
hours of
training per
person

- 86% of our employees covered by annual labor and human rights assessments
- 19% increase in medical check-ups vs. 2015
- Over 10 years of commitment to achieving zero accidents



• PEOPLE

Development and Engagement

We aim to cultivate our employees' competencies, foster leading technical expertise, and provide them with continuous learning and career opportunities. Key to this is a culture where talents are proactively developed, performance management is effective, and where recognition, pride, and trust are the norm.

IG4-DMA 1

5,112 people
trained on leadership
in 2016



Jean-Louis Champseix
Group Vice President
Corporate Sustainability
and Learning & Development

"Our Lean culture defines also how we manage sustainability. For us it is about people development and empowerment, about starting with the question of impact, about an effective flow towards final stakeholders and shooting for perfection. At the end of the day sustainability at ST, like Lean, is not only about engaging stakeholders and increasing transparency, it is also about giving power to people to make an impact. Finally it is about leading wherever microelectronics can make the world more sustainable."

Employee
engagement score
at **72%**

Learning and development programs for sustainable growth

ST's strategy is to be the semiconductor leader in two markets with long-term growth perspectives: Smart Driving and the Internet of Things (IoT), which between them represent around half of the total semiconductor market.

Our learning and development strategy is fully aligned to supporting this ambition.

ST's learning and development strategy

Our objective is to ensure ST is a company that leads in innovation, with a learning culture where feedback, collaboration, and leadership behaviors are visible everywhere.

Our learning and development strategy aims at providing timely answers to business needs through the development of our shared knowledge, competencies, and know-how. The strategy focuses on business needs, Lean methodologies, change management, leadership, and engagement.

In 2016, we designed an additional, dedicated learning and development path, which addresses four domains: strategy and innovation, Lean leadership, leading change and leadership in practice.



We ran a number of new, advanced modules in 2016, which have had significant positive impact. Following the encouraging results, we have started to implement these modules throughout the Company in 2017.

Employees are engaged and more connected with our business strategy

We carried out a new employee survey in 2016, mainly monitoring 'individual engagement', 'goal alignment', and 'organizational agility'. The participation rate was 82%, and all results showed an average increase of five points over the 2014 survey. The overall engagement index stood at 72%, six points higher than the 2014 results and six points above the industry average⁽¹⁾.

The results also showed an improvement regarding 'goal alignment' (seven points above average⁽¹⁾) and 'confidence in ST's future success' (three points above average⁽¹⁾).

Those two last topics, identified as opportunities for improvement in the previous survey, have been enhanced through the implementation of new processes and specific actions.

⁽¹⁾ Corporate Executive Board Company worldwide electronic industry average.

Employees survey - Engagement rate

	2012	2013 ⁽ⁱ⁾	2014	2015 ⁽ⁱ⁾	2016
Overall participation rate (%)	87	NA	84	NA	82
Individual engagement index (%)	64	NA	66	NA	72
Organizational agility index (%)	NA	NA	58	NA	63
Goal alignment index (%)	NA	NA	68	NA	73

⁽ⁱ⁾ No survey conducted in 2013 and 2015.

Business and innovation

7% employee turnover (excluding operators)



40

1,050
non-manufacturing
employees trained on
Lean in 2016

To support our business needs and develop employee competencies relating to products and applications, ST has set up dedicated schooling programs in partnership with universities. One such initiative is the creation of training programs focused on analog, engineering, and quality expertise (see interview below).

In 2016, we continued to focus on sales and marketing training. We also improved our induction program to sustain our growth in sales and marketing personnel. These actions were accompanied by the deployment of advanced training programs to support the effectiveness of our sales and marketing activities.

The proliferation of Lean practices

Following the success of applying Lean principles in manufacturing since 2008, ST is now using the same approach in our Research and Development (R&D) activities, as well as in many other business support functions.

We have defined the Lean principles that apply to all our Company organizations and domains. These principles are:

- focusing on final customer value
- striving for perfection, particularly by making problems visible
- engaging people through autonomy and standards
- developing a global process flow mindset while removing waste and inconsistency
- ‘go and see’ (the Gemba walk, manager-coach behaviors, etc.)

A number of related practices also support the continuous improvement of product and process development at ST, using specific methods that increase customer value, accelerate rapid learning cycles, and streamline innovation and process flow. One example is the RISE (Run Innovation for SuccessEs) program deployed in India (see Focus on page 41).

We also ran specific initiatives in 2016, which focused on knowledge management, in particular on lessons learned and the cross-functional sharing of outcomes.

A culture embracing change and collaboration

ST has designed and deployed several change programs to continuously ensure that we are prepared for – and positioned to lead – future evolutionary trends. These are created to help employees and managers anticipate challenges while maintaining a high level of performance.

‘Coaching at ST’ programs and mentoring are part of this change-learning offer. These are contributing to the promotion of ‘manager-coach’ behaviors in order to foster a culture of feedback and collaboration.

Co-development sessions give managers facing change practical means of sharing their challenges, broadening their perspective, and finding collective solutions to move ahead. Both our coaching and co-development practices increase the overall impact of learning.



Patrick Dureault
Site Manager, Grenoble (France)

“ST has set up a cross-organization taskforce to jointly design dedicated training programs with Grenoble INP, an international university located in Grenoble. This will enable us to address potential future competency shortages in some technical areas and offer professional development opportunities to all employees. The first training program to be deployed, called ‘Analog School’, is based on practical experimentation inside our laboratories and scientific courses at the university. Nineteen graduates have already successfully completed the course.

Following this success, other companies are set to join the initiative. This enhances ST’s reputation and increases employability in our regional ecosystem. A second program on engineering expertise is being deployed in 2017.”



OBJECTIVES

	Status	Comments
Ensure that > 90% eligible⁽¹⁾ employees have qualitative performance feedback, and > 50% have a development plan related to their annual performance.		91% with performance feedback, 49% with development plan.
Increase the percentage of open positions for exempts filled by internal candidates to exceed 35% in 2016.		In progress, 33% of jobs filled internally for exempts (+ 14% vs. 2015). Still a high level of turnover in Asia requiring external hiring.
Continuously increase the engagement level, and keep voluntary turnover at or below 10% worldwide (excluding operators).		Engagement score + 6 pts vs. last survey result. Voluntary turnover rate, excluding operators, maintained at 7%.
Ensure a worldwide average of 35 hours of learning per employee per year.		46 hours per employee.

⁽¹⁾ Exempts and non-exempts.

86% of exempts assessed on ST's Leadership model in the IPM

73% of managers observe changes in line with or better than expectations

Talent development

We updated our Individual Performance Management (IPM) process in 2015. This contributes to reinforcing a culture of continuous, individual qualitative feedback and allows employees and managers to define development plans in line with the ST leadership model.

In order to engage, retain, and develop our talent, and to support ongoing and future business requirements, we continue to promote our longstanding talent-development 'booster' program. This two-year program is deployed at corporate, regional, and local level and consists of an individual 360° assessment, a customized individual development plan, mentoring by senior management, and participation in a collaborative project.

In parallel, to maintain a dynamic workforce and create employee development opportunities, we continue to promote internal mobility and advanced career paths.

Learning sustainability and effectiveness

For 30 years, ST has been developing excellent internal training capabilities, taking advantage of our growing community of internal trainers and other experts. This has now been completed with coaches, mentors, tutors, and facilitators, and the addition of digital-learning opportunities.

We also continued to expand our blended learning approach in 2016, which brings a broad variety of teaching methods adapted to a wide range of learning or development needs.

To ensure the effectiveness of our learning investments, we monitor their adherence to ST's business needs through our Learning Needs Analysis (LNA) process. We also systematically measure the impact of strategic courses several months after delivery and during individual annual performance reviews.

R&D
excellence and
Lean in India



FOCUS

Run Innovation for SuccessEs

ST's Technology & Design Platform (T&DP) organization launched a new program called RISE (Run Innovation for SuccessEs) in early 2016.

"The goal is to make T&DP a force which translates human capital into revenue growth and improved profitability" says Rajamohan Varambally, RISE leader in India. "The key to bringing about this transformation is to anchor Lean methodologies in our organization's development processes, which in addition to increasing efficiency, also energizes teams and reinforces employee engagement."

Lean practices, including Value Stream Mapping (VSM) and daily stand-up meetings, have become regular behaviors in a short time and are energizing teams. Quarterly reviews on value creation reinforce accountability. Moving from the conceptual stage to a full Lean culture has been an exciting journey within T&DP. For example, it allows the simplification and automation of computer-aided design processes, improving our efficiency by 21%.



• PEOPLE

Health and Safety

At ST, we are committed to protecting the health and safety of employees, contractors, and visitors by providing a safe working environment, preventing work injuries and illnesses, and providing access to healthcare.



Safety exercise, Agrate, Italy

Over 10 years of commitment to achieving zero accidents

19% increase in medical check-ups vs. 2015

Our management approach

Since the publication of our 3rd corporate Environmental, Health and Safety (EHS) Decalogue in 2005, ST has been committed to its goal of achieving zero accidents in the workplace, through the implementation of safety programs such as Safety First. In 2006, we followed up with a commitment to providing voluntary health-promotion programs that enhance our employees' well-being.

Today, we remain focused on reducing hazards and risks and on improving our practices, outcomes, and all associated indicators. When addressing health or safety, risk prevention is crucial to achieving better results. We relentlessly pursue this approach wherever possible.

I G4-DMA I

Health

Our achievements

Identifying trends helps us to anticipate risks and take preventive actions. In 2016, the overall number of medical check-ups increased by 19% over the previous year. This is due in part to some specific local initiatives. As an example, our Greater Noida site (India) reinstated its health program and facilitated an on-site 'check-up camp' for its employees, in association with HCL Healthcare, a world-class family health provider. This was highly successful, with more than 80% of the site's employees completing a health check during the year (see quote on [page 44](#)).

Some sites increased their participation levels in health programs during 2016. These included Agrate (Italy), where a determined focus on employee health led to specific campaigns on food allergies and melanoma prevention.

In the sites covered, 79% of employees received a medical examination, over an 18-month rolling period (including 2016). This level of uptake was due to good coverage in most large sites thanks to these specific initiatives but also due to legal requirements in the host countries, especially those in Europe.

Health Plan - Medical acts⁽¹⁾

Exam type	2012	2013	2014	2015	2016
Medical examinations	60,216	43,411	49,310	47,278	57,871
Screening tests	8,837	12,438	13,564	13,693	15,209
Immunizations	2,234	2,153	1,721	1,606	1,428
Total services provided	71,287	58,002	64,595	62,577	74,508

⁽¹⁾ All sites represented, except USA. Tours site (France) data missing for H2.

Prevention plan

Our prevention plan aims to identify high-risk factors and use this information to prioritize local campaigns, such as preventing smoking or promoting healthy eating and participation in sports activities. Employees volunteer for preventive health check-ups, where medical staff capture at least six health indicators, including smoking habits, blood pressure, diet and obesity, exercise, and cholesterol levels.

Our reporting highlights the risk parameters for each site and enables us to make comparisons between sites and regions. While all indicators are green at some sites, a few others demonstrate risks associated with smoking, obesity, and low levels of physical activity – the three main areas on which we need to focus for our local prevention campaigns.

Based on this analysis, and taking into account the recommendations of our physicians, we created Health Plan II. This aims to standardize practices, creating realistic targets tailored by region. It is financed locally, with an additional corporate budget to promote and support local initiatives in prevention programs that demonstrate the Company's involvement in protecting employee health.

In 2017, we plan to focus on identified important areas such as cancer prevention, which was identified as a risk factor in Europe (melanoma) and in Asia (breast cancer, particularly in the Philippines).

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Safety

Our global management approach is to strengthen the Company's safety culture through training, audits, publications, communication, and sharing best practices. Above all, we continue to urge managers to take ownership of safety matters and adopt a proactive attitude, demonstrating leadership on the ground through their visible involvement. | G4-DMA

Health and Safety Worker of the Year



FOCUS

National award in Malta for health and safety

ST Kirkop (Malta) won first prize in the Health and Safety category of the 'Workers of the Year National Awards', organized by the Ministry for Social Dialogue, Consumer Affairs and Civil Liberties of Malta. The aim of these awards is to recognize the challenging and exemplary work carried out by workers and employers. The Health and Safety category was introduced for the first time in 2016 to enhance awareness of the importance of health and safety in the workplace.

Our Kirkop site was nominated by three employees, who explained why they believed ST should win this award.

- ST Kirkop is certified under OHSAS 18001, follows the Electronic Industry Code of Conduct (EICC), and undergoes regular audits to check for hazards.
- The site continuously invests in safety equipment such as fire-detection systems, water sprinklers, fire extinguishers, emergency showers, and eye-wash stations, which are all in place to protect the site's people and buildings.
- A communication system and teams are in place in case of an emergency.
- Workers at all levels are involved in health and safety through a suggestion scheme and the EHS steering committee and meetings.
- Great importance is given to ensuring people's protection through training.

0.17
recordable case rate

>55,000
field safety visits



Monisha Piyush
Human resources,
Greater Noida (India)

"Personally, I feel very grateful to work for an organization that cares so much for the well-being of its employees. And this feeling resonates with everyone in Greater Noida. I also owe a lot to our partnering agency, HCL Healthcare, which helped us design this program in such great detail – from involving employees in the publicity, to personalized appointment scheduling. They also delivered it meticulously, covering 693 employees and leaving every one of them more than satisfied with the service.

The employees appreciated not only the convenience of being tested while at work, but also the quality of the service and the post check-up consultations with doctors."

18 sites OHSAS
18001 certified

Our achievements

This approach continues to deliver results: at 0.17, our recordable case rate continues to be better than our 0.2 annual target, and our structured root cause analysis conducted with managers rose to 100% during 2016. We have also significantly improved the number of first-aid interventions and number of unsafe acts and conditions we analyze. We carried out 55,080 field safety visits (+28% vs. 2015), including 13,101 that were undertaken by management.

On each site, we organize specific awareness initiatives, such as EHS days or an EHS week, to encourage our employees, subcontractors, and suppliers to exchange information and ideas on safety, health, and the environment. At our Bouskoura (Morocco) site, for instance, more than 100 subcontractors and suppliers representing 40 companies attended our EHS week in 2016.

We continue to deploy our ergonomics program, through which we aim to control, measure, and decrease the levels of risk within our operations, optimizing working conditions for our employees and removing unnecessary tasks or those that add no value.

As an example, our manufacturing sites evaluate workstations and activities, and then define, implement, and monitor corrective measures and improvements. Our Crolles site (France) has put in place a practical ergonomic technique to prevent muscular-skeletal disorders in our manufacturing operations (see quote).

Maintaining our focus

Our severity rate remained above our target, 2.8 versus 2.3 targeted. This was mainly due to the working days lost after on-site domestic accidents that were not directly linked to our manufacturing or business activity.

Issues and root causes are shared and communicated across sites. Practices and behaviors are checked during audits, and we have created videos to continue raising awareness and promoting vigilance.

In mid-2016, we launched monthly meetings to share data of incidents and so improve cross-fertilization and prevention.

Our severity rate target for 2017 remains at 2.3, with the goal of driving further improvements in employee behavior and working conditions. We continue to encourage our employees and managers to be proactive, by providing training and awareness on the early detection of hazards, and unsafe behavior and conditions.

Audits and certifications

We carried out eight internal corporate EHS audits in 2016. Undertaken by two auditors, these ranged in duration from one to three days, depending on the site's performance and risks (three days for manufacturing sites).

In total, we hold 18 OHSAS 18001, 15 ISO 14001 and 12 EMAS certifications. These three certifications cover all our manufacturing sites (with exception of EMAS in China), as well as our largest non-manufacturing sites such as Castelletto (Italy) and Grenoble (France).

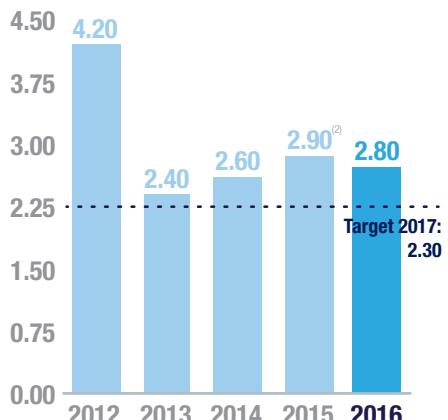
Recordable case rate⁽¹⁾

| G4-LA6 |



Severity rate⁽¹⁾

| G4-LA6 |



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

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

⁽²⁾ The 2015 rate has been restated due to sick leave prolongation after the closure of the previous reporting period.



8 internal EHS audits conducted in 2016

85% of employees involved in **evacuation drills** in 2016

12% decrease in subcontractors LWDC rate vs. 2015

OBJECTIVES	Status	Comments
Reduce the main on-site subcontractors Lost Workday Case rate to 0.38 or less.	✓	0.35 Objective 2017: 0.33 or less
Update the new Company-wide standard for medical visits and preventive measures.	●	Minimum common, and specific regional standards defined.
Deploy the new Company-wide standard for medical care and preventive health initiatives.	●	Melanoma prevention (Italy), ergonomics video.
Maintain our Recordable Case rate to 0.2 or less.	✓	0.17
Reduce our severity rate to 2.3 or less.	✗	2.8, see article.
Ensure ST employees have an average of 4 hours of training and awareness per year on environment, health and safety (EHS) topics.	✓	6.1

Reinforcing safety training and awareness

Delivering an average of more than six hours of safety training and awareness per employee per year, we significantly exceeded our target of four hours and improved on the 2015 figure of 5.4 hours. We continued the deployment of two e-learning courses on safety management and leadership, reaching more than 9,600 managers by the end of 2016. In addition, 85% of ST employees were involved in evacuation drills; we continue to push sites to improve their coverage and reach the ST-wide goal of 100%. As part of our ergonomics and health protection programs, we made two videos to promote the safe usage of personal computers and smartphones while travelling or walking.

Subcontractors

Our subcontractors' accident rate, the Lost Workdays Cases (LWDC) Incidence rate, fell by 12% from 0.4 in 2015 to 0.35 in 2016. This is better than our 0.38 target. In 2016, we worked on extending the scope of this indicator, which was previously limited to long-term contractors, to cover all contractors on all sites. We are implementing reporting through our online recording tool during 2017, and will be ready to disclose the results in 2018.

In order to continue to improve our performance and fully involve our subcontractors in the Safety First program, we have lowered the 2017 target for the subcontractors' LWDC rate to 0.33.

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Lost Workday Case Incidence rate (LWDC rate) Subcontractors⁽¹⁾ I G4-LA6 I

	2014	2015	2016
Lost workday cases per 100 FTE (Full time equivalent) employees	0.54	0.40	0.35

Target 2017: 0.33

⁽¹⁾ ST considers subcontractors as independent contractors working on-site for more than 3 months.



Christophe Bernadet
Ergonomics specialist, Crolles (France)
Michel Masselot
EHS manager, Crolles (France)

"We worked closely with doctors and manufacturing teams to launch a specific assessment method for analyzing and eliminating the root causes of musculoskeletal disorders. Our objective was to adjust workstations and reorganize workflow to reduce ergonomic risks. In accordance with the Lean methodology, we involved the operators in the decisions." (Christophe Bernadet)

"Driven by early-stage and low-level musculoskeletal disorders reported by doctors, the manufacturing teams reorganized the workflow themselves, with the support of an ergonomics specialist, in order to reduce ergonomic hazards. The results were very good, with a 67% reduction in the number of cases of people who were required to change their job." (Michel Masselot)



Labor and Human Rights

At ST, we ensure that all employees are treated with respect and dignity, and that our business practices are aligned with the electronics sector's highest international social and labor standards. Doing so includes promoting diversity and equal opportunities at all levels of our organization.



Production line, STS Shenzhen, China

**Member of the
EICC since 2005**

Due diligence
in our operations and
supply chain

At the heart of our culture

Respect for human rights is one of ST's core values, guiding our behavior in all our business activities. We are committed to identifying and addressing any adverse impacts our operations can have on human rights. In addition to covering our own employees, we extend our approach across the supply chain (See [page 74 Supply chain responsibility](#)).

We adopted the Electronic Industry Citizenship Coalition (EICC) code of conduct in 2005, and we monitor our own operations and suppliers using commitment, assessment, and audit. We have continually reinforced and adapted our human rights due diligence by according the highest importance to external stakeholders' views, with specific attention to customers' requirements. [| G4-56 |](#)

As a large multinational company with a presence in more than 30 countries worldwide, diversity has a prominent place in our culture. We maintain a workplace that is free of discrimination, independent of gender, nationality, race, political opinion, sexual orientation or disability.

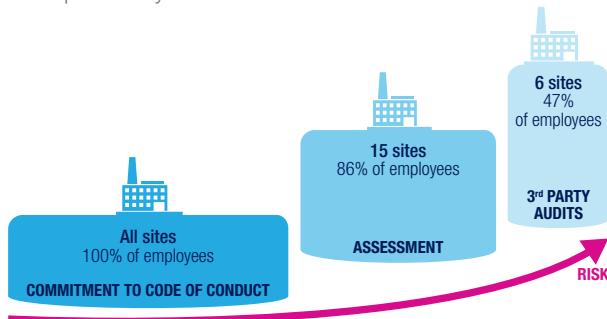
Our approach to human rights

Our due diligence consists of monitoring our performance, taking into account the specific risks of the regions in which we operate. We focus our attention on salient issues such as excessive working hours, prevention of forced labor, discrimination, and minimum age requirements. We also put emphasis on continually improving our management system. [| G4-DMA |](#)

We apply a progressive approach to drive our programs.

- **Commitment:** all our sites worldwide have committed to respecting ST and EICC codes of conduct.

ST EICC SAQ score
93.9%, 4.2pts
above industry average



Making continual progress

In 2016, we focused more on reducing risks identified through self-assessment. With the aim of encouraging local empowerment, the actions were coordinated at corporate level and executed by local sustainability teams. With a final average score of 93.9%, we improved our results by 3.6% over 2015, placing ST above the EICC industry average of 89.7%.

To reach this result, 15 sites have worked on 200 corrective actions, making particular improvements in:

- **Managing our local supply chains:** all our major sites now have a program in place to control the social performance of eligible local suppliers.
- **Communication and training:** in 2016, all our employees received a copy of the new ST Code of Conduct, either from their line management or local human resources, with the objective of encouraging a 'speak up' culture and inviting employees to report their concerns without fear of retaliation.
- **Local risk assessment:** several sites launched labor and ethics risk-mapping exercises to gain a deeper understanding of their local impact; see Sustainability risk management on page 26.

200 corrective actions
in **15 sites**

Our sites in Bouskoura (Morocco) and Muar (Malaysia) performed particularly well, providing extensive action plans, making a significant contribution to the overall results. We maintained a very low average number of major non-conformances per third-party EICC audit in 2016, at 1.5; 100% of these have since been addressed by a corrective action plan. However, we did detect one priority finding, relating to night-shift and overtime worked by eight 17-year-old workers at STS Shenzhen (China), which is no longer tolerated by our standards. We moved them to day-shift only and have reinforced our internal policies to avoid similar situations arising in future.

Working hours are still a concern in China, due to high employee turnover and the need to ensure fair practices in the recruitment process. We take regular action to reduce the impact on our employees. We also transparently disclose our results and corrective action plans to customers through an online platform, using their feedback to drive improvement.

We consider local leadership to be a key success factor in driving sustainable results. So far 85% of our major sites have at least one coordinator who has been through an external certification course providing advanced competencies to conduct social responsibility audits. As an example of leadership, ST Muar (Malaysia) has participated in a pilot test organized by the EICC that has developed a new verification method for agencies recruiting foreign migrant workers. This new protocol will enable enhanced methods for preventing forced labor.



OBJECTIVES

OBJECTIVES	Status	Comments
Ensure that 100% of major and minor non-conformities are closed during the closure audit.	✓	16/16 findings closed during closure audits in 2016.
Ensure 100% of ST Asian and Back-end sites are audited every two years versus the EICC Code of Conduct.	✓	6/6 sites have received 3rd party audits over the period 2015-2016.

EICC audit program results - Major non-conformances

| G4-HR9 |



Claude Boumendil

Diversity Program Director
Human Resources, ST France

"Our strategy on diversity is to go beyond legal compliance to create real value from our differences. Training is one of our key pillars for creating such opportunities. One of the actions we are most proud of is the multi-stakeholder initiative we have launched with government bodies, employment agencies, and local economic networks to create a multi-industry degree course. The pilot classes are being launched in 2017, with the objective of increasing the employability of candidates. Our disability program received a CEO Gold STAR Award in 2016, and we hope it will soon inspire similar initiatives at other sites."

Number of audits	2012	2013	2014	2015	2016
Major and priority non-conformances					
Working hours	4	4	2	2	2
Wages and benefits	1	1	2	0	1
Occupational injury and illness	3	1	1	0	0
Freely chosen employment	0	0	1	0	0
Child labor avoidance (Young Workers)	1	0	1	0	1
Occupational safety	0	0	1	0	0
Wastewater and solid waste	0	0	1	0	0
Emergency preparedness	2	0	0	1	0
Hazardous substances	1	1	0	0	0
Supplier responsibility	1	0	0	0	1
Protection of identity	1	0	0	0	0
Freedom of association	0	0	0	1	0
Storm Water Management	0	0	0	0	1
Total of major and priority non-conformances	14	7	9	4	6
Average major and priority NC/audit	3.5	1.4	2.25	0.57	1.50

Valuing diversity

At ST, respecting human rights also involves promoting and creating value from the diversity of our workforce. Our flagship program, 'Women in Leadership', aims to create the shift in mindset necessary to become a leader regardless of gender. See Focus below.

ST is also engaged in programs which support the employment of disabled people. They are based on four main pillars:

- **awareness:** to fight against stereotypes
- **workplace design:** to make the working environment more accessible
- **training:** to open up new positions to disabled employees
- **purchasing:** to increase also our positive impact in our supply chain

Several sites in Asia, including ST Muar (Malaysia) and ST Calamba (the Philippines), are now launching programs to increase site and workplace accessibility. In France, over the last decade, we have increased tenfold the volume of contracts with companies employing disabled people. Another important initiative is the development of our training offer, as described by our Diversity Program Director. [| G4-DMA |](#)

'Women in Leadership' program



FOCUS

Women in leadership

At ST, we consider diversity, and in particular gender diversity, as a performance driver. Strengthening the role of women in determining ST's future is one of our key objectives.

The 'Women in Leadership' initiative, launched in 2015, aims to develop female leadership in middle management. In 2016, 70 women from 19 departments, 14 countries, and 24 different ST sites attended a two-day workshop. There, they were encouraged to increase their self-confidence, to further leverage their multiple talents, to make their voices heard even more, to accept challenging opportunities, and to make an even greater contribution to ST. We also connect this community of women leaders, both internally and externally, through quarterly webinars. New worldwide sessions are planned for 2017 to extend our reach. Going forward, we plan to initiate actions to reinforce women's development at all career stages, from initial recruitment to senior executive management.



• PEOPLE

People Indicators

This section includes indicators and GRI G4 Guidelines Disclosures.

LEGEND

-	Data not available or not required.
NA	Not applicable.
Operator	Employees working in 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.

Headcount evolution by region

| G4-10 |

	2012	2013	2014	2015	2016
Americas	1,158	967	870	839	741
Female	-	-	202	190	185
Male	-	-	668	649	556
Asia Pacific	19,652	18,910	17,699	17,115	17,329
Female	-	-	7,129	7,132	7,428
Male	-	-	10,570	9,983	9,901
Europe	19,346	20,789	20,308	20,327	20,497
Female	-	-	4,932	4,925	4,950
Male	-	-	15,376	15,402	15,547
Japan	208	202	204	205	189
Female	-	-	51	50	44
Male	-	-	153	155	145
Mediterranean	4,349	4,493	4,550	4,697	4,724
Female	-	-	2,478	2,563	2,614
Male	-	-	2,072	2,134	2,110
Total	44,713	45,361	43,631	43,183	43,480
Female	-	-	14,792	14,860	15,221
Male	-	-	28,839	28,323	28,259

Gender split by category (%)

| G4-10 | | G4-LA12 |

	2014	2015	2016
Operator			
Female	58	56	56
Male	42	44	44
Non-exempt			
Female	23	23	23
Male	77	77	77
Exempt			
Female	21	22	22
Male	79	78	78

External hires in manufacturing (%)

	2012	2013	2014	2015	2016
Percentage of jobs filled externally vs. overall jobs filled	95	98	97	96	97

Hires by job type

| G4-LA1 |

	2012	2013	2014	2015	2016
Operator	6,833	8,013	7,748	6,906	7,904
Female	-	-	2,723	3,073	3,463
Male	-	-	5,025	3,833	4,441
Non-exempt	1,716	1,586	2,094	2,297	2,192
Female	-	-	411	525	437
Male	-	-	1,683	1,772	1,755
Exempt	2,721	1,770	1,578	1,397	1,328
Female	-	-	356	374	388
Male	-	-	1,222	1,023	940
Total	11,270 ⁽¹⁾	11,369	11,420	10,600	11,424
Female	-	-	3,490	3,972	4,288
Male	-	-	7,930	6,628	7,136

⁽¹⁾ Data corrected versus 2015 report.

Newcomers induction program (%)

| G4-10 |

	2012	2013	2014	2015	2016
Newcomers who participated in a formal induction session (e.g. newcomers seminar) during their first year of employment	98	72	93	78	85

Workforce by employment type (% of employees)

| G4-10 |

	2012	2013	2014	2015	2016
Full-time contract	97	97	97	97	97
Female	-	-	93	93	94
Male	-	-	99	99	99
Part-time contract	3	3	3	3	3
Female	-	-	7	7	6
Male	-	-	1	1	1

Workforce by employment contract (% of employees)

| G4-10 |

	2012	2013	2014	2015	2016
Regular contract	98	96	95	96	96
Female	-	-	95	96	95
Male	-	-	95	97	97
Temporary contract	2	4	5	4	4
Female	-	-	5	4	5
Male	-	-	5	3	3

Remuneration (%)

	2012	2013	2014	2015	2016
Employees below the ST minimum salary scale in their job grade (exempt)	14	19	15	14	17
Employees covered by annual individual salary increase	98	92	89	81	75

Benefits, bonus & Unvested Stock Awards

| G4-EC1 |

	2012	2013	2014	2015	2016
% of eligible (exempt >JG11) employees receiving unvested stock awards	22	22	26	26	27
Number of employees rewarded	3,570	3,920	4,620	4,730	4,750

Number of nationalities in the headcount by region⁽¹⁾

| G4-LA12 |

	2012	2013	2014	2015	2016
Americas	25	25	23	19	21
Asia Pacific	36	36	37	38	35
Europe	78	76	74	76	80
Japan	4	5	5	4	4
Mediterranean	17	17	21	25	32

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

Number of nationalities in corporate staff

| G4-LA12 |

	2012	2013	2014	2015	2016
Different nationalities represented in the corporate staff	6	7	8	8	6

Gender split by region (%)

		2012	2013	2014	2015	2016
Americas	Male	78	78	77	77	75
	Female	22	22	23	23	25
Asia Pacific	Male	58	58	60	58	57
	Female	42	42	40	42	43
Europe	Male	75	75	76	76	76
	Female	25	25	24	24	24
Japan	Male	75	76	75	76	77
	Female	25	24	25	24	23
Mediterranean	Male	44	44	46	45	45
	Female	56	56	54	55	55

Career length and voluntary turnover rate (%)

| G4-LA1 |

	2012	2013	2014	2015	2016
New hires (below 2 yrs)	52	72	74	66	75
Employees from 2 to < 5 yrs	24	23	32	19	20
Employees from 5 to < 10 yrs	8	10	11	11	12
Employees from 10 to < 20 yrs	2	4	3	4	4
Employees above 20 yrs	1	7	5	4	4

Average turnover rate (%) | G4-LA1 |

	2012	2013	2014	2015	2016
Average turnover rate	15.6	15.9	14.0	14.2	16.8

Average turnover rate by gender, by category and by region (%) 2016 | G4-LA1 |

	Operator		Non-exempt		Exempt	
	Female	Male	Female	Male	Female	Male
Americas ⁽¹⁾	NA	NA	0.0	0.0	1.4	5.4
Asia Pacific	38.9	99.9	17.4	35.2	8.4	10.4
Europe	0.2	0.5	0.4	0.7	1.0	1.2
Japan ⁽¹⁾	NA	NA	NA	NA	3.2	4.7
Mediterranean	4.1	13.2	1.8	6.2	13.9	12.8

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

Average employee age by category

	2012	2013	2014	2015	2016
Operator	32	33	33	34	34
Non-exempt	36	37	38	38	38
Exempt	40	41	42	42	43
Average employee age (years)	36	37	38	38	39

Age group split by category (%) 2016

| G4-LA12 |

	Under 30 years old	30-50 years old	Over 50 years old
Operator	42	49	9
Non-exempt	24	65	11
Exempt	8	70	22

Women in management

| G4-LA12 |

	2012	2013	2014	2015	2016
Women in experienced management (% JG15 and above)	14	14	15	15	16
Women in senior management (% JG17 and above)	10	10	11	11	11
Women in executive management (% JG19 and above)	9	10	9	8	9
Women on the Board (value)	1	2	3	3	3

Promotion ratio female/male by category and by region (%) 2016

| G4-LA12 |

	Operator		Non-exempt		Exempt	
	Female	Male	Female	Male	Female	Male
Americas ⁽¹⁾	NA	NA	3	0	9	9
Asia Pacific	1	0	7	5	13	14
Europe	9	5	11	9	13	11
Japan ⁽¹⁾	NA	NA	NA	NA	9	12
Mediterranean	11	3	21	10	19	25

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

Disabled employees

| G4-LA12 |

	2012	2013	2014	2015	2016
Disabled people employed as % of total workforce	1.3	1.3	1.5	1.5	1.5

Career development (%)

	2012	2013	2014	2015	2016
Employees with a promotion in the year	16	15	11	10	8
Employees with a job function change in the year	15	20	6	4	4

Employee yearly Individual Performance Management (%) | G4-LA11 |

	2012	2013	2014	2015	2016
Operator	-	-	-	71	77
Female	-	-	-	76	73
Male	-	-	-	68	82
Non-exempt	90	91	91	83	84
Female	-	-	89	80	81
Male	-	-	91	84	85
Exempt	98	98	97	93	94
Female	-	-	97	91	92
Male	-	-	97	93	94
Total of employees	93	92	93	90	86
Female	-	-	93	87	79
Male	-	-	93	91	89

Employees with a formal individual development plan (%) | G4-LA11 |

	2012	2013	2014	2015 ⁽¹⁾	2016
Non-exempt	17	16	16	41	38
Female	-	-	20	44	40
Male	-	-	15	40	37
Exempt	27	22	23	55	53
Female	-	-	25	56	55
Male	-	-	22	54	52

⁽¹⁾ Figures increased in 2015 due to a new performance management system with an integrated development plan. Operators are managed through a different process.

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

	2013	2014	2015	2016
Asia Pacific	1.2	1.2	1.2	3.0
Europe & Mediterranean	3.2	3.8	4.1	6.4
Worldwide	2.4	2.8	3.0	5.2

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

Internal mobility for exempt positions (%)

	2012	2013	2014	2015	2016
% of jobs filled internally	26	40	25	29	33

Average number of training hours per year | G4-LA9 |

	2012	2013	2014	2015	2016
Operator	70	70	79	65	66
Female	-	-	75	57	60
Male	-	-	84	75	73
Non-exempt	36	42	38	35	34
Female	-	-	45	27	30
Male	-	-	36	37	36
Exempt	29	30	22	22	27
Female	-	-	23	24	29
Male	-	-	22	22	26
Total ⁽¹⁾	46	48	47	42	46
Female	-	-	57	45	50
Male	-	-	41	41	44

⁽¹⁾ Includes training on equipment and outside training.

Employees enrolled in ST supported external education programs (%)

	2012	2013	2014	2015	2016
Operator	2.3	2.4	0.8	0.9	1.1
Non-exempt	1.0	0.9	1.7	1.6	1.2
Exempt	1.7	1.8	2.2	1.5	1.6

Formal recognition and suggestion scheme

	2012	2013	2014	2015	2016
Number of people recognized ⁽¹⁾	33,823	39,629	25,178	15,899	17,952
% of accepted suggestions which were implemented	60%	50%	61%	60%	58%

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

Unplanned absenteeism

| G4-LA6 |

	2012	2013	2014	2015	2016
Unplanned absenteeism	2.82	2.93	2.45	2.95	3.14
% by region					
Americas	-	-	NA ⁽¹⁾	0.00	0.11
Asia Pacific	-	-	1.27	2.96	3.07
Europe	-	-	3.45	3.53	3.16
Japan	-	-	0.21	0.00	0.05
Mediterranean	-	-	3.47	1.30	3.91
% by gender					
Female	-	-	3.28	2.74	2.75
Male	-	-	2.00	3.34	3.87

⁽¹⁾ Not tracked in 2014.

Collective bargaining

| G4-11 |

	2012	2013	2014	2015	2016
Number of collective agreements signed in the year	45	38	39	39	52
% of people covered by collective bargaining agreements	-	-	67%	75%	75%
Number of people covered by representatives	31,962	34,225	32,694	31,049	30,783
% of people covered by representatives	72%	76%	75%	72%	71%

Fair wages (%)

	2012	2013	2014	2015	2016
% of employees paid up to 105% of the legal or conventional minimum wage	12.0	10.8	11.8	9.9	9.2

Working time and overtime hours

	2012	2013	2014	2015	2016
% of employees with regular worktime less than 48 hours per week	88% ⁽¹⁾	88% ⁽¹⁾	88% ⁽¹⁾	87% ⁽¹⁾	86%
Average weekly overtime (hours per employee)	3.6	1.7	2.3	3.8	3.7

⁽¹⁾ Figures have been corrected due to an error concerning the standard working time in Calamba site, the Philippines (48 hours/week instead of 44 hours/week).

Average weekly working time in selected countries⁽¹⁾ (hours)

		2012	2013	2014	2015	2016
China	ST standard working time	40	40	40	40	40
	Overtime	11.4	5.7	3.7	5.5	6.3
France	ST standard working time ⁽²⁾	38.5	38.5	38.5	38.5	38.5
	Overtime	0.2	0.0	0.0	0.1	0.1
Italy	ST standard working time	40	40	40	40	40
	Overtime	0.7	0.2	0.2	0.3	0.3
Malaysia	ST standard working time	48	48	48	48	48
	Overtime	8.5	8.7	9.3	11.5	11.4
Malta	ST standard working time	40	40	40	40	40
	Overtime	5.0	5.9	5.4	6.4	6.5
Morocco	ST standard working time	44	44	44	44	44
	Overtime	1.1	1.8	1.7	0.3	0.2
Singapore	ST standard working time	44	44	44	44	44
	Overtime	3.8	3.2	4.7	4.8	1.9
The Philippines	ST standard working time	48	48	48	48	48
	Overtime	6.0	4.3	4.0	6.3	5.1

⁽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 | G4-HR9 |

Country	Major site ⁽¹⁾	Self assessment	Audits	% workforce
High Risk				
China	Shenzhen	✓	✓	11.5%
Malaysia	Muar	✓	✓	9.4%
Singapore	Ang Mo Kio	✓	✓	9.7%
The Philippines	Calamba	✓	✓	4.5%
Medium Risk				
Malta	Kirkop	✓	✓	3.7%
Morocco	Bouskoura	✓	✓	6.8%
Low Risk				
France	Crolles	✓	✗	3.8%
	Grenoble ⁽²⁾	✓	✗	4.1%
	Rousset	✓	✗	5.8%
	Tours	✓	✗	2.8%
India	Greater Noida ⁽²⁾	✓	✗	1.8%
Italy	Agrate	✓	✗	10.2%
	Castelletto ⁽²⁾	✓	✗	2.3%
	Catania	✓	✗	9.0%
	Marcianise	✓	✗	0.6%
Percentage coverage		100% major sites ⁽¹⁾	100% high and medium risk sites	86.1%
Number of sites that have been subject to human rights assessments and audits		15	6	

⁽¹⁾ Sites with >700 employees and all manufacturing sites.

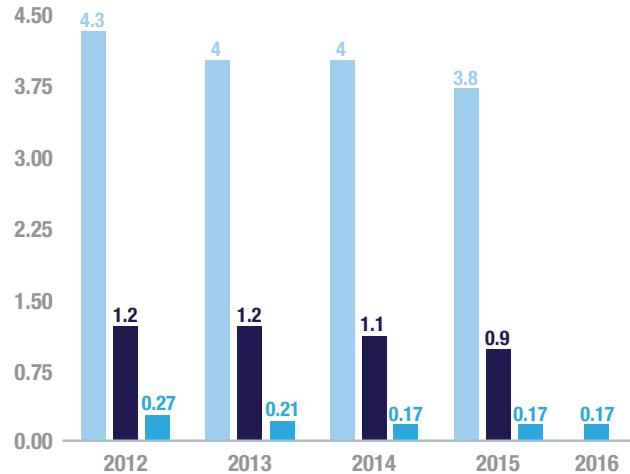
⁽²⁾ Design centers. Other sites are manufacturing.

Recordable cases rate benchmarks⁽¹⁾

| G4-LA6 |



 US Manufacturing (Source BLS⁽²⁾)
 ALL US semiconductor (Source BLS⁽²⁾)
 ST



⁽¹⁾ Latest data available. 2016 Benchmark data not available at time of publishing.

⁽²⁾ Bureau of Labor Statistics (United States Department of Labor).

Recordable case rate⁽¹⁾ by gender and by region

| G4-LA6 |

Gender	2012	2013	2014	2015	2016
Female	-	-	0.19	0.15	0.23
Male	-	-	0.16	0.18	0.14
Region					
Americas	0.0	0.0	0.00	0.00	0.00
Asia Pacific	0.1	0.1	0.10	0.12	0.14
Europe & Mediterranean	0.4	0.3	0.24	0.21	0.20

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

Recordable case rate⁽¹⁾ - On-site industrial/domestic

| G4-LA6 |

	2012	2013	2014	2015	2016
Recordable case industrial rate	0.17	0.13	0.11	0.12	0.11
Recordable case domestic rate	0.10	0.07	0.06	0.05	0.06

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

Recordable cases by type of event, accident or exposure (%)

| G4-LA6 |

	2012	2013	2014	2015	2016
Fall or slip	31	25	32	31	37
Struck by or against	26	40	36	30	38
Overexertion	7	11	5	6	4
Others	3	8	7	10	4
Caught in, under or between	10	5	5	7	5
Contact with chemicals	13	8	8	9	8
Bodily reaction from slip or motion	10	3	7	7	4

Severity rate⁽¹⁾ by gender and by region

| G4-LA6 |

	2012	2013	2014	2015 ⁽²⁾	2016
Gender					
Female	-	-	3.2	3.3	4.2
Male	-	-	2.4	2.8 ⁽²⁾	2.1
Region					
Americas	0.0	0.0	0.0	0.0	0.0
Asia Pacific	0.8	0.9	0.6	0.7	0.9
Europe & Mediterranean	7.8	4.1	4.5	4.8 ⁽²⁾	4.6

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

⁽²⁾ The 2015 rate has been restated due to sick leave prolongation after the closure of the previous reporting period.

Lost Workday Incidence rate (Subcontractor)⁽¹⁾

| G4-LA6 |

	2014	2015	2016
Lost workday per 100 FTE (Full-time equivalent) employees	8.5	6.8	6.6

Target 2017: 6.1

⁽¹⁾ ST considers subcontractors as independent contractors working on-site for more than 3 months.

Lost Workday Incidence rate⁽¹⁾ (Subcontractor)⁽²⁾ by region | G4-LA6 |

	2014	2015	2016
Americas	0	0.0	0.0
Asia Pacific	1.0	1.9	0.9
Europe & Mediterranean	12.6	10.4	9.6

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

⁽²⁾ ST considers subcontractors as independent contractors working on-site for more than 3 months.

Lost Workday Case⁽¹⁾ Incidence rate (Subcontractor)⁽²⁾ by region

| G4-LA6 |

	2014	2015	2016
Americas	0.00	0.00	0.00
Asia Pacific	0.19	0.09	0.26
Europe & Mediterranean	0.73	0.64	0.40

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

⁽²⁾ ST considers subcontractors as independent contractors working on-site for more than 3 months.

Lost Workday Cases (Subcontractor)⁽¹⁾ by gender (%)

| G4-LA6 |

	2014	2015	2016
Female	21	30	25
Male	79	70	75

⁽¹⁾ ST considers subcontractors as independent contractors working on-site for more than 3 months.

Lost Workday (Subcontractor)⁽¹⁾ by gender (%)

| G4-LA6 |

	2014	2015	2016
Female	19	54	29
Male	81	46	71

⁽¹⁾ ST considers subcontractors as independent contractors working on-site for more than 3 months.

Health Plan - Medical acts⁽¹⁾

Exam type	2012	2013	2014	2015	2016
Medical examinations	60,216	43,411	49,310	47,278	57,871
Check-up with a physician	34,604	19,645	22,042	21,978	25,476
Blood analyses (including biomonitoring tests ⁽²⁾)	11,986	10,987	13,150	11,981	16,027
Chest X-rays	5,624	5,782	6,380	6,906	6,544
Colorectal cancer immunoassay tests	310	277	412	436	861
Electrocardiograms	4,682	4,427	5,489	4,194	6,644
Mammography	1,026	760	573	626	406
Pap smear tests	1,572	1,198	890	766	1,169
Prostate cancer screenings	412	335	374	391	744
Screening tests	8,837	12,438	13,564	13,693	15,209
Immunizations	2,234	2,153	1,721	1,606	1,428
Total services provided	71,287	58,002	64,595	62,577	74,508

⁽¹⁾ All sites represented, except USA. Tours site (France) data missing for H2.

⁽²⁾ These tests are dedicated to employees working in manufacturing areas and on some specific maintenance operations.

Injuries/illness cost and savings (US\$m)

	2012	2013	2014	2015	2016
Injuries/illness cost	2.9	1.8	1.9	1.8 ⁽¹⁾	1.9
Results without action	8.5	9.6	9.2	8.2	8.4
Savings ⁽²⁾	5.6 ⁽¹⁾	7.8	7.3	6.4 ⁽¹⁾	6.5

⁽¹⁾ Errors corrected in previous year data.

⁽²⁾ Around US\$76m savings in 13 years.

Fines and total number of non-monetary sanctions in 2016

Health & Safety fine of RM 25,000 (US\$5,600) in Malaysia following 2015 subcontractor fatal accident (accidental explosion of a portable cryogenic liquid nitrogen container).

Number of fatalities

	2012	2013	2014	2015	2016
Employees	1 ⁽¹⁾	0	0	0	0
Subcontractors	0	0	0	1 ⁽²⁾	0
Total	1	0	0	1	0

⁽¹⁾ One employee fatality (at one of our Chinese plants) occurred while heavy equipment was being moved.

⁽²⁾ One subcontractor was fatally injured following the accidental explosion of a portable cryogenic liquid nitrogen container at our Muar site (Malaysia).

⁽¹⁾ ST considers subcontractors as independent contractors working on-site for more than 3 months.



ST Catania, Italy

Environment & Operations



23.6%
of energy
purchased comes
from renewable
sources



77
new responsible
products



91.3%
of waste is reused,
recovered or sent
for recycling

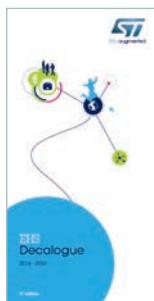
- 15 of our sites are ISO 14001- certified
- 99% of our supply chain smelters are conflict-free validated
- ST aligns its chemical management system with the IECQ QC080000 HSPM standard
- 90% of our eligible suppliers are committed to the EICC code of conduct



Environmental Efficiency

For over 20 years, ST has spread a culture of responsibility when it comes to the environment and we believe that this contributes to the long-term success of our business. Our environmental commitment is a strong characteristic of our identity and a genuine source of pride and motivation within the company. Our ambition is to contribute to a greener world, using a life-cycle approach starting from our supply chain and product design, through to manufacturing and product use. We also take a rigorous approach to systematically manage our business operations in an environmentally responsible way.

Environmental policy since 1993



EHS 5th Decalogue

Eco-footprint



Driving environmental efficiency

We believe we have a responsibility to society to protect the environment against the impact of our industrial processes and products. We are also convinced that caring for the environment makes good business sense and contributes to the overall efficiency of our company.

Our environmental policy has been in place since 1993. It is aligned with international and local regulations as well as the Eco-Management and Audit Scheme (EMAS) and the ISO 14001 international standard. Our policy defines and guides our strategy to help us:

- prevent pollution
- reduce our consumption of natural resources
- reduce waste
- minimize the social and environmental impact of chemical substances

Carlo Bozotti, President and CEO, oversees our fifth Environmental, Health and Safety (EHS) Decalogue (2014-2020), which defines ST's operational targets and commitments.

Our corporate EHS (Environmental Health and Safety) team, our facilities teams, and our site environmental champions all contribute to managing our environmental efficiency. They do this by implementing programs, defining procedures, monitoring performance, and spreading best practices. | [G4-DMA](#) |

Monitoring performance

Since 2001, we have been using an internal tool called 'eco-footprint', which allows all our manufacturing sites to evaluate, compare, and analyze their environmental performance. This helps us to identify room for improvement and to define the priorities to address.

We capture the inputs and outputs related to our manufacturing operations.

Inputs include:

- electricity
- water
- chemicals
- material intensity

Outputs include:

- waste
- global warming
- VOC (volatile organic compounds)
- acidification
- eutrophication
- heavy metals for Back-end sites
- fluoride for Front-end sites

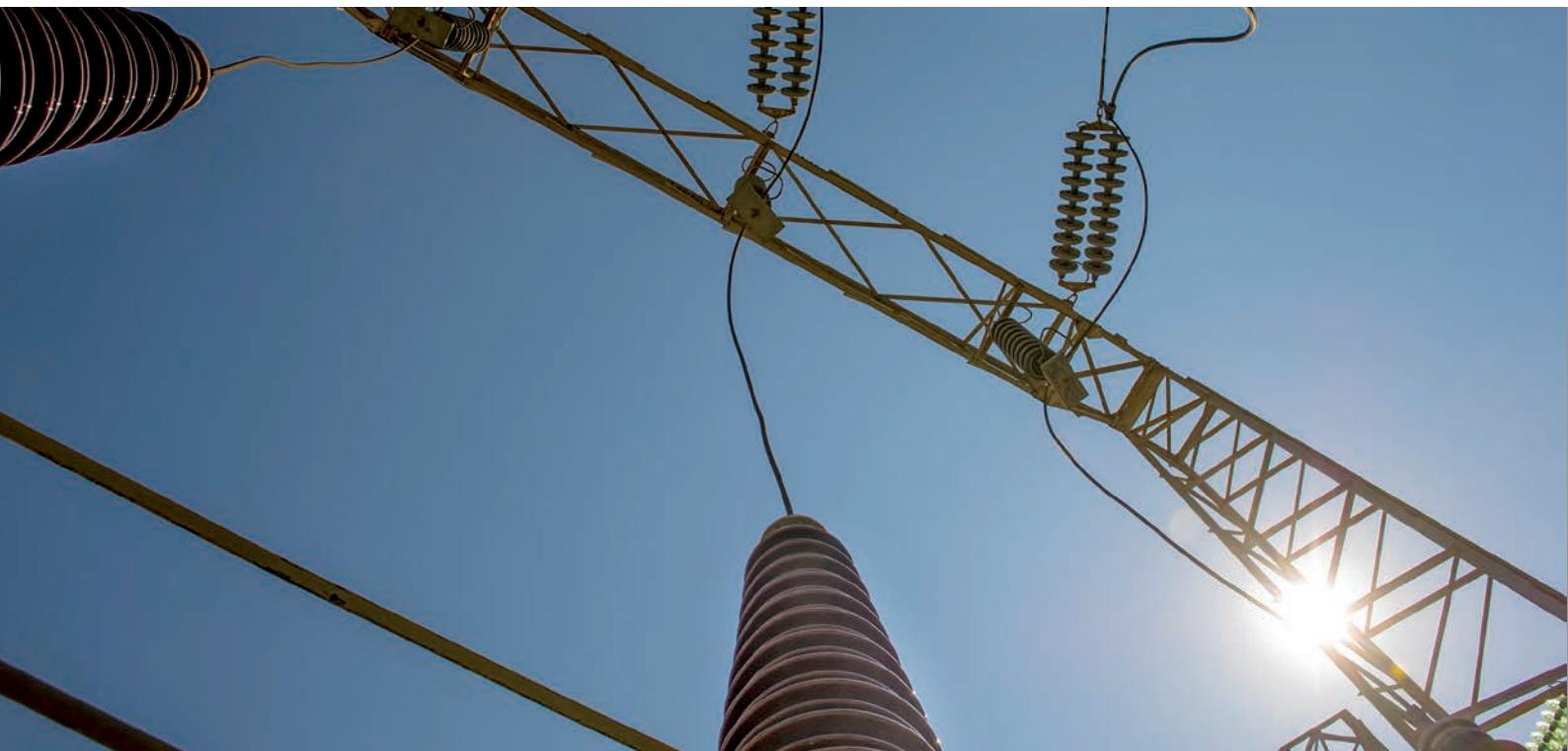
We indicate our footprint⁽¹⁾ by using a radar chart to compare how we perform against a best-in-class performance. The smaller the footprint, the better the performance, with a score of one or below being a good performance. Our global 'eco-footprint' has been below one since 2007. In 2016, we scored 0.86.

⁽¹⁾ Internal calculation method



Environmental Efficiency Energy

At ST, we minimize our energy consumption and associated carbon footprint by implementing energy-efficiency and conservation programs. We also maximize our purchase of CO₂-free and renewable energies. In addition, we work with external stakeholders to carefully monitor and anticipate developments in the energy market and to mitigate business exposure to climate change.



Energy supply, Catania, Italy

Our approach

Addressing energy issues

Creating the ultra-clean and stable production environment needed for manufacturing semiconductors requires a significant amount of energy. Consequently, ST has made energy management a priority since the early 1990s.

We run energy-management projects across all our sites, reducing our overall energy consumption and mitigating our indirect greenhouse gas (GHG) emissions under GHG protocol Scope 2.

We define our intentions in our fifth Environmental, Health and Safety (EHS) Decalogue. We review our objectives annually and continuously monitor our performance.

I G4-DMA

Robust management systems

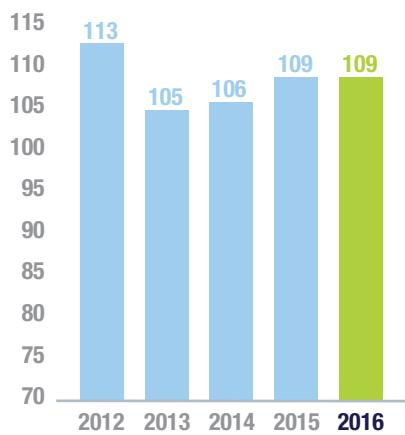
Since 1994, we have been developing our own internal methods and implementing management systems to comply with international standards. Since 2013, these efforts have been enhanced through ISO 50001 certification at all our Front-end sites, which are large consumers of energy. In addition ST Le Mans (France) was also certified in February 2016. ISO 50001 is helping us to improve our performance and drive process efficiency.

All Front-end sites are
certified **ISO 50001**

Energy footprint
reduced by 50%
in 20 years

Consumption of energy (per unit of production): normalized values

I G4-EN5 I



Baseline 100 in 2010.

More than
28GWh
saved in 2016



Christopher Galea
Plant Facilities Manager, Kirkop (Malta)

Our performance

ST has been working on reducing its energy consumption for more than 20 years. Although we have already halved our consumption per unit of production, achieving further improvement is still a key point of focus for our manufacturing organizations. In 2016, thanks to robust monitoring and energy efficiency actions, we managed to maintain our performance.

Energy efficiency and conservation

Improving energy efficiency and conservation reduces our environmental impact and brings economic benefits.

Saving energy at our sites

All ST manufacturing sites actively seek to reduce energy consumption according to their specific needs (see quote). These activities combined to save 28.7GWh of electrical and thermal energy during 2016.

Optimizing processes and replacing or upgrading equipment are important means of improving energy efficiency. Our energy teams are constantly analyzing options to implement energy-related upgrades or optimization to drive down usage.

A good example is the energy management efforts undertaken at ST Rousset (France), where the energy-saving activities implemented over the last five years have had an impressive result. While production has increased by 32%, absolute electricity consumption at the site has decreased by 2.3% and gas consumption by 15%. In 2016, ST Crolles (France) carried out a range of different actions. The 20 programs identified included an equipment retrofit, optimization of air conditioning, and the replacement of a preheat exchanger supplying ultra-pure water. This achieved a total electricity saving of 4.7GWh during the year.

Monitoring usage

We have put a rigorous and detailed monitoring in place to keep our energy consumption under control. Close analysis of energy usage in our processes and facilities highlights possible areas for improvement. It enables us to fine-tune settings and maximize energy efficiency by eradicating waste and delivering only what is needed precisely when it is needed.

As an example, ST Crolles (France) signed a contract with its plant facilities services supplier with a commitment to saving energy. Through smart monitoring done remotely by the supplier, who provided real-time data analysis and decision-making, the site has been able to identify opportunities to maximize equipment efficiency and to save 2.3GWh in 2016.

Introducing new equipment

When optimizing processes or upgrading equipment is not sufficient to reduce energy consumption, replacing old equipment is an alternative. For example, in our Muar site (Malaysia), the installation of a new, more efficient, and reliable consolidated cooling water system resulted in an annual energy reduction of 2.9MWh.

"In 2016, ST Kirkop (Malta) consumed around 91GWh, which amounts to almost 4% of total electricity usage on the island. Recognizing the responsibility this brings, we run a rigorous energy-reduction program that requires continuous investment in efficient equipment and optimized processes. In 2016, these improvements resulted in an overall annual saving of more than 5GWh, equivalent to 3,315 tons of indirect CO₂ emissions. Our responsibility to future generations drives us further on our journey of continuous improvement, in a socially and environmentally sustainable direction."



OBJECTIVES

	Status	Comments
Continually improve energy efficiency at equivalent production level (kWh per production unit) through process and facilities optimization, conservation and building design.		Our energy performance was the same as in 2015.
Yearly increase by 10% the quantity of green energy used by the Company.		Green energy sourcing increased by 5% compared to 2015.
By 2016, ensure that 90% of calls for tenders from US\$200k include criteria on energy efficiency and use of CO2 emission-free and/or renewable energy regarding facilities and site services.		70% of facilities tenders are compliant.

Greener sourcing

23.6% of purchased energy comes for **renewable** sources

Energy sources can either be direct (self-generated on site) or indirect (purchased from external sources). Energy comes from renewable sources (wind or photovoltaic, for example) or from non-renewable sources (such as fossil fuels, nuclear, or natural gas). At ST, the majority of the energy we use is electricity. Aware of electricity's fossil-fuel impacts on climate change, in 2012 we set a goal to increase the proportion of renewable energy we purchase every year.

Once again, in 2016 we demonstrated our commitment to responsible sourcing, increasing by 5% the percentage of renewable energy within the total volume of energy we purchase.

Our sites equipped with photovoltaic installations – Catania (Italy) and Grenoble (France) – contributed to our efforts to reduce global warming, by producing 1.9GWh of electricity in 2016.

LED lighting



FOCUS

Cutting energy and maintenance costs with LED lighting

We started the conversion to LED lighting in 2015, when it was decided to adopt LED as ST's dominant light source. Typically for ST, cleanroom lighting represents 4% of cleanroom electricity consumption, while in office space lighting represents 30%. Although lighting is not our largest energy expense, it does result in maintenance issues. Indeed, changing lighting equipment in cleanrooms running 24 hours a day is not easy to manage, as it requires specific authorizations and scaffolding.

Our Ang Mo Kio site (Singapore) was one of the first to fully convert cleanroom lighting by installing 17,000 LED lights, as the local electricity price is high. Overall we have cut our maintenance and energy costs by around 50%. The majority of our sites have joined this initiative. Thirty percent of Front-end and 15% of Back-end cleanrooms have already installed LED lighting.



Environmental Efficiency Water

We are committed to continuously improving our water efficiency, and in particular minimizing our use of water and ensuring high standards of effluent and wastewater treatment. We also control water-related risks and opportunities, including water stress assessment in all our manufacturing sites.



Water system, Rousset, France

20th edition

ST's water footprint reduced by more than **73%** since 1994

A material issue for all

Water is a limited natural resource that is important to ecosystems, people, and businesses. Its availability is increasingly impacted by climate change. Concerns about water supply, scarcity, quality, and pollution make water management a material issue that impacts ST along with all its stakeholders, from suppliers to local authorities and communities.

Addressing the issues

The processes involved in manufacturing semiconductors require large volumes of pure water. They also produce wastewater that can impact the environment. ST identified its impacts on water resources as a material issue in its first EHS Decalogue, released in 1995, and developed a strategy based on the '3R' motto: 'Reduce, Reuse, Recycle'. This strategy was then broadened to include water risk assessment. [I G4-DMA I](#)

Caring for local communities

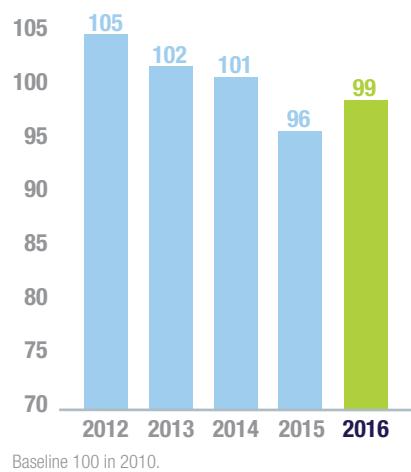
For most of our manufacturing sites, our primary water supply is local municipal water. This means our activities can affect local communities as well as the environment.

- Withdrawals can reduce the availability of water, so it is important for us to increase our efforts to achieve better water usage and conservation.
- Discharge of processed water can pollute, so it is important that we optimize our wastewater treatment processes.

All our sites engage with their local communities and authorities. They also collaborate with other companies to mitigate impact.

Methodology to assess water footprint

Consumption of water (per unit of production): normalized values



60

44% of water is recycled and reused

Controlling our operations

During 2016, all our manufacturing sites conducted self-audits of their water management systems and performance. These were based on the approach developed by a key ST customer, which audited four of our Front-end sites in 2015. For more information, see page 60 in our 2015 sustainability report. This provides a complete view of our global performance and water-related risks, and includes comparisons between sites. The audit results give us valuable insights that are helping us to continue working on this environmental priority.

Assessing our suppliers

After many years of saving water through process optimization and water recycling, at the end of 2014 we worked with Quantis to develop a methodology that enables us to assess our global water footprint. This approach means we can identify where water stress occurs, the major water-related risks of our operations, and our impact on local communities. As our overall water footprint includes elements that are internal (our operations) and external (our suppliers), our next step was to focus on our supply chain. In 2016, the organization that manages our Back-end sites used this methodology to map and identify the water-related risks of our suppliers. For more information, see the Focus below.

Water performance

Our absolute water consumption increased by 2.7% in 2016, during which 44% of our water was recycled and reused.

Recycled and reused total water

| G4-EN10 |

	2012	2013	2014	2015	2016
Total water used (1,000m³)	28,315	30,967	30,421	29,022	29,219
Water recycled and reused (%)	43.0	43.5	42.8	45.1	43.8

The water conservation programs we developed over the last year delivered water savings of 104,800m³ for our Front-end manufacturing sites. However, the performance in our Back-end manufacturing sites degraded (+8% consumption) due to an issue with wafer dicing equipment which impacted a water filtration unit in one of our sites.

Saving water on our sites

We encourage all our manufacturing sites to identify opportunities for optimizing their water use, to recycle, and to implement conservation programs targeting local issues. As a concrete example, in 2016, our Shenzhen site (China) supported a program to optimize water conservation and recycling; the site upgraded its water-recycling system, removing bottlenecks and increasing its recycling capacity. This has resulted in savings of about 1,100 tons of water per day and a water-recycling rate of 45%. Local government has confirmed and recognized the project's success, naming the site as the Outstanding Enterprise for Water Conservation. For more information, see quote on page 61.

Water risks



FOCUS

Water risk assessment in our supply chain

To better understand our indirect water footprint, our Back-end sites have applied the water-risk mapping methodology developed with Quantis to our supply chain. First, a survey was conducted to establish a list of priorities, actions, and a selection of suppliers. We analyzed our suppliers' water use, water intensity, and their business volumes with ST. Then, in 2016 we audited eight raw material suppliers, prioritized according to their level of consumption. Thanks to this review, we are now able to identify if a supplier's plant is water-intensive and whether it is located in a water-stressed area. We now intend to add this as an evaluation criteria in our supplier performance assessments.



Hai Liu

Project Leader, Shenzhen (China)

"As a water engineer, I participated in the upgrade of our water-recycling system during 2016. To meet more and more stringent environmental requirements, we are always seeking new ways to recycle water, optimize processes, and upgrade the system. Our team believes that challenges and opportunities coexist, and that saving water is a long-term task. When it comes to saving water, mindset is the most important factor. We always say, 'It's not sufficient to build a world-class water-saving system; you also have to ensure good conditions during operations.' I am very proud to have been part of this project and to have contributed to reducing our environmental impact. We will continue working to improve our system and to increase recycling rates."



OBJECTIVES

	Status	Comments
Continuously improve water efficiency at equivalent production level through water saving programs and water-recycling projects (cubic meters per production unit).		Water usage increased by 3% compared to 2015.
Remain among the best-in-class companies with a recycle rate at 45% or more.		Slightly below target with 43.8% of water recycled.



Leveraging the Carbon Disclosure Project (CDP)

ST has participated in the CDP's water-disclosure program since 2011. Once again in 2016, we achieved a score of B, on a scale of A (highest) to F (lowest). This is a good result that recognizes our commitment, programs, and activities aimed at reducing our water-related impacts. In 2016, 607 companies completed the questionnaire. The score is benchmarked against peer-group companies, and we scored above the industry average for our approach to risk assessment.

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Water treatment

Greener production of Ultra-pure Water

Our Front-end sites consume Ultra-pure Water (UPW) during the wafer manufacturing process. This UPW is produced by a stringent purification process using reverse osmosis, which involves purifying water through a special membrane to eliminate all contaminants, minerals, and hardness. This technology uses ion-exchange resins to remove minerals and heavy-metal contaminants. Once saturated, the resins are regenerated through the use of chemical products (hydrochloric acid and sodium hydroxide).

To optimize the production of UPW and reduce its impacts on the environment, our Tours site (France) has replaced its existing water demineralization station with a system that uses electro-deionization technology. In this process, saturated resins are regenerated by using electricity instead of chemicals.

This project, partially financed by the local public-sector water agency, 'Agence de l'Eau', is delivering environmental and safety benefits as part of ST Tours' environmental approach. It is contributing to reduced consumption of chemicals, and is consequently lowering the risks involved in handling and processing hazardous substances on-site. It is also contributing to a reduced impact on the municipal water treatment plant as less effluent is discharged.

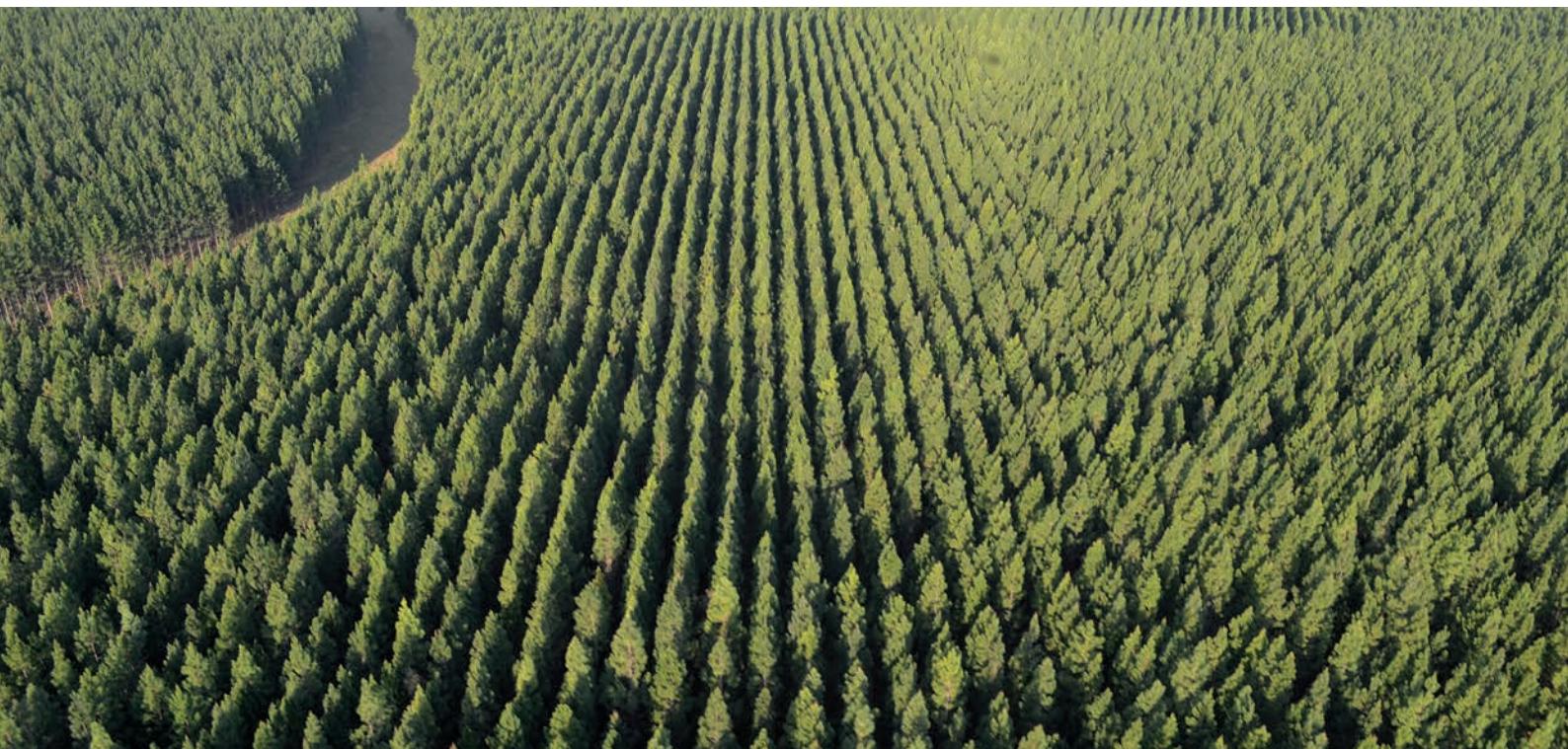
Preventing pollution

It is part of our strategy to consider the impact of our activities on the local communities where we operate. We therefore pay particular attention to avoiding pollution from the discharge of water from our manufacturing operations. Wastewater is treated in dedicated treatment plants, which are either located on-site or established in collaboration with local authorities. To remove any risk, polluting substances are eliminated first. Once a sufficient level of purity is obtained that is compliant with local regulations, water is discharged into the natural environment.



Environmental Efficiency GHG Air Emissions

We aim to minimize our direct and indirect greenhouse gas (GHG) emissions, including perfluorinated compounds (PFCs), in all our manufacturing and business operations. We also manage and reduce our impact from employee commuting and the transportation of our products.



ST forest, Australia

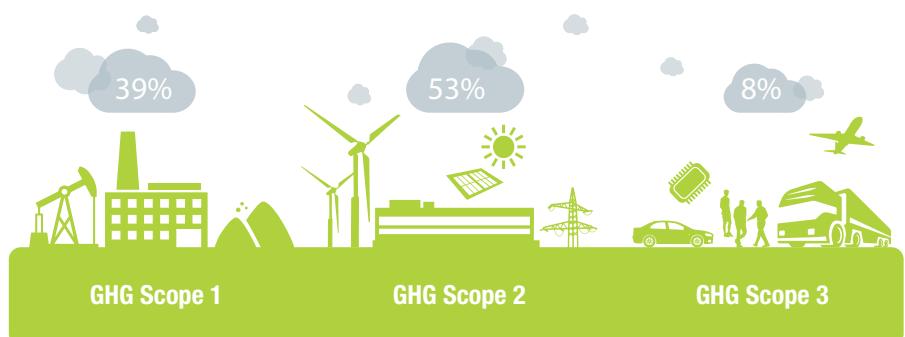
20th edition

Carbon footprint
per wafer **divided**
by 4 in 20 years

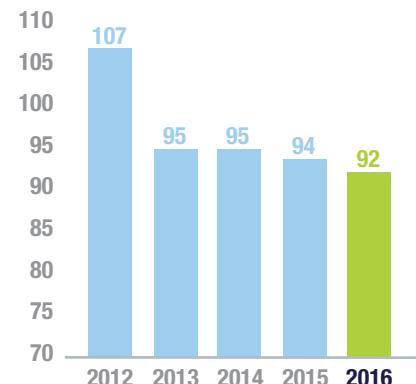
Considering our impact

Climate change is one of the greatest global challenges of our time. GHG emissions are a major contributor to global warming. By reducing them, ST can contribute to the protection of the global environment and people's health.

Responding to climate change is a critical issue on which ST has been focused for more than 20 years. We measure, manage, and report our direct and indirect emissions in accordance with Scopes 1, 2, and 3 of the Greenhouse Gas (GHG) protocol and Global Reporting Initiative (GRI) Guidelines. We describe our approach to managing our emissions according to Scopes 1 and 3 below. Our management approach and performance under Scope 2 are detailed in the Energy section on [page 56. | G4-DMA |](#)



CO₂ emissions: (per unit of production) normalized values [G4-EN18]



Baseline 100 in 2010.

48% of direct emissions compensated by our forests

Emissions related to transporting our products decreased by 17% in 2016

Mitigating our direct emissions – Scope 1

Ninety percent of our direct emissions result from our use of PFCs in our manufacturing operations. Even if the release of PFCs is relatively minor compared to overall GHG emissions, they persist in the atmosphere and make a significant contribution to global warming. We are committed to reducing our PFC emissions by 30% by 2020, using 2010 as the baseline. This objective is aligned with the World Semiconductor Council's 2020 climate-change target.

ST has reduced its PFC emissions by 76% since 1995. In 2016, we continued our actions to reduce our PFC emissions, achieving a reduction of 2.7% versus 2015. However, we realize that we need to make further efforts and investments in order to reach our 2020 objective. This is one of our environmental priorities for 2017.

Reducing our GHG impact

We can reduce the direct emissions that result from our manufacturing operations in two ways: by developing greener manufacturing processes; and by installing abatement systems for new and existing equipment.

We urge all our manufacturing sites – and especially those with higher emission rates – to develop new manufacturing techniques, to optimize their processes, and to use alternative chemicals and gases with little or no global-warming potential.

Those manufacturing sites equipped with abatement systems are able to control their emissions. PFCs are first incinerated, then any residual waste is treated by water scrubbers. In this way, any pollution is transferred from air to water, which can then be properly treated.

Compensating through sequestration

To compensate for our remaining direct emissions, we have developed several CO₂-sequestration programs using reforestation projects. Between 2002 and 2005, ST planted trees in Australia, Italy, Morocco, and the United States. In 2016, the 9,000 hectares of forests planted in this way sequestered an estimated 269,350 tons of CO₂, compensating for more than 48%⁽¹⁾ of our annual direct emissions.

Reducing emissions from transport – Scope 3

In 2016, we continued to carry out initiatives aimed at reducing the GHG emissions that result from the transport of goods, commuting, and business travel (three of the 15 categories covered by Scope 3 of the GHG protocol). This represents 8% of our total GHG emissions.

Commuting by employees

Changing the way we commute to work can provide economic, environmental, and social benefits. Many of our sites have innovative commuting programs in place and have developed alternative green transport options.

In one example, our Agrate site (Italy) has worked with the local authorities to optimize bus routes and timing. The site has also implemented actions such as:

- contributions to public transport costs to give employees an incentive to use public transport
- dedicated parking close to the site entrance for those using car pools
- free-of-charge electric-vehicle charging stations
- dedicated bike-stands and changing rooms with showers for cyclists

In 2016, global emissions related to employee commuting were reduced by 2.4% versus 2015. They represented a total of 46% of our Scope 3 emissions.

Business travel

Business travel represented 16% of our Scope 3 emissions in 2016. To reduce the need for travel, we have installed 41 video-conference rooms in 36 sites, enabling employees to participate and collaborate in face-to-face virtual meetings.

Goods transport

Taken individually, ST products are extremely small and light. However, the total volume combined with worldwide shipping contributes to a non-negligible part of ST's Scope 3 emissions.

In 2016, we continued our efforts and decreased emissions related to the transportation of our products by 17%. The actions leading to this result included minimizing packaging, optimizing the loading of containers, better planning of routes, and reducing air freight wherever possible.

⁽¹⁾ Internal calculation method.



Dr. Kenneth W. Farrish

Professor and Director
Stephen F. Austin State University

"In 2000, ST began a forest-restoration project in collaboration with the Arthur Temple College of Forestry and Agriculture at Stephen F. Austin State University. In this project, 1,396 hectares of marginal farmland in East Texas were planted with over 1.7 million native loblolly pine seedlings.

Trees capture atmospheric carbon dioxide and incorporate the carbon into woody biomass. To date, the restored forests have sequestered over 300,000 metric tons of carbon dioxide, as well as improving wildlife habitat and water quality. The sustainably managed forests are now being thinned, with the proceeds of this harvest providing scholarships for students studying forestry and environmental science. The forests also serve as a living laboratory for teaching and research. We are very proud of this successful joint venture with ST, which is producing significant benefits for both the environment and education."

Working with the industry

Since the early 1990s, ST has collaborated with external organizations to support an industry-wide focus on GHG.

In 2016, ST experts continued to work closely with peers on resource conservation and many other EHS issues at the World Business Council for Sustainable Development (WBCSD) and the European Semiconductor Industry Association (ESIA). ST actively participates in different working groups. In particular, we coordinate the groups focused on reducing CO₂ and other GHG emissions.



Sharing our performance via the Carbon Disclosure Project (CDP)

We have participated in the CDP initiative since 2004. This provides a system to monitor how major companies perform in the management of their GHG emissions. It helps us to identify risks and opportunities and to compare our performance with other semiconductor manufacturers. In 2016, we again maintained our good score of B, which is above the industry average.



OBJECTIVES

	Status	Comments
Direct emissions (Scope 1): reduce PFCs emissions (tons CO ₂ per production unit) by 30% by 2020 from 2010 baseline.		PFC emissions reduced by 2.6% compared to 2015.
Indirect emissions (Scope 2): decrease CO ₂ indirect emissions through our energy management programs.		Scope 2 emissions reduced by 1.1% compared to 2015.
Transportation emissions (Scope 3): reduce CO ₂ emissions (tons CO ₂ per production unit) from transportation and logistics for our products, materials and employees.		Scope 3 emissions reduced by 16% compared to 2015.

Greener commuting



FOCUS

Supporting sustainable commuting

ST Rennes R&D (France) launched its commuting plan in 2014. The site joined the sustainable commuting program of the Rennes metropole, involving the deployment of maps for car-pooling, secure storage areas for bikes, and refunds on bus fares.

In 2016, signing up to a 'quality-of-life at work' agreement gave new impetus to our efforts. Green initiatives were supported throughout the year, mainly relating to public transport and commuting by bike.

To ensure employee safety, a bike technician spent one day on site, offering employees his services free of charge. The site also provided two self-service bikes to help people try commuting by electric bicycle. These initiatives were appreciated by the employees and received good support. In October, the Rennes metropole awarded the site its 'sustainable commuting label'. Inspired by this success, and as commuting by bicycle is not appropriate for all employees, in 2017 the site is focusing on extending its car-pooling operation to all companies in the area.



Environmental Efficiency Waste

We continually reduce, reuse, recycle, and manage all our manufacturing sites' waste streams, including hazardous substances, metals, packing, plastics, and other non-biodegradable materials.



Waste sorting, Tours, France.

Waste hierarchy



Our management approach

Waste management is a key area of concern, as taking the wrong action at any point from generation to final disposal can potentially affect people's health and the environment.

Even when waste management is driven by national and local regulations, we strive to go beyond compliance. In following our fifth EHS Decalogue, we prioritize solutions for reuse, recycling, and recovery over other disposal solutions. We also identify the most appropriate option for final disposal, as far as possible avoiding sending waste to landfill. We do our best to increase our recycling rate by carrying out separate collections (covering more than 30 different categories of waste) and transforming waste into resources. | [G4-DMA](#) |



OBJECTIVES

Remain among the best-in-class companies with a reuse and recycle rate at 90% or more.

Status



Comments

91.3% of waste reused, recovered or sent for recycling in 2016.

Remain among the best-in-class companies with landfilled waste rate at 3% or less.



Slightly above target with 4.8% of waste sent to landfill.



Fabienne Moisson
Environmental Engineer
Rousset (France)

"In 2016, we worked on improving the waste-sorting and storage areas we now call 'eco points'. We enhanced our labelling to identify and optimize the sorting of each type of waste. We also posted pictures of waste, segregation instructions, safety directives, recycling objectives, and information on reuse on each container. To ensure that everybody deposits waste in the correct container, we shared this approach to raise awareness among our subcontractors, many of whom participate in this activity. I am pleased to see the progress we've made over the last 20 years and that we can still find new opportunities for improvement. In 1996, we had three different containers: today there are 20. In 2016, 97% of ST Rousset waste was reused, recovered, or sent for recycling."

More than 91%
of waste is reused,
recovered, or sent for
recycling

Waste performance

The way waste is treated depends on local capabilities and the characteristics of the waste involved. In 2016, 91.3% of the waste generated through our operations was reused, recovered, or sent for recycling, achieving our objective of being a best-in-class company. Despite this, 4.8% (almost the same as in 2015) of our waste was sent to landfill and the rest for incineration. In 2017, we continue our efforts to reduce our landfill waste and achieve our target of 3%.

Based on local regulations, initiatives, and capabilities, each site identifies specific projects to reach their challenging targets, seeking innovative ways of treating or eliminating waste streams or even converting them into sources of revenue.

Waste in tons

| G4-EN23 |

	2012	2013	2014	2015	2016
Total hazardous waste	12,624	11,031	10,644	10,406	11,291
Total waste	37,511	36,091	34,472	34,571	34,041

Waste split⁽¹⁾ (%)

| G4-EN23 |



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

Generating value from our waste

Using waste to create value benefits the environment, people, and ST. Where possible, therefore, we look for opportunities to valorize the waste we generate. We always seek to understand if waste can become a resource for another form of usage, within or outside our industry.

- Spent resin and sludge are used by the cement and brick industry.
- Deflashing waste powder is sent for precious metal recovery.
- Sulfuric acids are used for batteries destruction.
- Electronic waste is dismantled; some parts are reused and precious metals are recovered.
- Solvents are burned and the energy recovered.
- Paper, cardboard, plastics and wood are recycled.

In 2017, we are pursuing our efforts to progress towards a circular economy.

Controlling hazardous substances

Our various manufacturing processes can generate hazardous or potentially hazardous waste, such as chemical substances and contaminated plastics. We pay particular attention to each type of hazardous waste (liquid or solid) that can impact the environment or people's health and safety, and seek to identify the best solution from all available treatment technologies.

In 2016, 93.4% of hazardous waste was reused, recovered or sent for recycling. The remaining waste was disposed of and treated locally by specially authorized companies. Where there is no local authorized treatment plant, hazardous waste is safely transported to a location where it is properly treated, in full accordance with the Basel Convention. In 2016, 1.3% of hazardous waste was transported from Kirkop (Malta) to France.

Auditing our suppliers

Waste does not disappear when it leaves our sites. It still needs to be properly treated and disposed of. To avoid as far as possible any environmental contamination resulting from our operations, we maintain very strict control over the whole waste-management process.

In 2016, we completed the audit program initiated in 2015 of our waste electrical and electronic equipment (WEEE) disposal suppliers. As a result, the 15 eligible sites (manufacturing, large non-manufacturing, and design) all audited their key local suppliers. The information that was collected shows that our electric and electronic waste is correctly dismantled and reused through a raw-material valorization process. These audits help us to control the waste-recycling or reuse activities conducted by our subcontractors. It helps us to identify any risk and opportunities for improvement, and it enhances the collaboration with our suppliers.

Local WEEE disposal suppliers audited

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Waste management in Morocco



FOCUS

Solid waste management in Bouskoura (Morocco)

Our Bouskoura site (Morocco) is committed to the environment and therefore to using the most responsible ways of managing the solid waste generated by its activities. The site bases its solid waste management on co-processing the waste that cannot be reused or recycled. This process recovers energy and mineral components, which are used to manufacture cement.

The waste management program includes:

- careful selection of partners
- robust audit program for suppliers
- daily monitoring by a field team
- internal audits

Thanks to these efforts, the site made considerable progress in 2016, achieving a 99% reuse, recovery, or sent for recycling rate, hence reducing the percentage of waste sent to landfill to less than 1%.



Environmental Efficiency Chemicals

At ST, we control and reduce the environmental, health, and safety risks posed by the chemicals and materials used in our manufacturing processes. We achieve this by using precautionary principles when selecting, handling, and substituting them.



Diffusion wet bench, Rousset, France

The processes involved in manufacturing semiconductors require significant quantities of chemicals, especially in Front-end activities. Because they can present hazards to the environment, health, and safety, these chemicals are subject to stringent regulations.

Since its first EHS (Environmental Health and Safety) Decalogue in 1995, ST has been engaged in the responsible management of the chemicals and materials used in its operations.

A global approach

Precautionary principles

We have a long-standing commitment to applying the precautionary principles. As long ago as 1996, we adopted a strict policy to assess the impact of new chemicals on the environment, safety, and health.

This policy stated: "No new production or non-production chemical and no product containing a new chemical will be brought on-site until it has been evaluated. No new equipment requiring the use of a new chemical will operate on the site until the new chemical has been evaluated for its potential impact on the environment or on the site's environmental control/abatement system."

Twenty years later, this statement is still valid and continues to govern how we manage our chemicals. **I G4-14 I**

20th edition

Chemicals
policy in place
since 1996



OBJECTIVES

Strive towards continuous control, reduction or elimination of risks and of substances of concern in our processes and activities for an environmentally friendlier, safer and healthier working place.

Status Comments



See article.

Adopt an approach based on precautionary principles when assessing the EHS impacts of new operational processes, chemicals, and materials.



New chemicals are constantly evaluated prior to entering into ST premises, see article.

Dedicated site chemical committees

ST procedures require each manufacturing site to adopt precautionary principles. In addition, they must assess the impact on the environment, health, and safety of any new processes, chemicals, or materials. Each site manager is responsible for safety processes and acts on the recommendations of the site chemical committee, which evaluates, defines, and authorizes the use of chemicals.

Membership of each site chemical committee consists of people from several functions, including EHS, Purchasing, Facilities, and R&D, as well as engineers and physicians.

Chemical risk assessments

Chemical products are subject to rigorous risk assessments. They are screened and evaluated based on hazard identification, engineering aspects, and personal protective equipment. Analyses are carried out at least once a year, and more often if there is a potential concern. In 2016, 453 chemicals were evaluated before being introduced on-site. Each chemical is evaluated for each location of use, including maintenance and waste.

To ensure that using and handling chemicals does not harm employees' health and safety, we carried out 11,947 industrial hygiene measurements during the year. In these 93% of results were below the detection limit and the remaining 7% within the safety limit, showing that the health of our employees is adequately protected.

Emergency preparedness planning

There are two main steps in ST's emergency preparedness process:

- first, assess the risk of sudden releases of chemicals or other noxious materials
- then plan for emergency response if preventive measures fail

Every site has an emergency response team trained to coordinate operations and use firefighting equipment, breathing apparatus, chemical protective clothing, and spill kits in the event of a chemical accident.

453 chemicals evaluated in 2016

New installations for lead alternatives



FOCUS

The AMG laboratory at ST Napoli (Italy)

This laboratory is designed to carry out research into the application and characterization of devices, and to undertake R&D of processes and materials.

Since 2015 one part of the lab has focused on the manufacturing process, which uses traditional lead-containing chemicals. Now it can safely deposit a commercially supplied Lead Zirconate Titanate (PZT) gel solution onto a wafer. Both the spin-coating and first thermal curing in the operation take place in a glove box, meaning the system is entirely enclosed to ensure there is no human exposure during the process.

In parallel, we anticipated changes to the EU's Restriction of Hazardous Substances directive on the use of substances including lead in electrical and electronic equipment. Therefore a part of the laboratory is developing alternative lead-free material for piezo-electric thin-film technology. As a result, we have synthesized a new material – Barium Zirconate-Titanate/Barium Calcium-Titanate (BZT-BCT). Relevant tests of its piezo-electric performance are planned for 2017 to compare it with the established material and eventually improve the properties of the new, lead-free alternative.

2,700 regulated substances



ciena
WaveLogic Ai

Chelakara Vaidyanathan
Procurement, Networking Platforms
Division
DSP & Semiconductor Component
Engineering
CIENA, ASICs, Si

"As a leader in the telecom industry, it's important for Ciena to keep the business on track and to procure high quality products to customers. We adopted a proactive approach for ensuring the products we sell do not contain restricted substances.

Ciena decided to go beyond legal compliance and to remove future restricted substances from our products ahead of the scheduled time. We identified strategic partners and ST was the first supplier we shared this objective with. Since 2006, we have been regularly looking at the number of exemptions and available technology to replace restricted substances. In 2011, we achieved a first step by removing lead in the die attach process. In 2016, we requested ST to convert all ST production for Ciena to lead free full compliancy without any RoHS exemption. By allocating the right resources, a good solution at the level we expected was provided. Product was qualified in August and lead free products will be on the market in 2018, one year ahead of regulatory requirements. We appreciate this long collaboration and we believe ST could do even better if it could address the restricted substances issue in a more proactive way and bring a solution to Ciena before we ask for it."

Adhering to the highest standards

Regulatory compliance

We implement the highest standards across our manufacturing activities and supply chain to ensure that all chemicals used in ST operations and ST products are legally authorized. Certification to ISO 14001 and OHSAS 18001 underpins our management systems.

In 2016, 5,040 chemicals were used in ST manufacturing sites. They have been evaluated using ST's EHS-regulated substances list, which contains more than 2,700 substances. This list is annually reviewed and updated to comply with standards and regulations (such as REACH⁽¹⁾, RoHS⁽²⁾, and ELV⁽³⁾) and to meet our customers' requirements. It is also communicated to all our suppliers and subcontractors, who validate and confirm their compliance through certification, safety datasheets, and written commitments.

In accordance with the IPC 1752⁽⁴⁾ standard, we use the material declaration process to report externally on the composition of all our products and track the presence of substances.

Anticipating change

Regulations and authorizations governing the handling and storage of chemicals are continuously evolving. Any changes and new restrictions affecting chemicals needed in our manufacturing processes can impact upon our ability to produce. We must therefore ensure not only that the semiconductor industry complies with current regulations, but also that it is prepared for future change. For this reason we collaborate with several organizations, including the World Semiconductor Council (WSC), the European Semiconductor Industry Association (ESIA), and other semiconductor manufacturers. Together, we seek alternatives to hazardous substances and ways of anticipating legislation. Our R&D departments are also working to identify alternative processes and materials. See Focus on [page 69](#) and quote.

Reduction and management

Substituting and eliminating hazardous substances

One of our key challenges is to comply with regulatory requirements while ensuring continuity of production. Manufacturing semiconductors is a complex process, and many steps within it require hazardous substances and materials. Any elimination or substitution can therefore lead to a very long process of qualification and implementation. Wherever possible, we develop a substitution or reduction strategy. The voluntary PFOA⁽⁵⁾ related substances reduction program, for example, has resulted in a 28% reduction in the use of hazardous substances and materials since its initiation in 2014.

Some substances identified as 'Substances of Very High Concern' (SVHC) under REACH cannot be eliminated or substituted. In such cases, we implement strict risk-management measures and administrative controls.

ST exposure to Substances of Very High Concern (SVHC)

	2012	2013	2014	2015	2016
SVHC	138	151	161	168	169
ST concern	18	20	21	22	22
ST concern Annex XIV	1	1	1	1	1
Replaced	5	5	5	6	7

Hazardous Substances Program Management

In 2016, we continued to implement our Hazardous Substances Program Management (HSPM) systems, which are designed to collect data and analyze, monitor, and report any hazardous substances used in ST products.

⁽¹⁾ REACH: Registration evaluation and restriction of chemicals

⁽²⁾ RoHS: Restriction of Hazardous Substances

⁽³⁾ ELV: End of Life of Vehicle

⁽⁴⁾ IPC: Association Connecting Electronics Industries

⁽⁵⁾ PFOA: Perfluorooctanoic acid



Sustainable Technology

At ST we take into consideration the environmental impact of the entire life cycle of all the products we design, from raw material extraction to end-of-life. We also identify and promote innovative products that provide society with environmental and social benefits, such as reducing the energy consumption of end-applications, saving resources, protecting the environment, and providing solutions that improve the end-user's quality of life.



Electronica, Munich, Germany

REACH and RoHS compliant

Sustainable Technology program

Any focus on product characteristics that are linked to sustainability helps to drive external interest. ST launched its Sustainable Technology program in 2011 with a view to anticipating requests from the market and increasing competitive advantage.

The program, which provides a common framework comprising all the elements that connect products with sustainability, has three main pillars:

- Product Compliance: covers legislation and customer requirements regarding REACH, RoHS, and conflict-free minerals
- Responsible Products: identifies innovative products that provide clear environmental and social benefits
- Eco-design: when designing products, systematically takes into account their environmental impact across the entire life cycle

I G4-DMA I

Product Compliance

Our products are branded ECOPACK® and meet all applicable requirements, including REACH and RoHS.

To eliminate forbidden chemical compounds from our manufacturing lines and products, we have a Hazardous Substances Process Management program (HSPM) in place.

Our Conflict Minerals policy and status is covered in the Supply Chain Responsibility section on [page 74](#).

Regarding ECOPACK®, in 2016 we continued to make progress in eliminating hazardous chemical compounds from the products we manufacture. ECOPACK®2 is confirmed as our internal standard for ensuring product compliance to environmental requirements. This is illustrated in the table on [page 81](#). I G4-DMA I



OBJECTIVES

Systematically apply Sustainable Technology criteria during the product development process to identify Responsible Products.

Status Comments



Identification process applied for all new products, see article.

Responsible Products

The Responsible Product label is granted when a product demonstrates that the use it is designed for brings social, energy-saving, or environmental benefits.

The **social** category is for products that improve end-users' quality of life. This includes health-related products, safety or personal security applications, and social solutions for use in developing countries.

The **energy-saving** category is for products that reduce the energy consumption of the device, or enable customers to reduce the energy consumption of their application.

The **environmental** category is for products which:

- reduce the consumption of other resources (paper, plastic, water, or chemicals)
- reduce carbon emissions by lowering energy consumption or by switching to green energy (including car electrification)
- enable the production of renewable energy (such as solar panels)

In the Responsible Products program, we evaluate our products and then award stars to indicate their value to society, awarding one, two, or three stars according to the level of innovation achieved by the product. The awards are managed in our Project Management System (PMS), the tool used throughout the Company to develop new products.

Star classification for new products in 2016 | G4-PR3 |



3 star environmental Responsible Product



FOCUS

Performance, energy efficiency, and high integration at affordable cost

Our STM32F413 product, which increases the energy efficiency, improves flexibility, and integrates more features into our high-end STM32F4 microcontrollers, has been awarded 3 stars in the environmental category (and also 1 star in social and 1 star in energy saving categories) of our Responsible Product program.

The STM32F413, along with its crypto-enhanced companion STM32F423, enables our customers to create high-performance embedded products targeting always-on sensor acquisition or general-purpose industrial applications. This is thanks to their wide range of integrated peripherals for memory, connectivity, and security.

As one of its target applications, STM32F413 is perfectly designed for the new generation of domestic smart power meters that reduce energy consumption. It brings the capability of: interfacing with sensors, implementing complex decision algorithms, managing interactions with end-users (via displays and buttons), supporting secure firmware upgrades for maintaining the device, and communicating with home automation systems.

Eco-design

Our Eco-design program ensures that when designing products, we systematically take into consideration the environmental impact of the device during its whole life cycle. This covers raw materials, manufacturing, transportation, usage, and disposal. The program systematically tracks key indicators to encourage our product-development teams to implement green designs wherever possible. This minimizes our products' impact on the environment. **I G4-EN27 I**

Thanks to the PMS, Eco-design is integrated throughout the product-development process as presented in the diagram below. This shows that an Eco-design evaluation, which requires the completion of a checklist, is mandatory at the New Product Request stage. This can be optionally reviewed at the design approval certificate stage. A final consolidation of Eco-design indicators is mandatory at the product qualification certificate stage, before the product enters production.



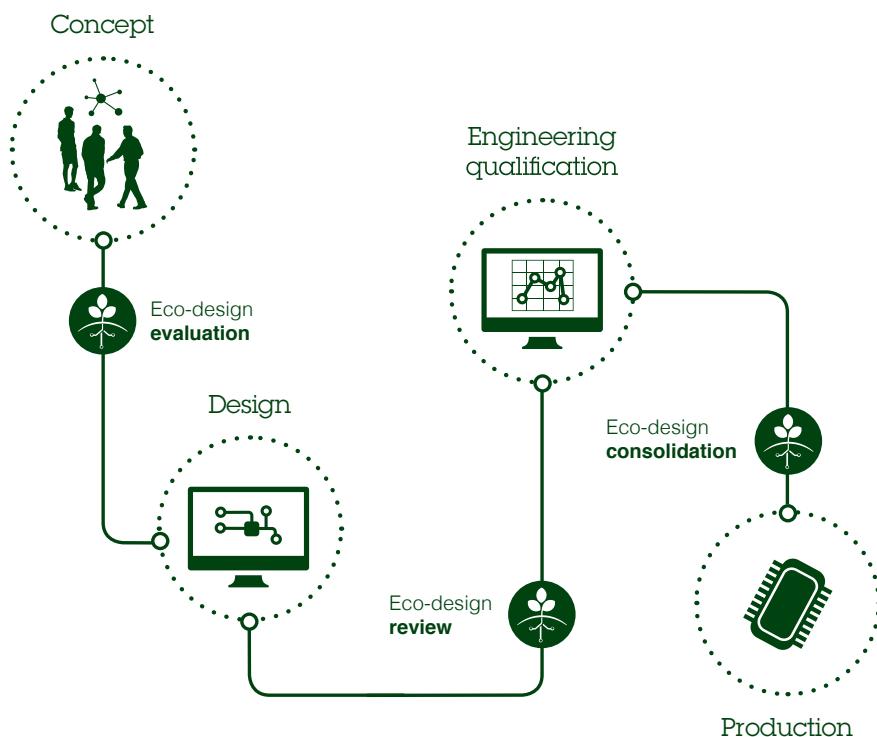
Mario Aleo
General Manager
Power Transistor Division

"Power transistors are the fundamental means of converting energy from power grids or batteries, to any powered equipment. By improving their efficiency, we can improve the global power infrastructure and contribute to a more sustainable use of energy.

We aim to contribute to reducing global energy consumption by introducing newer technologies that increase efficiency by at least 10% per year. Consequently, to ensure we achieve our goal, we also need to increase our production volumes and convince our customers to adopt the newest technologies.

Driven by this philosophy, we recently designed highly innovative Silicon Carbide transistors which reduce power dissipation by about 50% compared with existing MOSFET or IGBT transistors.

It is an R&D, manufacturing, and quality challenge but we are really proud to have started this journey, as we believe this is particularly key in the automotive sector, for on-board chargers and mains inverters for the next generation of vehicles."



73

2016 achievements

In 2015, ST embedded Eco-design and Responsible Product information in the PMS. This was a major step forward and a key driver for the deployment of the Sustainable Technology program. It ensured the systematic application of the Responsible Product process for new products, and made it possible to automatically extract Responsible Product data.

Developers of new products now have to systematically apply Sustainable Technology criteria during the product-development process to identify Responsible Products. During 2016, we identified 77 new Responsible Products. The proportion of new Responsible Products represented has grown from 27% of the products registered in the PMS in 2015 to 34% at the end of 2016. Over the same period, the total number of new products listed in the PMS also increased.

The training program for the deployment in PMS was initiated in 2015. Deployment continued in 2016, reaching more than 300 people from our product development teams, involving project management, marketing, design, and quality communities. In addition, to develop the competitive advantage of this program further, a working group involving product marketing representatives created a promotional brochure in 2016, available on www.st.com/sustainable-technology. A new pictogram was also created to highlight the green and socially responsible attributes of our new products. The next step for the program is to disseminate the pictogram and brochure to our marketing and sales teams, who will use them to promote our Sustainable Technology as a competitive advantage.



Supply Chain Responsibility

At ST, we are committed to partnering only with suppliers who share our values and social responsibility standards. Our objective is to contribute positively and tangibly to progress throughout the electronics supply chain. We conduct regular assessments and audits to monitor the performance of our suppliers. In these, we address areas such as social performance, ethics, safety and the environment, including conflict minerals and hazardous substances.



Suppliers EHS meeting, Crolles, France

90% of our procurement volume is involved in social responsibility programs

Extending the scope

Supply Chain Responsibility has been deeply embedded in ST's sustainability culture for more than 10 years, during which time we have been increasingly scrutinized by stakeholders. We have therefore progressively extended our supply chain management, using tailored programs now covering close to 90% (by procurement volume) of our suppliers and subcontractors.

Initially we focused our approach on those key suppliers in our manufacturing segments that represent 75% of our total procurement spend. However, over the past two years, we have extended our attention to cover indirect services managed at site level that constitute a significant part of our procurement. | **G4-DMA** |

Social responsibility standards in the supply chain

We monitor our suppliers and subcontractors through an incremental engagement model that is based on the Electronic Industry Citizenship Coalition (EICC) standards covering social performance, ethics, safety, and the environment. See table on [page 80](#). We further complement this approach by encouraging key suppliers to have ISO 14001 certification or EMAS validation for the environment and OHSAS certification for safety. See table on [page 80](#).

OUR SUPPLIERS

Procurement volume



Direct manufacturing (Equipment, material, suppliers, subcontractors)



Indirect services (Canteen, dormitories, labor agencies,...)



Others (ICT, patents,...)



I G4-12 I

More specifically, we also address the key topics of:

- conflict minerals, using the Conflict-Free Smelter Initiative (CFSI)
- hazardous substances (see page 68, Chemicals)

As a first step, we ask all new suppliers undergoing our due diligence process to sign a declaration committing them to our standards.

Due diligence across the global supply chain

We map our risks based on three main criteria: supplier categories; business volumes; and in-region risks. These determine the areas to be monitored and the level of due diligence to be undertaken.

Our incremental engagement approach

In our opinion, ongoing dialog and a long-term approach that is based on regular assessment and verification are key success factors for engaging suppliers and driving sustainable progress in social performance, safety, and the environment.

Depending on the risk level, we deploy the following progressive steps to drive continuous improvement and make a positive impact on our supply chain.

- **Step 1:** we require that a commitment to our standards is included in contracts.
- **Step 2:** suppliers are required to complete a Self-Assessment Questionnaire (SAQ) and Corrective Action Plan (CAP).
- **Step 3:** we carry out an audit and require a CAP.

We continually review and challenge our objectives for coverage and performance while taking business requirements and stakeholders' expectations into account.

2016 achievements

- **Commitment:** over 90% of eligible suppliers signed a letter of commitment. We doubled the number of signatures obtained by involving around 200 local suppliers across 40 sites for the first time. Our local procurement teams were the key drivers of this achievement, which gives us a solid basis for more mature engagement on our standards and tangibly mitigates ST's local risks. See Focus: Human rights in local supply chains on page 77.
- **Assessment:** more than 75% of eligible suppliers completed an SAQ for each of their operating entities. This number rose to 84% for key manufacturing suppliers – an increase of 9% over 2015. For the first time, we also carried out an SAQ among local suppliers at our major sites, achieving a very good participation rate of 60%.
- **Audit:** more than 50% of manufacturing subcontractors by procurement volume underwent a third-party EICC audit covering at least one of their facilities producing for ST. Our Front-end subcontractors are the main contributors to this success, jumping from 13% coverage in 2015 to 70% in 2016. We also initiated a broad audit plan in order to achieve 80% coverage of our local suppliers before the end of 2017.



H.D Arsum

Director - Labor agent PT Dian Yoga Perdana
Supplies Indonesian manpower to ST Muar (Malaysia)

"Our company has been audited by ST to ensure that our recruitment process complies with EICC standards.

We used to face challenges when sending workers to Malaysia before this, because workers were made to pay recruitment fees. They reported grievances, which had an impact on our reputation.

When we started supplying workers to ST, however, the process became more effective. Staff were trained, and there was higher trust from workers. More favorable recruitment practices included pre-interview briefings, contracts written in local languages and fees being borne by ST.

Worker feedback has been positive, and they feel better protected when working with ST. We share this view when we compare their practices with other employers."



OBJECTIVES

	Status	Comments
Deploy and control ST Hazardous Substance-Free programs to suppliers and subcontractors.		Fully deployed to eligible population. Objective 2017: Deploy ST new hazardous substances specification to eligible suppliers & subcontractors.
Maintain CFSP compliance for 100% of smelters in product supply chain and extend due diligence to evaluation boards.		Slightly below target with 99.4% of smelters verified by end 2016. Due diligence of evaluation boards in progress. Objective 2017: Extend the scope of Responsible Raw Materials to include cobalt and conduct a full risk analysis.
Create and implement a process to engage local suppliers in sustainability programs including audits.		Program in place. See article.
Ensure 80% of key suppliers are involved in the EICC program, and continuously improve their performance.		93% of eligible key suppliers signed the commitment, and 84% completed an SAQ. Objective discontinued.
Ensure 80% of all eligible local suppliers have signed an agreement to comply with the EICC code of conduct.		87% of eligible local suppliers signed the commitment. Objective 2017: 90%.
Ensure 80% of all eligible local suppliers are audited by end of 2017.		On target. See article.
No high-risk key supplier in our supply chain based on EICC SAQ results, and all key suppliers with corrective actions in place.	NEW	

Our key sustainability programs

In addition to our global approach, we have specific programs to address the environmental, safety, hazardous substance, and conflict-mineral risks in our supply chain.

- **Environment:** 81% of our eligible key suppliers are ISO 14001 certified or EMAS validated. As well as subcontractors, they include Front-end and Back-end suppliers of materials, equipment and spare parts. In addition, material suppliers complete emissions indicators for waste, water and GHG. In 2016 we continued to audit our local electronic-waste contractors (see [page 65](#), Waste). We also conducted a water footprint exercise involving our Tier 1 suppliers. See [page 59](#), Water, for more information on this program.
- **Safety:** over and above OHSAS certification, we also require key suppliers to provide safety data. In 2016, we conducted training for safety managers at all our sites to extend safety reporting to all local suppliers (including short-term suppliers) such as catering, cleaning, security, and utilities, by 2017.
- **Conflict minerals:** to ensure the responsible sourcing of minerals in our upstream supply chain, we require all the smelters to participate in and be audited under the Conflict-Free Sourcing Initiative (CFSI). Nearly all (99.4%) of the smelters in our supply chain were CFS-validated by the end of 2016. Detailed information on our progress is reported annually to the US Securities and Exchange Commission and published at www.st.com/conflict-free_minerals.
- **Hazardous substances:** we launched an initiative in 2015 aiming to integrate the full traceability of chemicals into our product information. In 2016, 98% of our material suppliers and subcontractors participated in the program and provided analysis certificates.

>99% of our supply chain smelters are CFS-validated

Top risks in our supply chain

Number of potential risks detected for suppliers/subcontractors who scored <90% in SAQ



⁽¹⁾ Occupational Health & Safety.

Human rights in local supply chains



FOCUS

Going a step further

Launched in 2015, our Supply Chain Responsibility program for local suppliers aims to expand our supply chain control to all our sites. Actively supported by local procurement and sustainability teams, our objective is to ensure that our suppliers respect the highest social responsibility standards with a strong focus on human rights.

We targeted specific categories of suppliers, essentially indirect services, where we identified potential risks regarding issues such as forced labor, working hours, and freedom of association. Among the targeted categories were labor agencies, and catering, security, cleaning, and accommodation services.

On our major sites, local coordinators accompany suppliers by raising their awareness through questionnaires before planning the audits. Our objective is to have 80% of our eligible suppliers audited in 2017. To achieve this, we have launched an advanced internal capability-building program, including EICC auditor-certification, at all our major sites.

Early results demonstrate a positive willingness among local suppliers to make progress. Our support will be key to enabling them to make material improvements.



Environment & Operations Indicators

This section includes indicators and GRI G4 Guidelines Disclosures.

Our environmental data collection covers our 11 manufacturing sites representing more than 95% of the overall environmental impact of the Company. ST uses the following international methodologies to report CO₂ emissions:

SCOPE 1:

- PFCs emission: 2006 IPCC Guidelines for National Greenhouse Gas Inventories - Chapter 6 Electronics Industry Emissions

- Combustion emissions: World Resources Institute (2008) - GHG Protocol Calculation tool for stationary combustion v.4.1
- World Resources Institute (2004) GHG protocol - A Corporate Accounting And Reporting Standard

SCOPE 2:

- Indirect emissions due to electricity consumption: World Resources Institute (2014). GHG Protocol tool for stationary combustion. Version 4.8

SCOPE 3:

- Emissions due to goods transportation, employee commuting and employee business travels: Mobile Combustion GHG Protocol tool v.2.6
- Supplement to the Corporate Value Chain (scope 3) accounting and reporting standard

For all the other environmental indicators ST uses the methodologies described in internal Company procedures which are regularly reviewed during third-party environmental audits (i.e. EMAS, ISO 14001, ISO 50001).

LEGEND

- Data not available or not required.
- NA Not Applicable.

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Environmental investments

% of total company investments	2012	2013	2014	2015	2016
0.85	0.21	0.73	0.70	0.33	

Direct and indirect energy consumption by primary sources (%)

| G4-EN3 | G4-EN6 |

	2012	2013	2014	2015	2016
Green electricity purchased	7.4	17.6	19.7	22.4	23.6
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)	22.1	17.8	17.4	15.6	12.6
Electricity purchased from fossil fuel sources	63.3	56.3	54.7	53.6	55.1
Natural gas	7.0	8.0	7.8	8.1	8.4
Other fuels	0.2	0.2	0.2	0.2	0.2

Consumption: absolute values

| G4-EN3 | G4-EN6 |

	2012	2013	2014	2015	2016
Electricity (TJ)	7,347	7,530	7,649	7,517	7,536
Water (1,000m ³)	16,151	17,484	17,386	15,940	16,406
Chemicals (tons)	17,792	19,713	19,170	19,125	17,615
Natural gas (TJ)	550	657	650	661	690

Consumption of electricity (per unit of production): normalized values | G4-EN5 |

Consumption of electricity	2012	2013	2014	2015	2016
114	105	106	109	109	

Baseline 100 in 2010.

Consumption of natural gas (per unit of production): normalized values

Consumption of natural gas	2012	2013	2014	2015	2016
101	108	106	113	118	

Baseline 100 in 2010.

Total water discharge

| G4-EN22 |

Water discharge (1,000m ³)	2012	2013	2014	2015	2016
12,444	13,422	13,457	13,053	13,794	
Treated in ST wastewater treatment plant (%)	76	78	79	79	78
Treated in external wastewater treatment plant ⁽ⁱ⁾ (%)	54	58	62	58	59

⁽ⁱ⁾ 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.

Summary of net CO₂ emissions (KTons)

| G4-EN15 | G4-EN16 | G4-EN17 |

	2012	2013	2014	2015	2016
Direct emissions Scope 1	561	554	626	575	552
Indirect emissions (purchased electricity) Scope 2	828	815	778	748	739
Other indirect emissions (transportation ⁽ⁱ⁾) Scope 3	107	108	121	135	113
Total emissions	1,497	1,477	1,525	1,459	1,404

⁽ⁱ⁾ The transportation emissions value is a global estimate of employee transportation and transportation of goods.

Carbon footprint of ST's products per mode of transportation (%)

	2012	2013	2014	2015	2016
Air <2,000km	11	11	12	14	16
Air >2,000km	89	89	86	85	82
Road	0	0	2	2	2
Ocean	0	0	0	0	0

Environmental burden: net values

	2012	2013	2014	2015	2016
Emissions to air					
Global warming ⁽¹⁾ (MTCE)	408,202	402,875	415,960	397,832	382,909
Ozone depletion (kg R11 Eq)	0	0	0	0.25	0.14
VOCs (Tons)	147	153	221	224	231
Atmospheric acidification (Kg SO2 Eq)	34,456	42,181	45,610	34,170	32,283
Photochemical oxidant creation (Kg ethylene Eq)	27,165	29,501	16,946	31,498	46,186
Air emission toxicity ⁽²⁾ Kg PH3 Eq	4,337	2,680	2,598	2,063	2,529
Emissions to water⁽³⁾					
Eutrophication (Kg (P+N))	330,993	326,918	261,468	259,428	160,155
Aquatic oxygen demand (Kg COD ⁽⁴⁾)	529,623	565,693	452,943	474,486	508,468
Heavy metals to water (Kg Heavy metals)	6,458	6,446	5,710	6,022	8,217
Aquatic ecotoxicity (Kg Cu Eq)	4,109	4,437	4,795	4,097	5,114

⁽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 controlled manufacturing sites, 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).

Waste under Basel Convention

| G4-EN25 |

	2012	2013	2014	2015	2016
Hazardous waste transported (as a % of total hazardous waste)	0.00	1.33	0.87	0.49	1.30

Waste split in tons

| G4-EN23 |

	2012	2013	2014	2015	2016
Reuse	3,427	4,690	3,567	3,634	3,696
Sent for recycling	30,044	27,105	26,535	25,969	24,092
Recovery	561	1,179	1,629	1,741	3,291
Incineration	1,758	1,352	1,371	1,757	1,336
Landfill	1,721	1,764	1,370	1,470	1,625
Total Waste	37,511	36,091	34,472	34,571	34,041

Hazardous waste split⁽¹⁾ (%)

| G4-EN23 |

	2014	2015	2016
Reuse	24.3	26.4	19.1
Sent for recycling	50.6	48.5	49.7
Recovery	14.9	15	24.6
Incineration	6	7.4	4.7
Landfill	4.2	2.7	1.8

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

Non-hazardous waste split⁽¹⁾ (%)

| G4-EN23 |

	2014	2015	2016
Reuse	4.1	3.7	6.7
Sent for recycling	88.8	86.6	81.2
Recovery	0.2	0.8	2.2
Incineration	3.1	4.1	3.5
Landfill	3.9	4.9	6.3

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

WEEE

As a supplier of components to the electronics industry (and not manufacturers of electronic equipment), we are not directly affected by the European Directive 2012/19/EU Waste of Electrical and Electronic Equipment (WEEE).

Consumption of chemicals (per unit of production): normalized values

	2012	2013	2014	2015	2016
Consumption of chemicals	117	116	113	117	108

Baseline 100 in 2010.

Elimination of Substances of Very High Concern (SVHC)

	2012	2013	2014	2015	2016
Total number of action plans ⁽¹⁾ completed since 2008	-	19	20	22	23

⁽¹⁾ One substance can be subject to several action plans to be eliminated from different ST processes.

Deployment of ST substances specification to key suppliers and subcontractors (%)

	2012	2013	2014	2015	2016
Response rate from key partners	100	100	100	99	100
Full commitment from key partners to ST substances specification	99	99	97	96	98

Incidents in 2016

| G4-EN24 |

None

Fines and non-monetary sanction in 2016

ENVIRONMENT

One pending issue. Shenzhen site's (China) wastewater discharge point was sampled and tested in November 2016. Copper exceeded the allowable limits (limit is 0.3 mg/l, test result was 0.4 mg/l). We are currently discussing the test report with the authorities and waiting on the final conclusion. The potential fine is around 130KRMB.

Number of suppliers engaged in reporting EHS and social KPIs

	2012	2013	2014	2015	2016
Number of Front-end material suppliers	18	34	44	37	42
Number of Back-end material suppliers	45	43	26	39	42

Suppliers' and subcontractors' environmental and health and safety performance

| G4-12 |

	2012	2013	2014	2015	2016
Number of suppliers/subcontractors					
Material suppliers	94	92	73	89	81
Equipment/spare-parts suppliers	79	84	83	80	80
Back-end subcontractors	51	59	60	55	31 ⁽¹⁾
Front-end subcontractors	19	19	17	16	12
Total	243	254	233	240	204
ISO 14001 certified/EMAS validated (%)					
Material suppliers	76	90	76	79	78
Equipment/spare-parts suppliers	83	78	55	70	75
Back-end subcontractors	98	98	100	100	100
Front-end subcontractors	100	100	100	100	100
Overall %	85%	89%	76%	82%	81%
OHSAS validated (%)					
Material suppliers	48	51	40	47	46
Equipment/spare-parts suppliers	18	18	26	26	35
Back-end subcontractors	67	64	66	67	70
Front-end subcontractors	77	73	77	75	75
Overall %	45%	45%	44%	46%	47%

⁽¹⁾ In previous years we counted the number of facilities for BE subcontractors but in 2016 we changed and only counted the number of companies.

Phase 1 - Supplier agreement to comply with EICC code in 2016 | G4-HR11 |

	Eligible suppliers	% signed
Direct manufacturing		
Material suppliers	91	95%
Equipment/spare-parts suppliers	78	91%
Back-end subcontractors	24	96%
Front-end subcontractors	5	100%
Total	198	93%
Indirect services		
Local suppliers	155	85%
Local labor agencies	40	95%
Total	195	87%

Phase 2 - Supplier self-assessment questionnaires⁽¹⁾ (SAQ) in 2016 | G4-HR11 |

	Eligible facilities	% completed
Direct manufacturing		
Material suppliers	231	85%
Equipment/spare-parts suppliers	67	75%
Back-end subcontractors	42	93%
Front-end subcontractors	13	100%
Total	353	84%
Indirect services		
Local suppliers	78	74%
Local labor agencies	18	83%
Total	96	76%

⁽¹⁾ Either official EICC SAQ or ST SAQ based on EICC SAQ.

Supplier facilities average SAQs scoring (%)

	2012	2013	2014	2015	2016
Health and Safety section	90.2	90.3	90.7	91.9	92.1
Environment section	86.8	90.7	89.8	90.4	90.6
Labor and Ethics section	87.9	87.7	87.6	92.0	92.6
Overall average	88.2	89.6	89.0	91.4	91.9

Suppliers terminated as a result of a negative human rights assessment | G4-HR11 |

	2015	2016
Number of suppliers	None	1 ⁽¹⁾

⁽¹⁾ A security service supplier in Calamba site (the Philippines).

Conflict minerals - Number of suppliers/subcontractors and smelters

	2012	2013	2014	2015	2016
Number of materials suppliers and subcontractors involved in the EICC-GeSI Due Diligence survey	168	162	139	148	170
Number of involved suppliers and subcontractors associated with at least one 3TG metal	88	105	104	117	118
% of involved 3TG suppliers and subcontractors that have completed the EICC-GeSI Due Diligence survey	100%	100%	100%	100%	100%
Number of smelters identified in ST's raw materials supply chain	74	75	89	118	119
Number of smelters identified in ST subcontractors' supply chain	102	98	113	133	174
Total number of smelters identified in ST supply chains	-	-	119	139	177

Conflict minerals inquiry results 2016

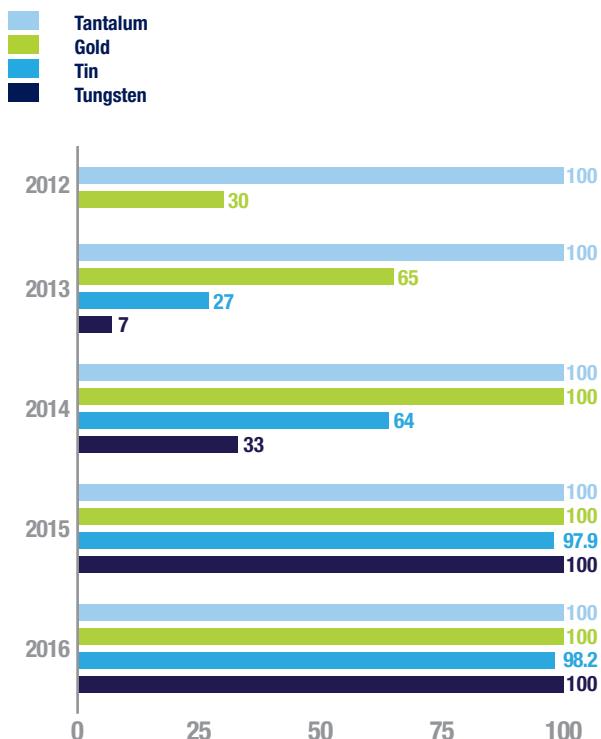
	Gold	Tantalum	Tin	Tungsten
Number of smelters	63	31	56	27
% of smelters which are CFS validated ⁽¹⁾	100%	100%	98.2%	100%
% of smelters which are active in the CFS Program but were not CFS validated as of 31 December 2016 (active smelters)	None	None	1.8%	None
% of active smelters which have declared sourcing from L1/L2 countries or recycled or scrap sources ⁽²⁾	None	None	None ⁽³⁾	None
% of active smelters which have not provided a declaration regarding country or origin of recycled or scraps sources	None	None	100%	None

⁽¹⁾ Based on EICC CFS program.

⁽²⁾ Based on information presented by suppliers and subcontractors.

⁽³⁾ L1 country declared is China. Other countries of origin could be concerned.

Smelters which are CFS validated (%)



ECOPACK® products (%)

| G4-PR3 |

	2012	2013	2014	2015	2016
Non ECOPACK®	0.8	0.3		0.3	0.3
ECOPACK® 1: Compliant with the RoHS/ELV directives, second level interconnect lead-free. ⁽¹⁾	16.8	12.2	No data	8.7	7.8
ECOPACK® 2: as ECOPACK® 1, plus free of brominated, chlorinated and antimonyoxide flame retardants.	82.4	87.5		83.0	84.0
ECOPACK® 3: as ECOPACK® 2, plus free of halogens with no RoHS exemptions.	NA	NA		8.0	7.9

⁽¹⁾ With adapted reliability for soldering at higher temperature, as some exemptions are necessary mainly for the automotive market regarding the RoHS Directive.



Academic Partnership, World Skills, Singapore

Local Communities



307
initiatives from
27 sites
worldwide

- Our sites adapt their initiatives to the local, operational, and cultural context



6,182
employees
engaged in
volunteering

- ST favors long-term partnerships with associations and local authorities
- 82% of initiatives are linked to education and young people



125,616
hours of Company
time donated



• LOCAL COMMUNITIES

Local Communities

Our intention is to add value to the communities in which we operate – through local economic development, industry and academic partnerships, and community involvement initiatives.



**London
Benchmarking
Group**
methodology
used

Site-driven
initiatives adapted to
the local culture

**Long-term
partnerships**
with associations and
local authorities

An essential part of our culture

Our wide-ranging engagement with the local communities around our sites across the world is an important aspect of our culture. This engagement, which comes at a corporate, site management, or individual-employee level is also a strong lever to increase employee engagement at ST.

We have been using the London Benchmarking Group methodology to measure our community involvement since 2012. This has helped us structure our reporting and improve the relevance of our investment.

The ST Community Involvement Charter enables the global deployment of our strategy to every site, where the Sustainable Excellence Coordinator, in close collaboration with HR and site management, drives and reports on our initiatives.

I G4-DMA | G4-15 I

Each site is encouraged to develop and adopt a community investment strategy, corresponding to their local, operational, and cultural context and with an emphasis on one or more of the following areas.

- Educating and supporting young people: creating opportunities for young people to broaden their education, knowledge and use of electronics and IT technologies.
- Promoting technology and innovation: shaping the future contribution that the semiconductor industry will make to society.
- Philanthropy and social welfare: supporting charitable organizations and causes.
- Economic development: supporting individuals and small and medium enterprises in their economic development.
- Responsible environmental management: protecting the environment and helping to protect vulnerable communities from the impacts of environmental change.
- ST Foundation: engaging employees in ST Foundation's Digital Unify program, aimed at bringing IT technology to less privileged communities.

Our contribution

Education remained a priority in 2016. This was reflected in our partnerships in education and our intention to raise awareness in local communities about our industry, jobs, and activities.

- Our main sites regularly organize visits for schools, universities, and associations.
- Our employees give lectures in higher education establishments.
- Our managers are proactively engaged with local educational authorities or associations, and participate in activities that promote the variety of jobs that our industry has to offer.
- For students we organize design contests and donate developments kits and boards to foster learning and develop innovative solutions using our technology.

Rather than one-off events, we run the majority of our activities in long-term partnership with associations and local authorities. Activities held outside working hours are driven either by ST or by employees involved in charities who also encourage their colleagues to participate.

In 2016, our contributions supported a total of 307 initiatives across the world. Key statistics include:

- involvement of more than 27 sites in 15 countries
- 6,182 ST employees volunteering their time
- 125,616 hours of company time dedicated to the community
- cash donations of US\$284,860

In addition, 9,797 hours were given to managing these initiatives, and a total of 7,889 hours were contributed by employees outside work hours.

6,182
ST volunteers

125,616
hours of Company
time donated

**Digital Unify
program**
supports refugees in
Malaysia

Although most of these figures are stable when compared to 2015, the number of beneficiaries dropped significantly to 57,702, in 2016. This was mainly due to two factors. First of all, a better identification of beneficiaries led to a more accurate estimation of the number of people impacted by the initiatives. Secondly, our financial contribution to the ST Foundation was delayed until the beginning of 2017, so the corresponding beneficiaries will be included in the 2017 reporting.

We also contribute to local economic development through: direct and indirect employment, investments in local infrastructure such as shared lab facilities, hosting startups on our sites, and hiring local suppliers when possible and appropriate.

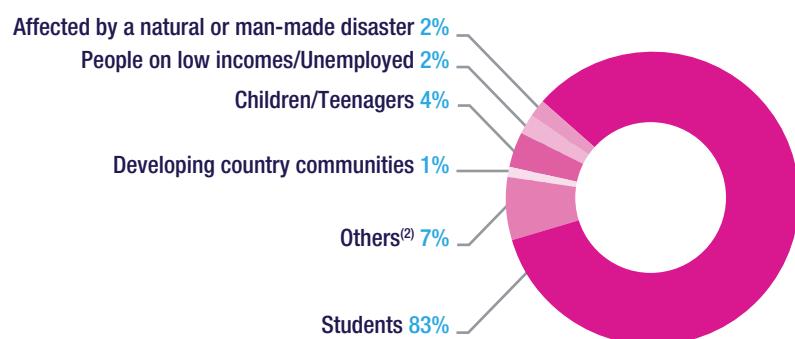
ST Foundation

ST Foundation's mission is to develop, coordinate, and sponsor the use of modern sciences and technology to promote human progress and sustainable development of less privileged communities around the world. It does this through a worldwide computer literacy program, Digital Unify (DU), which runs in countries where ST is present, but also in some countries where ST has no operations, notably in several African countries.

The DU program started in 2003, and has trained over 400,000 people in 26 different countries since its inception. In 2016, the Foundation received a wide range of support from ST, including:

- donations of PCs and other electronic and IT equipment
- time contributed by employees engaged in the DU program, who delivered courses, translated course materials, and participated in other projects under the program
- support from ST management and Corporate External Communications to produce the Foundation's activity report to external stakeholders
- support in implementing the real-time data-collecting system developed in 2015 by an ST volunteer to monitor the DU courses delivered worldwide

Direct beneficiary groups (%) 2016⁽¹⁾



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

⁽²⁾ Seniors/Elderly people: 0.3%.



Ramlah Mansor
Human Resources,
Muar site (Malaysia)



"I became a DU-certified trainer in 2015 thanks to 'a train-the-trainer' course led by an ST team from India. I then participated in an internal program for employees and contract workers, and an external program at a local primary school. In addition, in 2016, I was involved in the initiative launched by ST with UNHCR to establish a DU lab for refugees in Kuala Lumpur.

I am proud to be one of the volunteer trainers. Our workers, on-site subcontractors and external students all feel grateful to us for giving them the opportunity to enhance their computer skills. I hope this will help them connect with the outside world.

The continuous strong support from our management will enable us to further deploy the DU program and allow us to reach other refugee groups based in Malaysia."



OBJECTIVES

	Status	Comments
Local initiatives and communication 100% aligned with new strategy (main sites).	✓	Strategy link declared in site reports.
All sites to report their local community initiatives in the CSR tracking tool all through the year.	⊕	Done for one-off events. Objective discontinued.
Support ST Foundation's activities.	✓	Significant support from ST volunteers.

In Muar (Malaysia), ST employees helped to create a new DU laboratory for refugees in Kuala Lumpur. This was the result of a new collaboration with the Coalition of Burma Ethnic Malaysia (COBEM) and the UN Refugee Agency (UNHCR: United Nations High Commissioner for Refugees). (See quote)

In addition to training, other initiatives include one in Agrate (Italy), where ST volunteers helped to organize the first 'Energy Run' race, an event designed to raise extra funds and increase awareness of the Foundation and its activities. For more information, please visit the ST Foundation website at www.stfoundation.org.

Children's Science Fair



FOCUS

Children's Science Fair at ST Calamba (the Philippines)

Our Calamba site (the Philippines) sponsored a Science Fair in December 2016 that was attended by 235 pupils from Buntog Elementary School. The objective was to kindle the children's interest in science and technology, and especially in innovation and experimentation.

With guidance from ST volunteers, parents and science teachers, pupils from Grades 3 to 6 (8 to 12 years old) created their own inventions using scrap materials available in their homes. Among the experiments on show were a solar panel, a vacuum cleaner, electric fans, LED lights, and a grass cutter. ST volunteers selected the top three experiments and gave their inventors gift certificates as tokens of recognition.

Grade 1 and 2 (6 and 7 years old) students were taught to make a small lantern using a plain box, yarn, an LED light, electrical wires, and 9V batteries. The children really enjoyed this simple experiment and were amazed to see the outcome of their handiwork.

Buntog Faculty warmly thanked STMicroelectronics for being part of this worthwhile exercise. The Calamba site plans to support other initiatives of this kind in the future, as they believe this will help to equip today's children with the knowledge, skills, and passion they need to be the innovators of tomorrow.



• LOCAL COMMUNITIES

Local Initiatives

We often organize activities to increase our employees' team spirit or engagement and their awareness of sustainability issues and programs. We are proud that our employees regularly participate in activities and events in their local communities, which our sites support and promote.



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Local stakeholder engagement

Many win-win partnerships are initiated at local level with stakeholders such as trade associations, industry organizations, schools, and universities.



Employee engagement

Initiatives for ST employees' families such as site visits, an internal musical contest, Valentine Day celebration, eat-with-your-family day, 'book for one books for all' are events that reinforce ST employee pride and engagement.



Environment

ST volunteers participate in green initiatives, including tree planting, gardening, awareness campaigns on energy consumption and waste reduction, to spread and develop environmentally friendly practices.



Employee initiatives for others

Employees are proud to launch or participate in initiatives to raise funds for charities such as cooking and baking contests, sport tournaments, cooking meals for the homeless, collecting and distributing food, and spending time with children in hospital.

Here we have chosen to highlight a few of our many initiatives which have a positive impact on our employees and the communities around our sites.

○ Environment

ST Greater Noida (India) taught children from Adharshila school about the importance of trees by showing them videos, having an interactive exchange and a tree-planting session.



ST employees from Ang Mo Kio (Singapore) supported the Keep Singapore Clean Movement by volunteering to clean up one of Singapore's beaches. The activity was organized by Singapore's Public Hygiene Council as part of a nation-wide drive to raise awareness and foster ownership of maintaining clean public spaces.



○ Local stakeholder engagement

ST Ang Mo Kio (Singapore) participated in the Education and Career Guidance Fair in support of the Singapore Ministry of Education's efforts to raise industry awareness among students for more informed decision-making regarding their future course of study and career.



ST Agrate (Italy) organized a contest dedicated to all Italian high schools based on our STM32 Nucleo board and its Open Development Environment.



○ Employee initiatives for others

STS Shenzhen (China) and ST Hong Kong supported 'learning to read' with a local primary school located in a remote part of Tianshui, Gansu Province. ST employees participated in the project by donating storybooks, science books, school bags, stationery and sports equipment to the children. A total of 45 kg of goods and US\$400 in cash donations were collected.



○ Employee engagement



In ST Muar (Malaysia) during Ramadhan month, the Company organized 'Cooking Bubur Lambuk and Ketupat with the General Manager'. A total of 1,700 containers of bubur lambuk, ketupat, and rendang chicken were distributed to the employees and the Company donated a total of 300 bubur lambuk to Muar hospital.



To celebrate International Children's Day, STS Shenzhen (China) meticulously prepared various gifts for the children of employees.



Employees from ST Calamba (the Philippines) participated in the fun run activity held at Nuvali Evolving in Sta Rosa, Laguna in celebration of the International World Blood Donor Day 2016, with the theme: 'Run to save lives'.

In August and October 2016, a series of major earthquakes struck central Italy. ST Italy launched a global voluntary fundraising campaign for the Red Cross organization to help the victims. The contribution totaled US\$205,258 of which US\$71,346 was raised by employees.



• LOCAL COMMUNITIES

Local Communities Indicators

This section includes indicators and GRI G4 Guidelines Disclosures.

Data consolidated according to the London Benchmark Group (LBG) methodology.

Community involvement - Inputs

| G4-S01 | G4-EC1 |

	2012	2013	2014	2015	2016
Number of community involvement initiatives	374	385	312	338	307 ⁽¹⁾
Total contribution (evaluated in US\$m)	8.5	11.0	6.0	6.9	6.6

⁽¹⁾ Multiple activities linked to the same program count as one initiative.

Type of contribution breakdown

	2012	2013	2014	2015	2016
Cash donations (%)	31	14	15	9	4
Staff time volunteering (%)	57	78	75	83	84
In-kind (%)	4	3	5	2	4
Management costs (%)	8	5	4	6	7
Number of employees engaged in volunteering	4,515	9,944	8,655	7,680	6,182
Number of hours contributed inside Company time	100,972	177,610	99,761	138,520	125,616

Domains of involvement⁽¹⁾ (%)

	2012	2013	2014	2015	2016
Young generation and education	79	75	76	84	82
Environment	3	2	2	1	0
Social welfare and charity	6	6	5	2	5
Innovation and high technology	8	8	5	2	4
Economic development	3	1	3	0	1
ST Foundation	0	5	9	9	4
Other	1	3	0	2	4

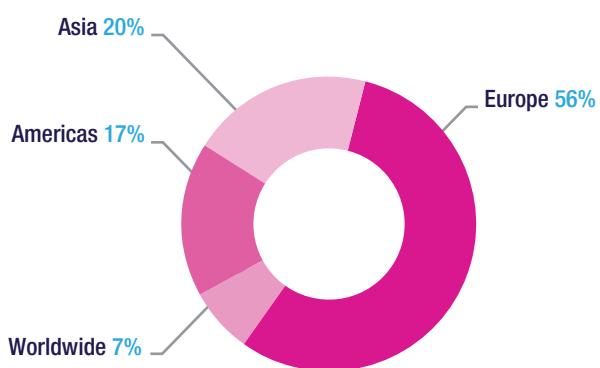
⁽¹⁾ Among initiatives classified as young generation and education, some are also related to economic development, innovation, and high technology.

Motivation for contribution⁽¹⁾ (%)

	2012	2013	2014	2015	2016
Community investment	87	85	97	88	85
Charitable donation (gift)	5	10	2	10	8
Commercial initiative	8	5	0	1	8

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

Geographical spread of contribution (%) 2016



Community involvement - Outcomes

| G4-S01 | G4-EC1 |

	2012	2013	2014	2015	2016
Number of beneficiary organizations	-	826	1,204	1,832	1,487
Number of direct beneficiaries	-	34,495	121,166	157,281	57,702 ⁽¹⁾

⁽¹⁾ See article on page 84.

ST Foundation

| G4-S01 | G4-EC1 |

	2012	2013	2014	2015	2016
Total trainees	28,307	42,257	53,127	55,333	75,961
Total trainees from beginning of program	176,443	218,729	271,856	327,189	403,150



Awards

Each year we receive external recognition for our sustainability practices. Here is an overview for 2016.

Business

ST IS AMONG THE MOST ADMIREDBRANDS IN INDIA

In June, ST was recognized as one of the Top 100 Most Admired Brands 2016 in India at VARINDIA's annual Customer Summit held in New Delhi. The award is given to the top 100 most admired brands based on feedback received from vendors, distributors, resellers, and channel partners across India, evaluating the company's marketing policies, strategies and initiatives.



ELECTRONICS MAKER BEST OF INDUSTRY AWARDS

ST India won three awards at the second edition of the Best of Industry Awards hosted by Electronics Maker, a prime Indian electronics magazine. ST was honored for its innovation, excellence, and leading performance in the industry and core values of business success and ethics.



CLAUDE DARDANNE RECOGNIZED FOR LEADERSHIP IN MICROCONTROLLERS AND MEMORIES



Claude Dardanne has been elected as Markt&Technik magazine's Semiconductor Industry Executives of the Year. The award recognizes his exceptional achievements in running ST's Microcontrollers and Memories business.

ZTE BEST QUALITY AWARD



In December, ST received the Best Quality Award at the ZTE Supplier day in Shenzhen. The award recognizes ST's consistently high-quality score (between 97 and 99%).

MEMS MANUFACTURER OF THE YEAR



ST was named MEMS Manufacturer of the Year at the MEMS World Summit in Shanghai, a leading MEMS Manufacturing Conference, gathering the top executives in the worldwide MEMS manufacturing industry.

In naming ST, the jury highlighted the significant role of ST's high-efficiency 6-axis MEMS sensor modules in driving the transformation of smartphones into intelligent personal assistants as one of the key winning factors. Other high-score criteria for ST included product development, revenue, and company culture.

INNOVATION AWARD FROM UAES

At the UAES Supplier Day in Shanghai in January, ST received the Outstanding Innovation award. This award is a clear recognition of ST's continuous investment in UAES project developments in recent years, and is also a positive sign towards deeper cooperation and partnership between the two companies.

ST GETS TOP AWARDS AT THE ITALIAN NATIONAL INNOVATION DAY

In September, the Italian President Sergio Mattarella honored ST with two prestigious awards at the Prize of Prizes ceremony held during the Italian National Innovation Day. Both awards recognize innovative projects in the strategic focus areas of Smart Driving and the Internet of Things.



People

WORKERS OF THE YEAR



ST Kirkop (Malta) won first prize in the Health and Safety category of the 'Workers of the Year National Awards' organized by the Ministry for Social Dialogue.

Awards

People

EUROPEAN NETWORK WORKPLACE HEALTH PROMOTION

Agrate & Castelletto sites (Italy) have been awarded by Lombardia Region in 2016 with Workplace Health Promotion prize. This is a recognition of the combined efforts of the company, employees, and society to improve the health and well-being of people at work.



OUTSTANDING LAM SAFETY PARTNER

Gregory Journot, a member of the Health and Safety team in ST Crolles (France), was rewarded by Lam Research for the work done to ensure safety and the sharing of best practices.

MUAR QCC TEAM CROWNED CHAMPION OF THE 2016 TEAM EXCELLENCE NATIONAL CONVENTION

At the grand finals of the 2016 Team Excellence National Convention in Electrical and Electronic Sector held in October in Malaysia, the QCC team with its project called 'Wire proximity/Damaged wire reduction' won the coveted national award. Among 258 teams, three ST teams were awarded.



EXCELLENCE AWARD FOR ST CALAMBA

At the 12th ASEMEP Quality and Productivity Council Benchmarking Convention held in October 2016 in the Philippines, ST was recognized with an excellence award in the Breakthrough and Innovation Category for its project on the elimination of tube transition jam a gravity-fed machine.



SUSTAINABLE COMMUTING LABEL



Rennes Metropole awarded ST Rennes R&D (France) its Sustainable Commuting label in recognition of the initiatives deployed to encourage greener employee commuting and reduce GHG emissions.

Environment & Operations

SPECIAL AWARD FOR COMMITMENT TO ENVIRONMENTAL PROTECTION



In March, the Malta Cleaner Technology Centre in conjunction with the Ministry for the Environment held its eighth Environment Award for Industry presentation ceremony. ST Kirkop (Malta) received a Special Award for its Commitment to Environmental Protection.

AWARD FOR OUTSTANDING WATER SAVING PERFORMANCE



In recognition of the outcome of the water saving project conducted during the year, STS Shenzhen (China) received the 2016 Shenzhen Water Saving Construction Award from Shenzhen Water Bureau.

Local Communities

CERTIFICATE OF HONOR FOR BLOOD DONATION IN STS SHENZHEN



In recognition of STS Shenzhen (China) employees' strong and long-term support (seven years), the head of the Shenzhen Blood Center awarded a certificate of honor to the site.

GAWAD CALAMBAYANI PLAQUE OF RECOGNITION

This award was conferred to ST Calamba (the Philippines) by the Department of Education as a token of gratitude for being one of its partners consistently supporting the public schools in the city to provide significant educational requirements. Specifically, ST Calamba has been supporting the Buntog Elementary School through several charitable and educational programs.





GRI Content Index

I G4-32 I



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STMICROELECTRONICS

May 2017
Service

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G4-4	Where you find us (page 10) / ST Products and Solutions (page 12)
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G4-6	ST at a glance (page 10)
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G4-56	Ethics and Compliance (page 22) / Labor and Human Rights (page 46) / ST's Code of Conduct on www.st.com

Specific Standard Disclosures				
DMA and Indicators	Page - Location	Identified omission(s)	Reason(s) for omission(s)	Explanation for omission(s)
Category: Economic				
Material aspect: Economic performance				
G4-DMA	Financial Performance (page 28)			
G4-EC1	Financial Performance (page 29) Business indicators (page 37) / Local Communities (page 88) People indicators (page 50) 2016 Annual Report (20F) at http://investors.st.com (pages 4, 33, 34, 37, 38, 41, 47, F-3, F-7, F-58)	Payment to government by country	The information is subject to specific confidentiality constraints	Confidential information

Specific Standard Disclosures				
DMA and Indicators	Page - Location	Identified omission(s)	Reason(s) for omission(s)	Explanation for omission(s)
Category: Environmental				
Material aspect: Energy				
G4-DMA	Environmental Efficiency (page 55) Energy (page 56)			
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G4-DMA	Environmental Efficiency (page 55) / Waste (page 65)			
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G4-DMA	Sustainable Technology (page 71)			
G4-EN27	Sustainable Technology (page 73)	No quantitative report	The Standard Disclosure or part of the Standard Disclosure is not applicable	Cannot provide quantitative data due to the nature of our products
Category: Social				
Sub-category: Labor practices and decent work				
Material aspect: Employment				
G4-DMA	People Development and Engagement (page 39)			
G4-LA1	People indicators (pages 49 and 50)			
Material aspect: Occupational health and safety				
G4-DMA	Health and Safety (pages 42 and 43)			
G4-LA6	Health and Safety (pages 44 and 45) People indicators (pages 51, 52 and 53)	Subcontractors working on-site less than 3 months are not part of the reporting	The information is currently unavailable	Starting from 2017, we are collecting data for all subcontractors
Material aspect: Training and education				
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Sub-category : Society				
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G4-SO5	Ethics and Compliance (page 23)			
Sub-category : Product responsibility				
Material aspect: Product and service labeling				
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G4-PR3	Sustainable Technology (page 72) Environment and Operations indicators (page 81)			
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International Standards

| G4-15 |

Alignment of ST Sustainability priorities with the UNGC 10 principles and the UN Sustainable Development Goals



This is our **Communication on Progress** in implementing the principles of the United Nations Global Compact and supporting broader UN goals.

We welcome feedback on its contents.

United Nations Global Compact 10 principles	ST Sustainability priorities
Human Rights	
Principle 1 Businesses should support and respect the protection of internationally proclaimed human rights; and	Labor and Human Rights Supply Chain Responsibility Local Communities
Principle 2 Make sure that they are not complicit in human rights abuses.	
Labor	Labor and Human Rights Supply Chain Responsibility
Principle 3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	Labor and Human Rights Supply Chain Responsibility
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 People Development and Engagement
Environment	
Principle 7 Businesses should support a precautionary approach to environmental challenges;	Environmental Efficiency Sustainable Technology
Principle 8 Undertake initiatives to promote greater environmental responsibility; and	Environmental Efficiency Sustainable Technology Local Communities
Principle 9 Encourage the development and diffusion of environmentally friendly technologies.	Sustainable Technology
Anti-Corruption	
Principle 10 Businesses should work against corruption in all its forms, including extortion and bribery	Ethics and Compliance

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ST SUPPORTS THE SUSTAINABLE DEVELOPMENT GOALS (SDG'S)



- People Development and Engagement
- Local Communities
- Financial performance



- Local Communities (Community involvement)



- Health and Safety
- Environmental Efficiency



- People Development and Engagement
- Local Communities (Education partnerships)



- Labor and Human Rights
- People Development and Engagement



- Water management
- Chemical management



- Innovation
- Sustainable Technology
- Energy management



- Labor and Human Rights
- Health and Safety
- Supply Chain Responsibility



- Innovation
- Sustainable Technology
- Local Communities (R&D and industry partnerships)



- Local Communities
- Labor and Human Rights
- Supply Chain Responsibility



- Innovation
- Sustainable Technology
- Local Communities
- GHG Air Emissions



- Sustainable Technology
- Environmental Efficiency
- Conflict Minerals
- Supply Chain Responsibility



- GHG Air Emissions
- Energy management
- Supply Chain Responsibility



- Water management



- GHG Air Emissions
- Chemical management
- Waste management
- Water management



- Ethics and Compliance
- Labor and Human Rights
- Supply Chain Responsibility



- Memberships of EICC and WSC
- ST Foundation
- Digital Unify program

SUSTAINABLE DEVELOPMENT GOALS



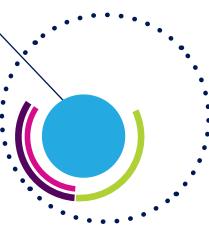
Material aspects & boundaries

| G4-18 | G4-19 | G4-20 | G4-21 |

The table below links our Sustainability strategy and priorities to the GRI G4 aspects.

ST Sustainability priorities	Corresponding GRI G4 material aspect	Boundaries Inside ST	Boundaries Outside ST
Governance	General standard Disclosure	All sites and organizations	
Ethics and Compliance	Anti-corruption	All sites and organizations	Suppliers, customers and business partners
Risk Management	General standard Disclosure	All sites and organizations	
Health & Safety	Occupational health and safety	All sites	On-site suppliers and subcontractors
Development & Engagement	Employment Training and education	All sites and organizations	
Labor & Human Rights	Human rights assessment Diversity and equal opportunity	All sites and organizations	Suppliers
Innovation	No corresponding G4 material aspect	Product and manufacturing organizations	Local communities Customers
Customer Relations	Product and service labelling	Product organizations Sales & Marketing Central functions	Customers
Financial Performance	Economic performance	All sites and organizations	Shareholders Investors Communities where we operate
Environmental Efficiency (GHG, Water, Energy, Waste, Chemicals)	Water / Emissions / Effluents and waste / Energy / Product and service labelling / Local Communities	Manufacturing sites	Local environment
Supply Chain Responsibility	Product and service labelling Supplier human rights assessment	Purchasing organizations	Suppliers and subcontractors
Sustainable Technology	Products and services Product and service labelling	Product and manufacturing organizations	Customers
Local Communities	Local communities	All sites	Local communities and partners

■ Company ■ Business ■ People ■ Environment & Operations ■ Local Communities



Glossary

20-F	Annual report filed with the United States Securities and Exchange Commission (SEC)	IGBT	Insulated Gate Bipolar Transistor
3TG	Tantalum, tin, tungsten and gold	IoT	Internet of Things
ADAS	Advanced Driver Assistance System	IPCC	Intergovernmental Panel on Climate Change
AGM	Annual General Meeting of Shareholders	IPC	Association connecting electronics industries
ADG	Automotive and Discrete Group	KPI	Key Performance Indicator
ASICs	Application-Specific Integrated Circuit	LBG	London Benchmark Group
AUTOSAR	AUTomotive Open System ARchitecture	LWDC	Lost Workdays Cases
Back-end (BE)	Second phase of manufacturing during which the silicon chip is mounted in a package	MEMS	Micro-Electro-Mechanical Systems
CAP	Corrective Action Plan	MOSFET	Metal Oxide Semiconductor Field Effect Transistor
CDP	Carbon Disclosure Project	MTCE	Metric Tons of Carbon Equivalent
CEO	Chief Executive Officer	NFC	Near Field Communication
CFS	Conflict-Free Smelter	OECD	Organization for Economic Cooperation and Development
CFSI	Conflict-Free Smelter Initiative	OEM	Original Equipment Manufacturer
CMRT	Conflict Minerals Reporting Template	OHSAS	Occupational Health & Safety Assessment Series (OHSAS 18001)
DJSI	Dow Jones Sustainability Indices	PFCs	Perfluorinated Compounds
ECOPACK®	ECOPACK® Lead-free labelling for RoHS-compliance	PFOA	Perfluorooctanic acid
EHS	Environmental, Health & Safety	PMS	Project Management System
EICC	Electronics Industry Citizenship Coalition	R&D	Research & Development
ELV	End of Life Vehicles	REACH	Registration, Evaluation and Authorization of Chemicals
EMAS	Eco-Management and Audit Scheme	RFID	Radio Frequency IDentification
EMEA	Europe, Middle East & Africa	RMIS	Risk Management Information System
ERM	Enterprise Risk Management	RoHS	Restriction of Hazardous Substances
ESIA	European Semiconductor Industry Association	SAQ	Self-Assessment Questionnaires
FD-SOI	Fully Depleted Silicon-On-Insulator	SoC	System-on-Chip
Front-end (FE)	First phase of the production cycle involving the manufacturing of circuits on a silicon wafer	SRI	Socially Responsible Investment
GeSI	Global e-Sustainability Initiative	SVHC	Substances of Very High Concern
GHG	Greenhouse Gases	ToF	Time-of-Flight
GNSS	Global Navigation Satellite System	UNGCI	United Nations Global Compact
GRI	Global Reporting Initiative	UPW	Ultra-pure Water
HSPM	Hazardous Substance Program Management	WBCSD	World Business Council for Sustainable Development
IC	Integrated Circuit	WEEE	Waste Electrical and Electronic Equipment
IECQ	International Electrotechnical Commission Quality	WSC	World Semiconductor Council

MODERATE ASSURANCE STATEMENT

Independent Assurance Statement issued by DNV GL – Business Assurance France

Financial year ended 31 December 2016

To STMicroelectronics management,

Scope and approach

STMicroelectronics NV commissioned Det Norske Veritas Germanischer Lloyd Business Assurance France ('DNV GL') to undertake independent assurance of the "2017 Sustainability Report (2016 performance)" for the year ended 31 December 2016.

Our assurance engagement is conducted in accordance with the Verisustain^{TM1} Protocol, which is based on our professional experience and international assurance best practice, and the International Standard on Assurance Engagements ISAE 3000 Assurance Engagements other than Audits or Reviews of Historical Financial Information. 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.

We evaluated the performance data using the materiality, stakeholder inclusiveness, responsiveness, completeness, accuracy, reliability and neutrality principles, together with STMicroelectronics NV data protocols for how the data are measured, recorded and reported. The performance data in scope was Key Performance Indicators;

We planned and performed our work to obtain the evidence we considered necessary to provide a basis for our assurance opinion. We are providing a 'moderate level' of assurance. A 'high level' of assurance would have required additional work at Group and site level to gain further evidence to support the basis of our assurance opinion.

Responsibilities of the Directors of STMicroelectronics NV and of the assurance providers

The Directors of STMicroelectronics NV have sole responsibility for the preparation of the Report. In performing our assurance work, our responsibility is to the management of STMicroelectronics NV; however, our statement represents our independent opinion and is intended to inform all of STMicroelectronics NV stakeholders. DNV GL was not involved in the preparation of any statements or data included in the Report except for this Assurance Statement.

We have no other contract with STMicroelectronics NV and this is the sixth year that we have provided assurance. DNV GL provides a range of other services to STMicroelectronics NV, none of which constitute a conflict of interest with this assurance work.

DNV GL's assurance engagements are based on the assumption that the data and information provided by the client to us as part of our review have been provided in good faith, and that the data and information provided are complete, sufficient and authentic. The procedures performed depend on the assurance practitioner's judgement including the risk of material misstatement of the specific activity data, whether due to fraud or error. DNV GL expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Assurance Statement.

Basis of our opinion

Our sustainability and assurance team performed work with corporate representatives in Grenoble (France) and at a site level. We undertook the following activities:

- Our verification was carried out from 16th March to 7th April 2017. As part of this engagement we visited selected sites based on their contribution which represents 19% to 52,9% of the Group's consolidated environmental data and 21,9 % of consolidated social data;
- Review of the current sustainability issues that could affect STMicroelectronics NV and are of interest to stakeholders;
- Review of STMicroelectronics NV approach to stakeholder engagement and recent outputs;
- Review of information provided to us by STMicroelectronics NV on its reporting and management processes relating to the Principles;
- Reviewing and sample checking of data and assumptions made by STMicroelectronics in the calculations in relation to GHG emissions and water consumptions;
- Interviews with the Corporate Social Responsibility Team and Corporate representatives, in excess of 50 company's representatives (including data owners and decision-makers from different divisions and functions) freely chosen, and review of selected evidence to support issues discussed;
- Site visits to Catania (Italy), Calamba (Philippines) and Ang Mo Kio (Singapore) to review process and systems for preparing site level sustainability data and implementation of sustainability strategy. Sites have been freely chosen as well as data and information verified based on the basis of materiality for: CSR Risk Management, Ethics & Code of conduct, Speak up culture & misconduct reporting, Diversity and Equal opportunity, Labor and Human Rights, Health & Safety (including Chemical Management), Environment (GHG, water, waste), Sustainable Technology, Training & Education, Customer Relations, Supply Chain Responsibility, Local Communities, Innovation.
- Review of supporting evidence for key claims and data in the report in its electronic format "CSR_REPORT2016". Our checking processes were prioritised according to materiality

¹The VeriSustain protocol is available on dnvgl.com

and we based our prioritisation on the materiality of issues at a consolidated corporate level;

- Review of the processes for gathering and consolidating the specified performance data and, for a sample, checking the data consolidation. Where data had been checked by another third party, we tested transposition from these sources to the "2017 Sustainability Report (2016 performance)". This included in particular: Certification against EMAS and sites environmental declarations;
- An independent assessment of STMicroelectronics NV's reporting against the Global Reporting Initiative (GRI) G4 Reporting Principles and Standard Disclosures for 'in accordance' – Core Level.
- Interviews with external stakeholders were not included.
- The review of ST Foundation data, financial data from the Annual Report and Accounts was not within the scope of our work. The financial data and Information have been acquired from the form "STMicroelectronicsNV_20F_20170303".

Opinion on Standard Disclosures

In our opinion the disclosures on sustainability performance reported in "CSR_REPORT2016" provide an objective representation of the material aspects, related strategies, management systems, and meets the general content and quality requirements of GRI G4.

Opinion on GRI 4 principles

On the basis of the work undertaken, nothing came to our attention to suggest that the Report does not properly describe STMicroelectronics NV's adherence to the Principles. DNV GL believes that the report is in line with the "Core requirements" of the GRI G4 Guidelines. Further conclusions and observations on the adoption of reporting principles and specified performance information are made below, without affecting our assurance opinion.

Materiality: We consider that the Report includes the major material aspects concerning the Company's performance and stakeholders' concerns and adheres to the principle. In 2016, in the continuity of the strategy elaborated in 2014, STMicroelectronics NV continues the deployment of its commitments on primary stakes identified as priority.

Stakeholder inclusiveness: STMicroelectronics NV continuously interacts with numerous stakeholders. In the field of community involvement, it is particularly remarkable to notice that the programs are aligned with the strategy CSR. However, gathering in the Report a broader sample of external stakeholders' views remain a key objective.

Responsiveness: In our view, STMicroelectronics NV has built and maintained a relevant governance model, in particular through the network of Sustainable Excellence committees, and continuously strengthens corporate tools to improve the sustainability reporting process. Therefore, STMicroelectronics NV continual commitment to design and implement a corporate sustainability management system is mature and **557476-2017-CSR-FRA**

DNV GL BUSINESS ASSURANCE FRANCE

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offers to stakeholders an accurate view of material issues and Company's performance.

However, considering Direct economic value generated and distributed indicator, we expect a complete disclosure related to Payments to government by country data, with the view to increase visibility on economic value distributed.

Completeness: We believe that STMicroelectronics NV presents information in a reasonable and appropriate manner. The Report covers material impacts satisfactorily to enable stakeholders' assessment of the STMicroelectronics NV's sustainability performance in 2016.

Accuracy: The information contained in the report is accurate and detailed enough to allow stakeholders to understand STMicroelectronics NV's performance and trends. We found that the information and processes are sufficiently collated, recorded, compiled, analysed and disclosed in a manner that allows the reader to easily understand STMicroelectronics NV disclosures and results.

Reliability: The sustainability data and information presented in the Report are fairly reliable. Inaccuracies we identified during the verification process were found to be linked to transcription, and aggregation errors and the errors have been corrected. Strengthening of information and data control presented in the Report remain an opportunity for improvement.

Neutrality: The disclosures related to sustainability issues and performances are reported in a neutral tone, in terms of content and presentation.

Opinion on Key Performance Indicators Reported

Considering Key Performance Indicators, nothing came to our attention to suggest that these data have not been properly collated from information reported at operational level, nor that the assumptions used were inappropriate.

Observation

We found a limited number of non-material errors and these were corrected prior to inclusion in the "CSR_REPORT2016".

For and on behalf of DNV GL Business Assurance France
19th, May 2017

Marc-Antoine HORENFELD
Lead Verifier
DNV GL – Business Assurance

Zeno BELTRAMI
Reviewer
DNV GL – Business Assurance

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