

Patents Applications & Silicon Technology

Passion for innovation

# Sustainability Report 2015

# Reader's Guide

## Scope

This annual Report describes our Sustainability performance in the calendar year 2015. It covers all of STMicroelectronics' activities and sites unless otherwise stated. You will find details about ST's structure and countries of operations [on page 4](#).

[I G4-3](#) | [I G4-17](#) | [I G4-28](#) | [I G4-30](#) |

At the end of 2014 we closed our Longgang (China) site. Most activities were transferred to our Shenzhen (China) site and we also offered employees the possibility of a transfer to this site.

The environmental, safety and social data have been updated accordingly.

[I G4-13](#) | [I G4-23](#) |

There is no restatement of information provided in previous Reports. [I G4-22](#) |

## Report content

Our Sustainability strategy and priorities provide the basis for the information we report. Consequently, this Sustainability Report refers to our material aspects and discloses our performance, intentions and objectives, as well as the progress we made and the challenges we face.

[I G4-18](#) |

We also present examples of concrete actions deployed at ST sites and include interviews from our stakeholders, enabling them to express their view on our programs.

[I G4-26](#) |

## Material aspects

In 2014, we conducted an extensive materiality exercise to identify the top material aspects according to the impact of our business on the environment, economy and society, and the expectations of our stakeholders. The materiality exercise process and results are detailed on page 10 of our 2014 Sustainability Report ([www.st.com/company-reports](http://www.st.com/company-reports)).

ST's Sustainability strategy is based on three pillars and supports 13 Sustainability priorities. Detailed information about each Sustainability priority, as well as our management approach can be found in this Report and on our website at

[www.st.com/st-approach-to-sustainability](http://www.st.com/st-approach-to-sustainability).

[I G4-19](#) |

## Stakeholder engagement

ST interacts with many different stakeholders and conducts specific approaches with each of them such as employee engagement surveys, customer surveys and requests, supplier evaluations and audits, Socially Responsible Investment (SRI) analyst and agency questionnaires, industry coalition's memberships, local associations and educational partnerships. These different approaches are reported [on page 14](#) and wherever relevant in this Report.






## Alignment with GRI and the UN Global Compact

This Report is prepared and presented in line with the Global Reporting Initiative's (GRI) G4 sustainability reporting principles and guidelines to be 'in accordance' with the Core option. Throughout this Report, disclosure labels denote which GRI indicators are relevant to the text and data, where applicable. References to GRI-G4 indicators and corresponding pages are disclosed in the GRI Content Index [on pages 92, 93 and 94](#). The GRI Content Index Service confirmed that the GRI G4 Content Index of the Report is accurate and aligned with GRI General Standard Disclosure. [I G4-32](#) | We have been a signatory of the United Nations Global Compact (UNGC) since 2000, which commits us to fulfilling its ten principles. This Report describes actions we have taken to implement these principles and serves as our 2015 communication on progress. The International Standards Index [on page 95](#) shows the correlation between ST's Sustainability Report, the ten principles of the Global Compact, the ISO 26000, the GRI G4 corresponding material aspects and related boundaries. [I G4-15](#) |

## Indicators and use of symbols

Each of our Sustainability priorities has a dedicated section within this Report which sets out the objectives relating to that priority and the performance indicators showing our progress. We also include additional performance indicators at the end of each section in response to our stakeholder's expectations and interests.

Progress updates for each objective can be found in the 'Objectives' tables and are clarified with the following symbols:

-  Target achieved
-  In progress
-  No progress/not achieved
-  No data available
-  New objective for 2016

## Assurance

DNV GL (Det Norske Veritas Germanischer Lloyd) has been appointed to provide assurance services to STMicroelectronics on content and data and on the adherence to GRI G4 requirements corresponding to the 'in accordance' Core option. In order to do so, DNV GL reviewed and validated ST's data reporting process to provide assurance of this year's Report. ST Foundation information and data were not part of the external verification driven by DNV GL. DNV GL's assurance statement can be found [on page 97](#). [I G4-33](#) |

## Accessibility

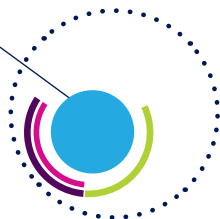
Our Sustainability Report is accessible on the web in PDF format at [www.st.com/company-reports](http://www.st.com/company-reports) along with last year's Report that was published in June 2015 and previous years' Reports. Printed copies are available on request. [I G4-29](#) |

## Feedback

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

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

Corporate Sustainable Development Group  
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# Content

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Zaborowska.

**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, LBG coordinators, EHS teams, HR who support our activity all year round,
- Site Directors and HR Managers,
- The teams audited in Crolles, Muar and Bouskoura for their availability.

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

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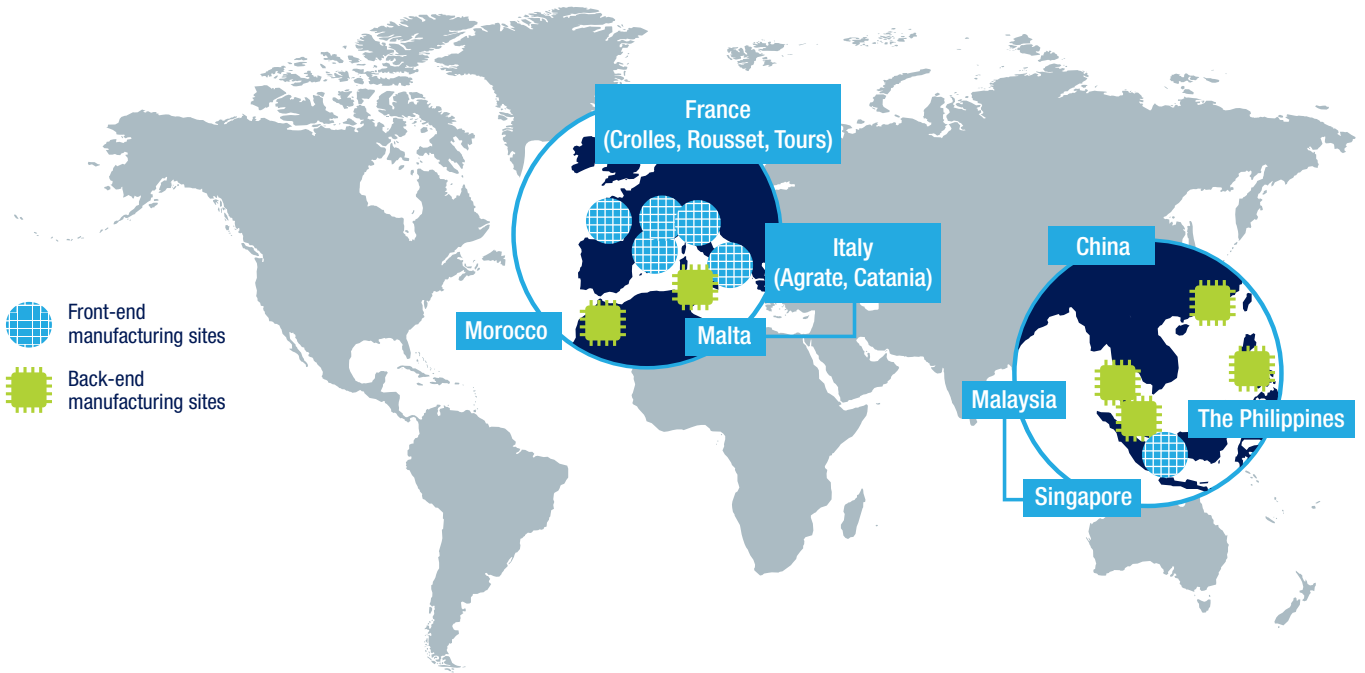
Although reasonable efforts have been made to ensure the consistency of the summary financial information for the year 2015 in this report with ST's financial reporting, reliance should only be placed upon the complete financial reporting contained in ST's Annual Report on Form 20-F for the year ended December 31, 2015, as filed with the SEC on March 16<sup>th</sup>, 2016, which can be found at [www.st.com](http://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, 2015. 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.





# ST at a glance

| G4-6 | G4-9 |



- Front-end manufacturing sites
- Back-end manufacturing sites

- A global semiconductor leader
- A leading Integrated Device Manufacturer
- 2015 revenues of US\$6.90Bn
- Approximately 43,200 employees worldwide
- 11 manufacturing sites
- Over 75 sales & marketing offices
- Listed: NYSE, Euronext Paris and Borsa Italiana, Milan
- Advanced research and development centers around the globe:
  - ~ 15,000 patents
  - ~ 9,000 patent families
  - More than 500 new filings in 2015
  - ~ 8,300 people working in R&D

4

## Where you find us

| G4-4 | G4-8 |



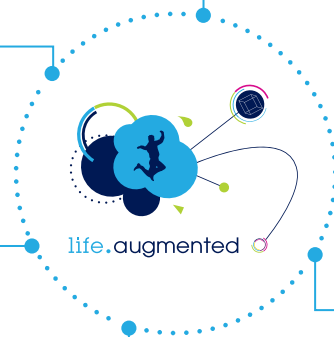
Making **driving** safer, greener and more connected



Making **homes** smarter, for better living, higher security, and less waste



Making everyday **things** smarter, connected and more aware of their surroundings



life.augmented



Enabling the evolution of **industry** towards smarter, safer and more efficient factories and workplaces



Enabling **cities** to make more of available resources

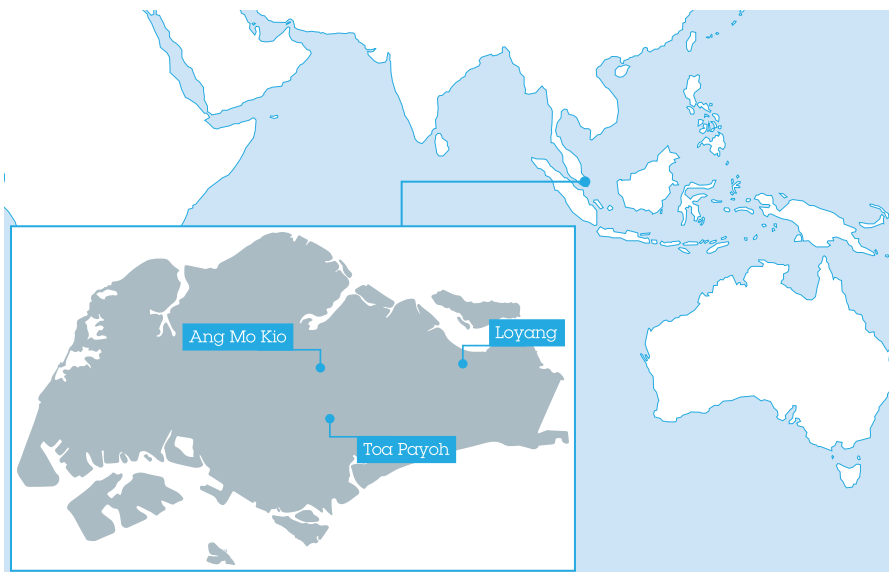




# Focus 2015

## Zoom<sup>1</sup> on ST Singapore

Operations were established in Singapore in 1969 by SGS, one of the founding companies of ST. Since then, the Company's Singapore operations have grown significantly, cementing ST's place as a major industry player in Asia Pacific – the fastest-growing semiconductor market in the world. Today, ST has three locations in Singapore, involving almost all the Company's activities, ranging from manufacturing to logistics.



### Ang Mo Kio

- Front-end manufacturing and Electrical Wafer Sorting (EWS)
- Business Headquarter (BHQ)  
Greater China & South Asia sales and marketing operations
- Integrated Circuit (IC) Design and Research & Development

### Toa Payoh

- Headquarters of the Packaging and Test Manufacturing organization
- Corporate Packaging and Automation
- Electrical Wafer Sorting

### Loyang

- Logistics hubs and warehousing

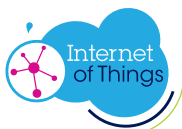
### RESPECT OF THE ENVIRONMENT AND CONTRIBUTION TO SOCIETY

ST's technical, marketing, and manufacturing strengths are further enhanced by an unwavering commitment to sustainable excellence. The Company's support and contributions towards Singapore's environment, economy and community are regularly recognized by the Government and cited as an example of excellence.

### 2015 MAJOR SUSTAINABILITY INITIATIVES

- Education: helping to design the nationwide Institute of Technical Education's curriculum in order to meet industry standards and needs.
- Social: community involvement programs including Home Aid, Give for Good, Back-to-School Project and other outreach programs. These are designed to help disadvantaged members of society, such as low income families, children and the elderly, to improve their living conditions, opportunities and quality of life.
- Environment: reforesting parts of the Singing Forest, a nature reserve in highly urbanized Singapore. Volunteers from ST who are also qualified Bird Watch Guides take the public on bird watch tours in the Singing Forest.

### MARKETS SERVED



### MANUFACTURING AREA

51,200 square meters clean area

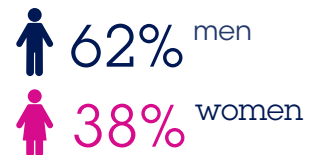
### CERTIFICATIONS

ISO 14001, ISO 9001, ISO 50001, EMAS, ISO/TS 16949, OHSAS 18001

### OUR EMPLOYEES

• Headcount: **4,581**

• Split by gender:



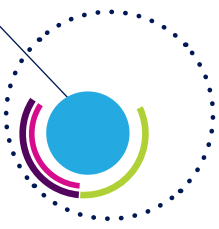
• Split by job category:



• Average age: **37.9** years

1. Each year we focus on different sites or regions to present their profile and activity in a more detailed way.

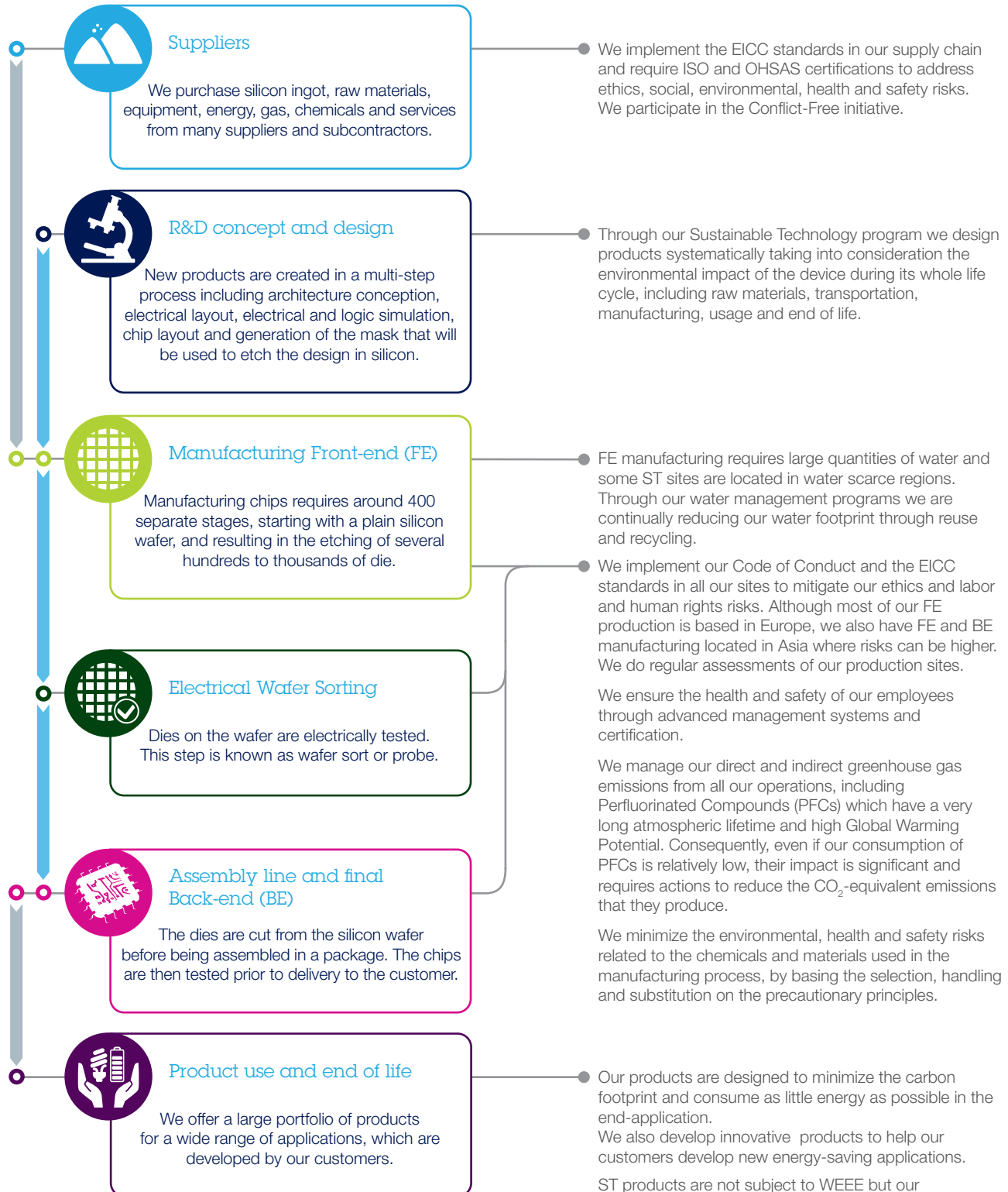
2. Exempt: refers to employees who hold positions normally requiring graduate or post-graduate education and who are not eligible for overtime compensation.

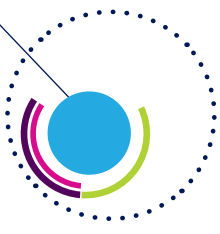


# Value Chain | G4-12 |

## MAIN STEPS IN OUR VALUE CHAIN

## MANAGEMENT OF OUR IMPACTS





# 2015 Significant Events

## March

The Supervisory Board resolved that the dividend distributions, more recently decided on a semi-annual basis, will now be decided on an annual basis at the Annual General Meeting of Shareholders.



ST closed the agreement signed on July 22, 2014 with Enel Green Power to transfer our equity stake in 3Sun. As a result, ST paid €11.5 million to Enel Green Power in exchange for our full release from any obligations concerning the 3Sun joint venture and Enel Green Power. In addition, ST forgave its €13 million outstanding shareholder loan to the 3Sun joint venture.



ST agreed with IBM to end its participation in the IBM Technology Development Alliance, at the end of the second quarter.

## May

The Annual General Meeting of shareholders was held in Amsterdam, The Netherlands. Nicolas Dufourcq was appointed as a new member of the Supervisory Board, for a three-year term, in replacement of Mr. Jean d'Arthuys whose mandate terminated as of the 2015 AGM.

Ms. Martine Verluysen was reappointed as a member of the Supervisory Board, for a three-year term.

Ernst & Young Accountants LLP was appointed as the external auditor for the 2016-2019 financial years, an eight-year audit firm rotation period.



## July

ST, together with the French Institute of Materials, Microelectronics and Nanosciences in Provence, announced the official launch of a new joint research laboratory, the Radiation Effects and Electrical Reliability (REER) Joint Laboratory, to develop the next generations of high-reliability, ultraminiaturized electronic components. The REER Joint Laboratory is a multi-site research establishment that will bring together teams from the IM2NP Institute, based in Marseille and Toulon, and specialist engineers from the ST facility in Crolles.

## September

ST's President and CEO, Carlo Bozotti joined 100 chairmen and CEOs of international companies and nine organizations, in signing the "Business Proposals for COP 21", a business-led initiative sponsored by Global Compact, showing the global awareness of top Executives on climate change issues, thus confirming ST's engagement to minimize Carbon emissions.



## November

Among 5,500 companies worldwide evaluated by the Carbon Disclosure Project (CDP) committee in 2015, ST was invited to ceremonies in Paris and Milan as one of the companies with the best overall score.

## December



ST announced its collaboration with Semtech to scale LoRa® Technology to meet high volume demands of Internet of Things applications.



# Foreword by our President and CEO

IG4-11



The success of the Paris agreement on Climate change (COP 21) made 2015 a historic year for sustainability, although much work lies ahead to implement the decisions taken. ST, who had signed the business-related proposals of COP 21, also made significant progress. After the full review of our sustainability strategy to address the most material issues for our business and our stakeholders in 2014, we started the implementation phase in 2015, with positive results across our three pillars: Business, People, and Environment & Operations.

## **A new strategy enabling smart sustainability**

Today, ST focuses on serving two strategic areas: first, what we call Smart Driving, and second, the Internet of Things (IoT) and its very broad range of applications. Smart Driving is about making cars and other means of transportation greener, safer and more connected, and is supported by the major shift influencing the automotive industry today: the progressive electrification and digitalization of all in-vehicle systems. Serving the IoT market is about enabling the creation of new devices with associated applications and services. It is also about the evolution of the environments in which we live and work: doing things in a more sustainable manner with greater efficiency and flexibility, with a safer and better experience for everyone, at home, in the city, in factories and workplaces.

## **Making progress**

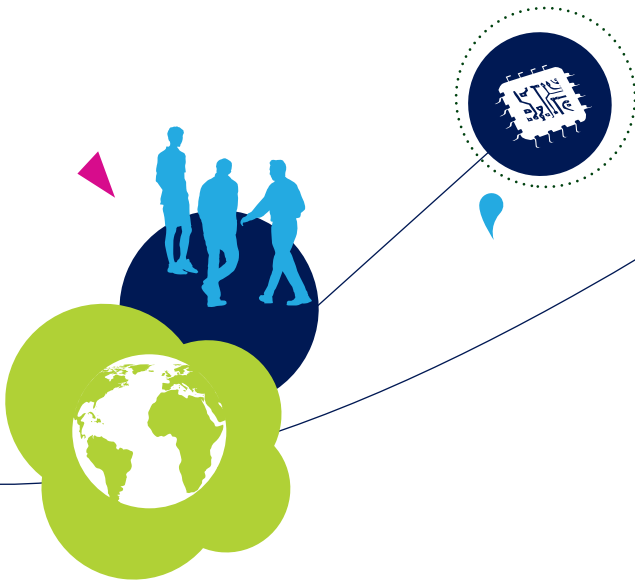
Our business made **financial progress** in 2015, with improved operating and net income<sup>1</sup> and the highest level of free cash flow we've recorded in the past five years. We also maintained a solid capital structure, in both our net financial position and in total liquidity.

We continued to focus on **product innovation**, spending 21% of our net revenues on R&D and product design to build the future. The efforts of our 8,300 employees in this domain were reflected in the filing of approximately 500 original new patent applications. ST's 500-strong Technical Staff community (our most senior engineers) is driving the Company's most advanced R&D projects, which coordinate activities focused on incubating innovative, cross-functional projects on sensors, smart power and automotive, healthcare, and IoT applications.

We made significant steps forward at the product design level to ensure a consistent, **sustainable-technology approach** across the company. We have rolled out strong Eco-design guidelines that, at the design stage systematically account for our products' environmental impact during their whole life cycle; Product Compliance rules that cover the respect of legislation and customer requirements on REACH, RoHS and the use of conflict-free minerals; and, our Responsible Products framework, which identifies and delivers innovative products that provide clear environmental and social benefits, on top of the immediate customer and end-user benefits.

1. Excluding the catch-up of R&D funding in 2014.





**For employees**, on top of new leadership and talent-management programs, our new strategy focused on Smart Driving and IoT meant adjusting priorities. In 2015, we deployed a new Learning-Needs Analysis process, based on strategic organizational priorities aligned to business objectives and local plans. As a result, we delivered over 2 million hours of training, with a focus on R&D and leadership training. And our “Grow Your Career” initiative, aimed at expanding employee skill-sets and cultural diversity, has already encouraged 65 employees to broaden their horizons by transferring between geographies.

Our **Health and Safety** results and actions continued to progress in 2015. We increased our focus on non-manufacturing sites for domestic accidents prevention. For ten years, ST has been strongly committed to its goal of achieving zero accidents in the workplace through formal safety programs identifying trends to help us better anticipate risks and take precautionary actions. This resulted in our recordable-case rate decreasing by 2% compared to 2014, and our best-ever annual result.

In its **manufacturing operations**, ST made a strong effort to reduce energy consumption and our associated carbon footprint through additional energy efficiency and conservation programs, by purchasing power from CO<sub>2</sub>-free and renewable sources, and by recycling and reusing water. In 2015, approximately 23% of the energy ST purchased was produced from renewable sources, compared to 7.4% in 2012 and we intend to go further. In 2015 we reached the level of 45% of our water consumption being recycled and reused.

We also continued to support the **ST Foundation** with its Digital Unify program, which has been successfully spreading the benefits of digital technology during 2015. Our work has empowered more than 327,000 people globally since its inception, leveraging the contributions of ST employees. With ST’s encouragement, our employees also played an active role in their local communities, contributing to about 338 initiatives from 24 sites in 14 countries. Our people volunteered their time and energy and ST added more than 130,000 hours of Company time to these efforts.

All of these actions were compounded by a number of changes and monitoring programs being updated, signed and implemented, including the latest, more stringent version of the Electronics Industry Citizenship Coalition (EICC) Code.

### **Looking forward**

We have much to be proud of in our achievements at ST. Still there is much to do. This is why we are committed to turning 2016 into another year of progress for our sustainability efforts across our strategic pillars: people, business, environment & operations, continuing to deliver on our vision to be everywhere microelectronics make a positive contribution to people’s lives while building sustainable growth.

Carlo Bozotti  
President and CEO



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

Supervisory Board Charter updated in **2015**

## Corporate Governance

STMicroelectronics N.V., our parent company, is registered in the Netherlands and has its corporate legal seat in Amsterdam. Its shares are listed on the New York Stock Exchange (NYSE), Euronext Paris and Borsa Italiana. 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 country of incorporation and consolidated by STMicroelectronics N.V. | [G4-7](#) | [G4-17](#) |

In accordance with Dutch law, we have a two-tier governance structure pursuant to which 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 (updated in May 2015), which 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 the general course of our affairs and business.

Our Supervisory Board is composed of nine members appointed by our Annual General Meeting of Shareholders for a three-year term. 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.

In accordance with the Profile and the Charter adopted by our Supervisory Board (available at <http://investors.st.com>), the members of our Supervisory Board are carefully selected on the basis of certain criteria. These include their specific business, financial, technical and/or legal expertise, prior professional experience, soundness of judgment, ability to make analytical enquiries and willingness to devote the time needed to adequately perform their activities as Supervisory Board members.

The Supervisory Board has also determined the following independence criteria for its members, in accordance with the corporate governance listing standards of the NYSE: Supervisory Board members must not have any material relationship with STMicroelectronics N.V., or any of our consolidated subsidiaries, or our management.



## Sustainability Governance

Our Corporate Vice President, Human Resources and Sustainable Development, Philippe Brun, reporting to the Chief Strategy Officer, Georges Penalver, has overall responsibility for sustainability. Part of his remit is to chair the Sustainability Council and update our senior management, including our President and CEO, at quarterly corporate staff meetings.

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

At the corporate level the Social Responsibility and Environment, Health and Safety groups are responsible for deploying our Sustainability strategy and programs. They are supported by a network of over 100 local Sustainability Coordinators who deploy the programs and monitor our performance in all sites and organizations.

Our main sites also have Sustainability Steering Committees, chaired by the local Sustainability Coordinator. These Committees manage the local governance and take decisions related to deploying the strategy. | G4-34 |

ST has been a signatory to the United Nations Global Compact since 2000 and a full 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; Organization for Economic Cooperation and Development Guidelines for Multinational Enterprises; EICC Code of Conduct; ISO 26000; OHSAS 18001; ISO 14001; EMAS; ISO 50001; ISO 14064; and QC 080000.

| G4-15 | G4-16 |

Sustainability Council  
comprises

12 Vice Presidents

Signatory to the

Global Compact since  
2000

A 'material relationship' can include commercial, industrial, banking, consulting, legal, accounting, charitable or familial relationships, among others, but does not include a relationship with direct or indirect shareholders.

In May 2015, Mr. Nicolas Dufourcq was appointed as a new member of our Supervisory Board, for a three-year term, replacing Mr. Jean d'Arthuys whose mandate terminated as of the 2015 Annual General Meeting of Shareholders (AGM). Ms. Martine Verluyten was reappointed for a three-year term, expiring at the 2018 AGM.

The biographies of each of the nine members of our Supervisory Board can be found in the Corporate Governance section of our website at <http://investors.st.com>.

The Supervisory Board met nine times in 2015. Full details of the attendance rate at our Supervisory Board and its Committee meetings can be found on page 59 of our Form 20-F annual report which is available on our website at <http://investors.st.com>.

## Supervisory Board Committees

In performing its duties, our Supervisory Board is advised and assisted by four committees, as follows: the Audit Committee, the Strategic Committee, the Compensation Committee, and the Nominating and Corporate Governance Committee. The four standing committees are independent from the Managing Board and senior management. The Supervisory Board Charter governing the duties and responsibilities of each of those committees was updated in May 2015. It is available on our website and can be found in the Corporate Governance section 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. Mr. Carlo Bozotti, who was reappointed in June 2014 for a three-year term to expire at the end of our 2017 Annual General Meeting of Shareholders, is currently the sole member of our Managing Board with the function of President and Chief Executive Officer (CEO). He has held this position since March 2005.

Our Managing Board is supported in its management by our senior managers, without prejudice to our Managing Board's ultimate responsibility.

In accordance with our Corporate Governance Charter, the sole member of our Managing Board, as well as the Chief Operating Officer and our senior management, may not serve on the board of a public company without the prior approval of our Supervisory Board. | G4-34 |

## Independence of the Corporate Audit function

The Corporate Audit function is strictly independent from corporate and local management.

The mission of Corporate Audit, as defined in the ST Internal Audit Charter, is consistent with the Institute of Internal Auditors Standards and was approved by the Chair of our Audit Committee and our President and CEO. It is as follows:

- Corporate Audit is an independent function designed to provide objective assurance and consulting activity, which adds value, improves ST's operations at all levels, and evaluates and promotes compliance with ST's Standard Operating Procedures and policies.
- Corporate Audit helps ST accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes.
- Corporate Audit is a major component of ST's governance framework and assists the Audit Committee of the Supervisory Board and the Company's certifying officers in their fiduciary duties.

Our Chief Audit and Risk Executive, Franck Freymond, is the head of Corporate Audit. He reports directly to the Audit Committee of our Supervisory Board, attends Audit Committee meetings, has direct interactions with the Chair of the Audit Committee throughout the year and attends executive management quarterly meetings. The current functional reporting line and the practices in place ensure the head of Corporate Audit the appropriate level of organizational independence and unrestricted access to executive management and the Supervisory Board.

ST Corporate Audit performs its activity in conformance with the International Standards for the Professional Practice of Internal Auditing (including the Definition of Internal Auditing and the Code of Ethics), released by the Institute of Internal Auditors.

# Sustainability Strategy

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



## Our approach to sustainability

Sustainability has been a guiding principle within STMicroelectronics for more than 20 years. Today, sustainability is integrated throughout our entire business, allowing us to maximize opportunities in areas such as Sustainable Technology and Innovation, as well as helping us to predict and mitigate risks in our operations and business performance.

As a full member of the Electronic Industry Citizenship Coalition (EICC) we participate in the collective efforts of the industry to find solutions to our biggest sustainability challenges, such as conflict minerals, environmental protection, social issues, health and safety. Our values are set out in our Company's Code of Conduct and our Sustainability strategy ensures that our programs are aligned with our business priorities and our vision to make a positive contribution to people's lives.

## Our Sustainability priorities and strategy

Our materiality exercise, conducted in 2014, collected inputs on stakeholders' expectations and the impact of our activities (refer to [2014 Sustainability Report](#)).

### I G4-25 I

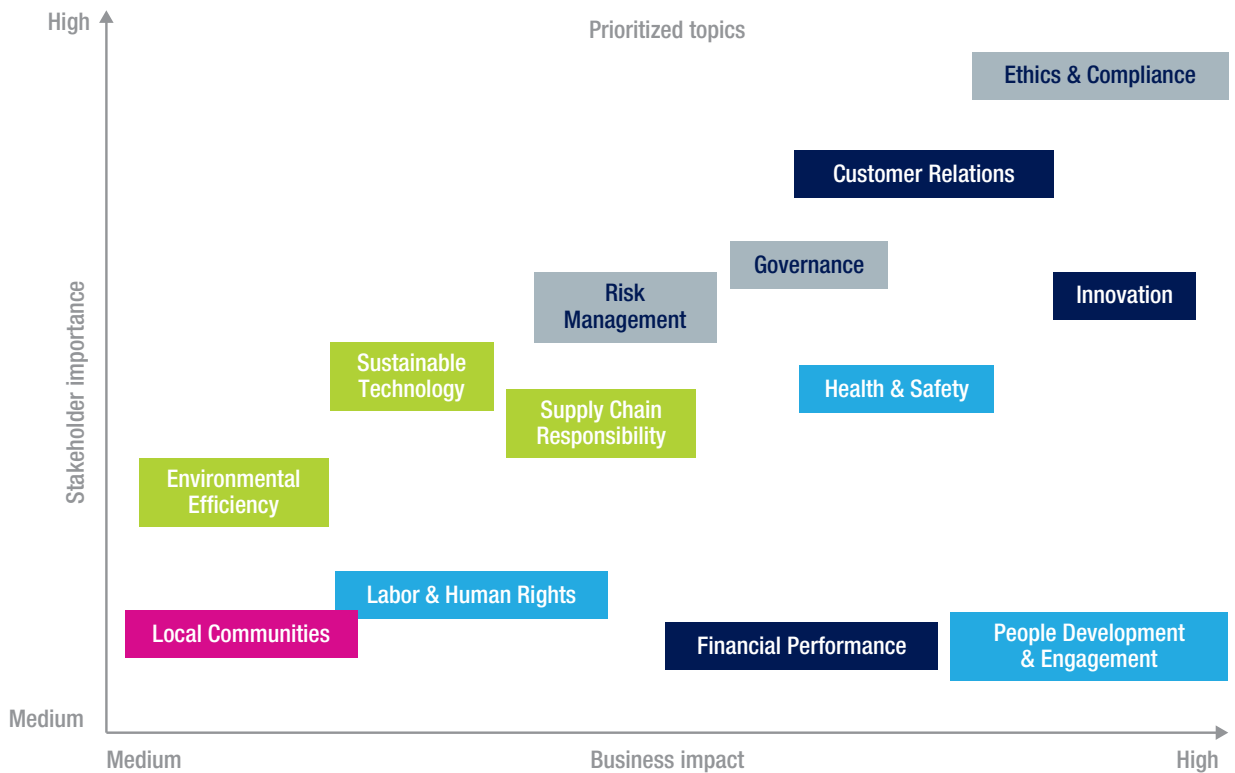
These insights led us to identify and select the most pertinent sustainability topics for our organization and our internal and external stakeholders.

The resulting strategy was fully deployed in 2015. We focused on anchoring and promoting our strategy and its priorities to increase awareness and to engage our employees in the sustainability journey. Throughout the year, we organized calls with our Sustainable Excellence network, which plays an essential role in raising awareness about our programs and performance. We distributed communication kits to managers to share with all employees and created posters that were translated and adapted to the local culture of each of our major sites.

To ensure our strategy and Sustainability priorities remain focused on the core material topics, at the end of 2015 we conducted a review of external trends such as semiconductor industry regulations and standards, extra-financial analysts questionnaires (DJSI, CDP), and research on social and environmental issues. Based on this review we reconfirmed our 13 key Sustainability priorities defined in 2014, which form our Sustainability strategy for the coming years. [I G4-23 I](#)

This report is structured according to these Sustainability priorities, and specific programs and objectives are detailed in the following sections.

## Materiality matrix | G4-19 | G4-27 |



### Engaging with our stakeholders

Our stakeholders are employees, customers, suppliers, investors, organizations and other entities that can affect or be affected by ST's programs, strategies and policies. Maintaining an open dialog with our stakeholders is essential to understand their interests and expectations. Each site conducts specific actions depending on its activity, size, location and culture but all ST sites have regular exchanges with major local stakeholders, such as local authorities, schools and universities. These exchanges are orchestrated by site management and local Sustainable Excellence Coordinators. | G4-24 |

## EHS Seminar in Malta



### FOCUS

#### ST Kirkop's (Malta) engagement with stakeholders

Our Kirkop (Malta) site's Environment, Health & Safety (EHS) Week 2015: EHS for Today and Tomorrow, proved a hit not only with ST employees but also with external stakeholders, who are still reaping the benefits. The highlight of the week was a seminar for environmental practitioners, organized by our Facilities Department. The seminar was attended by around 50 environment practitioners from industry, government agencies and academia, as well as ST employees. During the seminar, three main topics were shared: the revision changes for ISO 14001, green procurement, and good environmental practices at ST. The seminar included a much anticipated site tour around our Kirkop facilities, where visitors were shown around the compressor room, substation, new microfiltration plant, emergency response room, fire pump room, gardens, waste hut and the water-based ecosystem in the quarry. After this, attendees enjoyed a fruitful networking session over lunch. They could also see a display of stunning photos with the theme of 'Nature and ST'. The attendees found it to be a well-organized and engaging initiative.





# Sustainability photo contest

## FOCUS

### Sustainability photo contest



In 2015 we ran a company-wide photo contest asking employees to submit photos of “what sustainability means in ST”. Denise Ann Buhagiar, Environmental Champion of the Kirkop (Malta) site, won with her picture symbolizing all the pillars of our Sustainability strategy: People, Business, Environment & Operations and also Local Communities. “The photo illustrates a local plant of the Maltese Islands, Medicago arborea, which grows at the ST Malta site in Kirkop, and I chose it for a number of reasons,” Denise Ann explained. “ST employees planted this endemic plant in the Kirkop site in January 2015. It was part of an activity to remove alien and high-water uptake Acacia trees and replace them with endemic and indigenous species for the Maltese Islands, which are more adapted to dry conditions. In this way, ST Malta is helping to conserve the Maltese Islands’ natural resources and natural capital (economic aspect). We are replacing alien plant species with local species (environmental aspect). We have involved ST employees in this project and they can now enjoy the vivid colors even from the office and enjoy delicate scents during their lunch break (social aspect).”

## Stakeholder engagement | G4-24 | G4-26 | G4-27 |

Stakeholders*	Key Sustainability priorities**	Engagement/Communication channels	Benefits
<b>Employees</b>	Health and Safety Ethics and Compliance Supply Chain Responsibility	Seminars, conferences, forums VP or group leader communication meetings Recognition, awards, contests Intranet, internet, news, emails Training, workshops Employee surveys Application week, EHS week	Engagement Loyalty and retention Contribution to company's success
<b>Customers</b>	Customer Relations Health and Safety Supply Chain Responsibility	Trade shows Conventions, technical seminars Audits and site visits Joint seminars, conferences, Technodays, workshops Meetings	Open dialog Transparency and credibility Knowledge sharing
<b>Investors &amp; Analysts</b>	Governance Risk Management Sustainable Technology	Investors and analysts day, face to face meetings Annual reports Extra-financial questionnaires	Reputation Trust Secured ability to operate
<b>Suppliers</b>	Supply Chain Responsibility Ethics and Compliance Financial Performance	Meetings Audits Suppliers' trainings Surveys EHS week Technical roadshows	Transparent and attractive Supply Chain Low risk supply Knowledge sharing Promote Labor and Human rights
<b>Industry international associations</b>	Ethics and Compliance Innovation Sustainable Technology	Memberships in Public-Private Partnerships, European Associations, EICC, ESIA Participation in consortiums, in working groups of Electronic industry associations Meetings, conferences, seminars	Knowledge sharing Strengthening industrial competitiveness Early adoption of new regulations
<b>Academic and Laboratories</b>	People Development Local Communities Environmental Efficiency	Internships, scholarships, PhDs Joint R&D projects, Joint laboratories Conferences, Technical seminars Site visits	Adoption of new technologies, driving innovation Talent cultivation and attraction Reputation
<b>National and local authorities</b>	Ethics and Compliance People Development Environmental Efficiency	Partnerships with municipalities Meetings, conferences, seminars Annual reports Site visits	Contribution to society Promote our activities, credibility Compliance with national and local regulations
<b>Local Partners</b>	Ethics and Compliance Governance Labor and Human Rights	Partnerships Conferences, Conventions, meetings Site visits Donations, trainings, volunteerism, local initiatives	Community involvement People engagement Responsible behavior

\* As a multinational company, we have daily contact with most of these categories of stakeholders

\*\* Top 3 priorities retained by each group of stakeholders in our 2014 materiality exercise



### Jean-Louis Champseix

Group Vice President,  
Learning & Development,  
Social Responsibility and  
HR Management Systems

### Edwin Dobson

Senior Director,  
Corporate Environment,  
Health and Safety,  
Front-end Facilities

## How do you think Sustainability contributes to ST's business?

**Jean-Louis:** Sustainability has been a guiding principle in ST for more than 20 years, and the level of maturity we have reached in recent years now means that it is a significant business driver, creating value and reducing risks for all our stakeholders. It motivates our employees, drives innovation and people living near ST are proud of our presence.

**Edwin:** It has also contributed to making our factories more efficient by reducing our energy and water consumption and improving our air and water emissions. And ultimately, it has led us to design products that bring a competitive advantage to our customers in low-power applications, applications that reduce energy consumption for the final user, and applications that contribute directly to the safety of the end user, especially in automotive.

## What are your main success stories of 2015?

**Edwin:** In 2015, four of our Front-end factories were audited by a major customer as part of a global program on the water management of their suppliers. Two of our factories were ranked in the top 10 best-in-class, the other two also scoring well. Overall ST was confirmed as a significant leader in this area. This was welcome recognition of our long-term commitment to reduce our environmental footprint. Another success was integrating the Eco Design and Responsible Product part of our Sustainable Technology program into the new formal product introduction and design flow tool so that from 2016 onwards we capture all the efforts of our product groups in this area.

**Jean-Louis:** Sustainability is so embedded in all ST processes, that it is difficult to pick just a few.

In terms of people management and engagement, on top of our continuous improvement of our EICC audit scores, ST has introduced and deployed a very comprehensive update of our own Code of Conduct. We have also deployed a new performance management process putting the emphasis on feedback and development.

Increasing demand from our customers and stakeholders encourages us to enhance our monitoring of suppliers and subcontractors, and support them to improve their procedures and performance. We have an important role to play when outsourcing and in 2015 we extended our Supply Chain Responsibility program to our local suppliers.

## What are the future challenges?

**Edwin:** In spite of our advance, legislation is continually evolving and we need to keep ahead. We need to continue to be proactive regarding the impact of our activities, find new ways to further improve our factories' EHS performance and deliver added value to our customers with sustainable and responsible products.

**Jean-Louis:** We are working to sustain our growth and leadership. 2016 is a year where we will exploit our leadership and innovation models to increase our share in the booming market of Internet of Things. We will take advantage of our low-power environmentally-competitive technologies and products, and our leading robust solutions for the coming smart driving revolution. On the whole we will continue with our pioneering spirit for sustainability to ensure we are recognized as an attractive partner in a world that is justifiably more demanding in managing risks and creating value for all.

# 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  
updated in 2015

## Code of Conduct

Our vision speaks for itself: we want to be everywhere microelectronics brings a positive contribution to people's lives. This must be reflected in everything we do and how we do it.

At ST we respect and follow both the spirit and the letter of the law, everywhere we operate. Business ethics, the respect of human rights and a sense of responsibility to all our stakeholders and to the environment are a matter of personal integrity for each of us.

Our Company Code of Conduct is all about our values, which have been part of ST's DNA for more than two decades. Commonly held values and principles are shared throughout our organization and represent our corporate culture, the continuity of our history, and guide each of our employees in facing our future challenges and opportunities.

**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.

## E-signature of Business Conduct and Ethics Policy\* (%)

2011	2012	2013	2014	2015
90	93	93	91	95

\* Percentage of eligible exempts. From 2015 onwards the Business Conduct and Ethics Policy is replaced by our Code of Conduct.

In 2015, our former Business Conduct and Ethics policy and Principles for Sustainable Excellence were merged into a single document, our Code of Conduct. Although our values remain the same, the goal of the new document is to describe them in easy-to-read language, and provide real-world examples on 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. This new document is a key pillar of our Compliance Program.

Our updated Code of Conduct, which is available in nine languages, was released in the second half of 2015. In 2016 each employee will receive a paper copy of the Code of Conduct and an e-Learning program will be deployed to exempt employees.

As our managers have a special responsibility to lead by example and guide those that they supervise, each year they are required to sign and certify their understanding of, and compliance with our Code of Conduct. With the replacement of the policy and the deployment of the new code, the signature will be extended to all of our exempt employees in 2016. | [G4-56](#) | [G4-DMA](#) |



### Bribery and corruption

ST has a zero tolerance approach towards bribery and corruption, regardless of the identity or position of the originator or recipient of the bribe. In ST it is also strictly forbidden to use ST funds or assets to make a political contribution.

In addition to a dedicated section in our Code of Conduct we have a specific Anti-bribery and Corruption policy which was reviewed in 2014 and deployed throughout the Company in 2015. It provides clear definitions regarding instances of bribery and corruption and offers a detailed description of the Company rules for engaging with third parties. Furthermore it explains how to report violations or suspected violations and outlines the potential disciplinary actions and legal consequences of non-compliance.

In 2015, the Company started to conduct a yearly Fraud Risk Assessment by following a structured approach across various Company locations and organizations. The assessment conducted in 2015 specifically focused on the risk of corruption. | [G4-DMA](#) |

### Speak up & misconduct reporting

ST's framework, aiming at encouraging employees and interested third parties to report allegations or suspicions of misconduct, was significantly updated in 2015 with the release of a new Standard Operating Procedure on the subject. The new framework is communicated to all employees in the 'speak up' section in our Code of Conduct.

At ST we promote a 'speak up' culture among employees, encouraging 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 standards of business ethics.

Employees are invited to share their concerns with someone who can address them properly. In most cases, the employee's manager is the best person to address such a concern. Alternatively, employees can also address their concerns (depending on their nature) to their local Human Resources, Legal Department or Site Manager. All concerns raised in good faith by employees are taken seriously and proper and timely feedback is provided.

Employees can also choose to report their concerns at corporate level, by contacting the Corporate Vice President Human Resources, the General Counsel, the Chief Compliance Officer or the Chief Audit & Risk Executive. Contact details are available on the 'speak up' page of the Company's intranet.

For employees who feel uncomfortable addressing their concerns directly at local or corporate levels, the Company has established a Misconduct Reporting Hotline, which can be used by any Company employee or interested third party, to raise a concern.

Anti-bribery and  
Corruption  
policy

'Speak up'  
culture



## Dedicated procedure for internal investigations

All reports received through any of the available channels are strictly confidential and we ensure that no employee who reports a concern in good faith suffers retaliation in the form of harassment, adverse employment or career consequences.

ST also openly communicates internally on the way reported allegations and suspicions are processed, through a dedicated Standard Operating Procedure, released in September 2015. The procedure contains a section describing the rights and obligations of employees subject to an internal investigation.

Employees are informed that they are the subject of an internal investigation after an assessment phase is completed and they are given an opportunity to discuss the investigation's findings before any disciplinary measure is considered.

Employees under investigation are also obliged to fully cooperate with the internal investigators by making themselves available for interviews, by providing all of the requested evidence and by keeping all communications confidential.

Information is provided at least quarterly to the Audit Committee of the Supervisory Board, the Corporate Ethics Committee and the Certifying Officers, which enables them to follow up on the progress and conclusion of investigations.

### Corporate Ethics Committee

Our Corporate Ethics Committee (CEC) was formed in 2007 and currently comprises nine senior managers appointed by the 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 consistent across regions, functions and organizations.

The CEC's roles and responsibilities include:

- discussion and evaluation of ST's Code of Conduct, other procedural documents or initiatives related to business ethics as well as ethical breaches, allegations and related investigations,
- issuing guidance on ethical dilemmas,
- coordination of the network of local ethics.

In accordance with its mission and scope, the CEC may issue recommendations to the relevant organization.

In addition to the CEC, 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.

## Corporate and local ethics committees

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### Non-compliance/Ethical breaches reporting | G4-S05 |

	2015
<b>Number of incidents under review as of January 1<sup>st</sup></b>	<b>3</b>
<b>Number of incidents reported or identified during the year</b>	<b>13</b>
<b>Actual fraud cases identified through audit or management review</b>	<b>0</b>
<b>Incidents closed by a formal investigation report</b>	<b>5</b>
Number of confirmed external fraud cases	1
Number of confirmed internal fraud cases	1
which lead to employees being dismissed or disciplined	1
which lead to terminating or not renewing contracts with business partners	1
<b>Incidents closed after preliminary assessment</b>	<b>9</b>
<b>Incidents still open at year end</b>	<b>2</b>
<b>Number of public legal cases regarding corruption brought against ST or its employees</b>	<b>0</b>

## Objectives



Objectives	Status	Comments
<b>Improve the integration process between allegation reporting and investigation management.</b>	✓	Completed by two procedural documents on "Reporting of misconduct" and "Management and reporting of internal investigations". Objective discontinued.
<b>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.</b>	🔄	Activities were discussed during Corporate Ethics Committee. The Code of Conduct deployment will improve visibility.
<b>Design and implement a structured approach to assess the risk of fraud globally.</b>	✓	Yearly Fraud Risk Assessment. Objective discontinued.
<b>Modernize whistleblowing channels by creating an online misconduct reporting platform.</b>	NEW	

# Risk Management

Our goal is to be recognized by our stakeholders as among the best companies for risk management and business continuity, by meeting and exceeding customer requirements, local and international legal requirements, and international standards.

ERM process is aligned with **ISO 31000**

## Enterprise Risk Management

The purpose of Enterprise Risk Management (ERM) at ST is to manage risks and seize opportunities in order to achieve the Company's objectives and enable sustainable growth. In this context the ERM systematically, consistently and effectively identifies, evaluates and manages all types of risk across the Company, including establishing effective risk mitigation action plans for identified key and top priority risks.

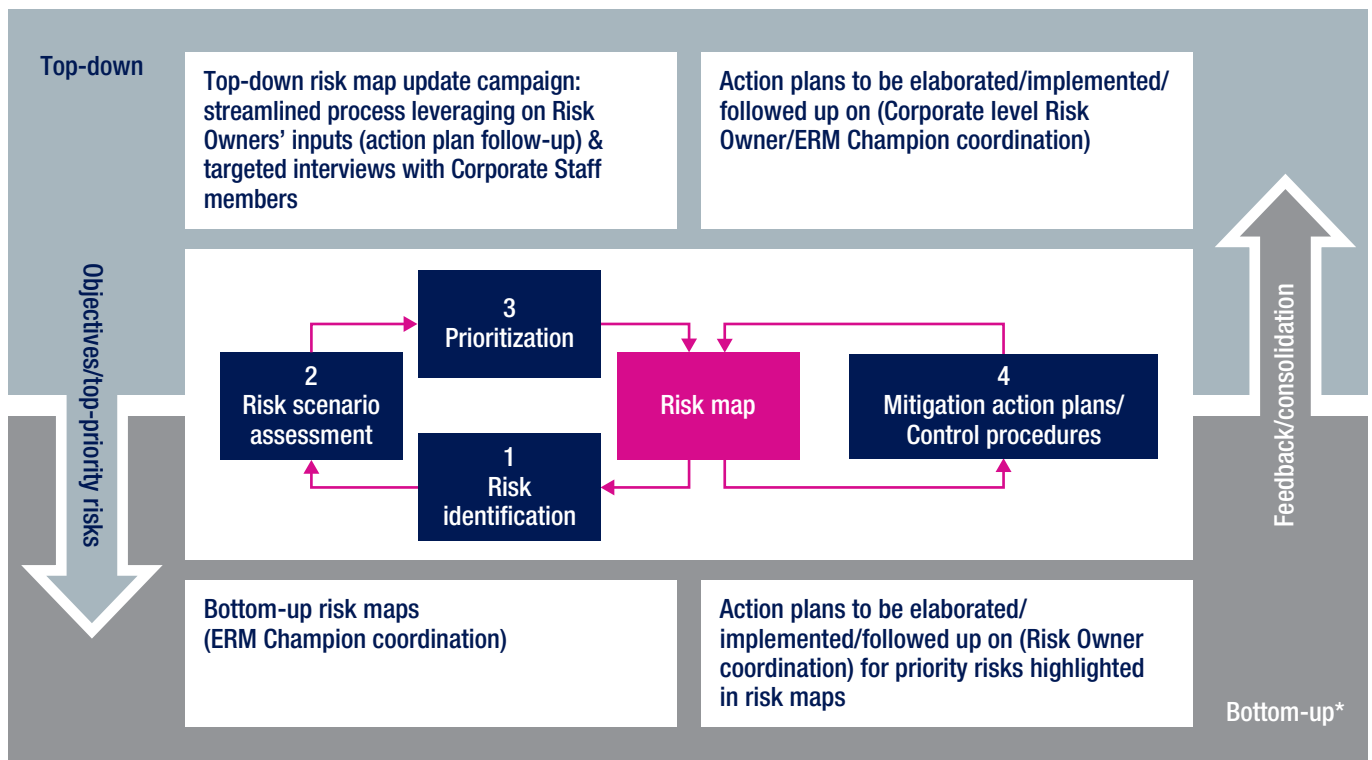
Risks are grouped into the following categories: Governance, Strategy, Innovation & Execution; Intangible Assets; Operations; Products; Market Environment; External Events; Legal, Regulatory & Compliance; People, Skills & Organization; Finance; and Information Systems. The risks are assessed in terms of impact, likelihood and room for improvement.

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 to ensure that the ERM activity is aligned with Company objectives and that it serves as a key enabler for achieving the organization's business objectives in growth and sustainability.

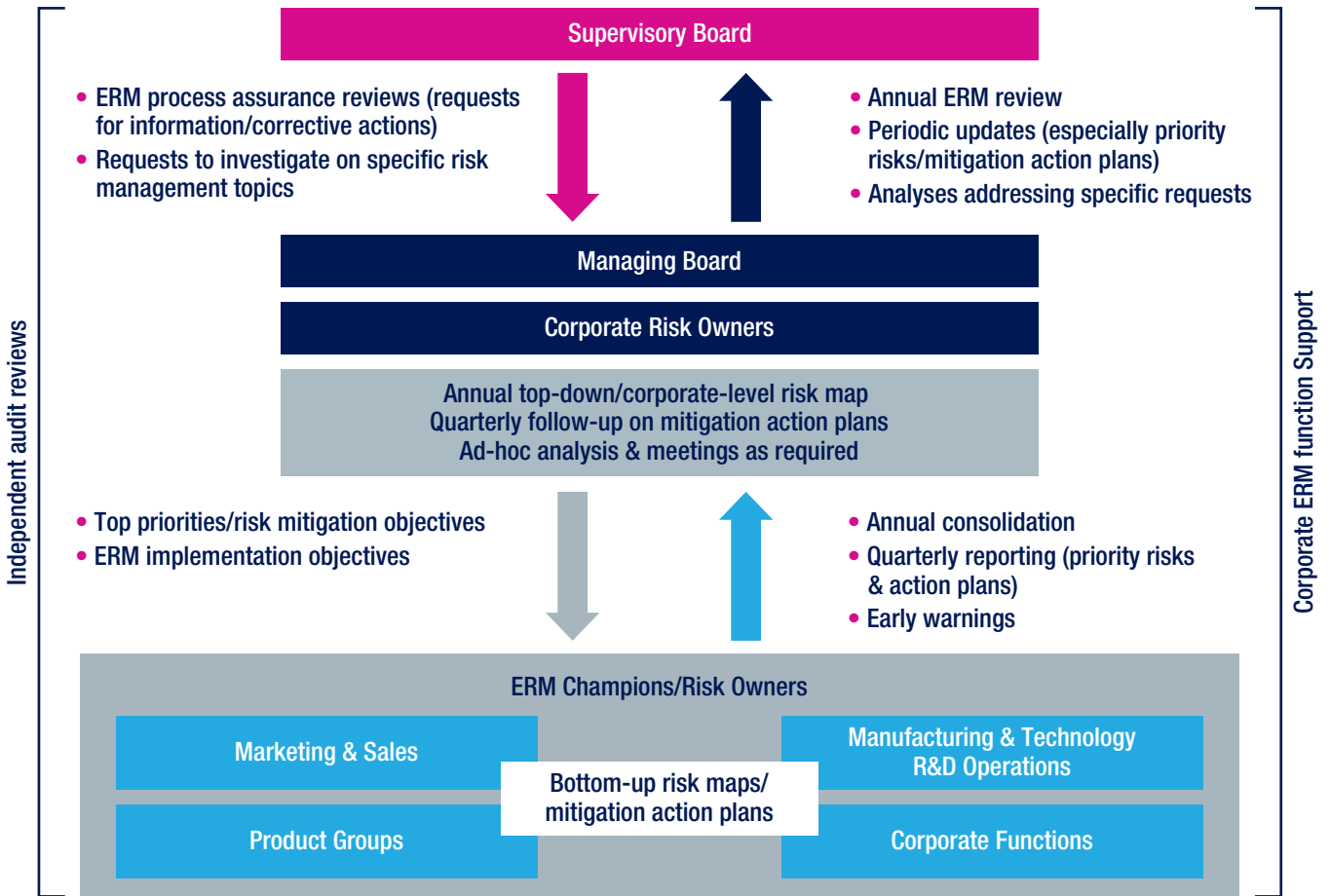
Our ERM process is aligned with the principles and guidelines of the ISO 31000 standard. It applies a holistic approach and is designed to address both top-down and bottom-up perspectives.

It is built on a comprehensive risk universe, comprising generic risk areas that allow consolidated and comparative analysis across ST, and is articulated along the activities described in the graph.



\* ST organizations

## ERM Governance



## Bottom-up risk assessment throughout the Company

### 2015 achievements

Our Supervisory Board Charter provides information regarding the respective duties and responsibilities of our Supervisory Board and Audit Committee in terms of risk management. It was updated in May 2015 and is available on our website in the Corporate Governance section at <http://investors.st.com>.

#### Top-down

We conducted a review of our top-down risk assessment with executive management. The output from this exercise was a risk map, including top-priority risk areas. Risk owners were appointed for each of these risk areas in order to develop risk mitigation action plans, which will be reviewed by executive management on a periodic basis.

#### Bottom-up

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

#### ERM tool

We deployed a Risk Management Information System (RMIS) supporting the ERM, which allows us to easily capture and consolidate data from across the Company, follow up and monitor the ERM action plans and provide reports to executive management and our Supervisory Board.

#### Risk reporting

We reported on ERM activities to executive management and the Supervisory Board.

Corporate  
risk analysis  
determines sites  
to be audited

ISO 22301  
training and  
gap analysis  
done for our 16 most  
important sites

## Sustainability risk management

Sustainability is part of our bottom-up process. The priorities defined in our Sustainability strategy are subject to risk mapping, where risks are identified and then evaluated according to the likelihood of the event, the severity of impact and the margin for improvement. Corrective actions are then defined to mitigate the identified risks. Some of our sustainability impacts and related actions for each step of our value chain can be seen on [page 6](#).

A specific annual corporate risk analysis also determines which of our sites will be selected for internal Environment, Health and Safety (EHS) audits and similarly which sites will be selected for labor and human rights self-assessments and Electronic Industry Citizenship Coalition audits.

In addition to our own operations, we also conduct risk assessments for our supply chain. This includes the social, ethics and EHS risks for our key corporate subcontractors and suppliers as well as local suppliers, such as canteen, cleaning, gardening and security services. For more information see [page 76](#).

In 2016 we plan to work on a more detailed mapping of social and ethics risks for each of our major sites, taking into account the local context and specific local risks.

## Business continuity

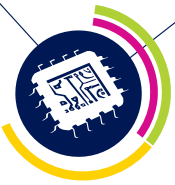
Securing our business continuity by managing the risks in our operational processes and supply chain is fundamental to providing top-level customer service and satisfaction. In our business continuity program each site and organization is responsible for assessing risks, identifying both internal and external events which may be critical for business continuity, and developing and implementing a plan to mitigate identified weaknesses. Our Corporate Security Group coordinates and harmonizes the various local approaches to risk assessment, prevention and recovery.

Announced in 2014, our program to formalize our business continuity with the ISO 22301 certification continued as planned in 2015, with a training and gap analysis completed for our 16 most important sites. We are currently reviewing the documentation and are on track to complete the final audit and certification phase by the end of 2016.





ST Technoday and Innovation Night, Paris, France



# Business



**512**  
patents filed  
in 2015

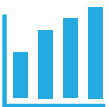
- Application strategic focus on Smart Driving and the Internet of Things



**21%**  
of net revenues  
invested  
in R&D

- ST is certified for ISO 9001 company-wide

- 8,300 employees dedicated to R&D



+US\$  
**104**  
million net  
income

- A portfolio of over 15,400 patents in more than 9,400 different patent families

| G4-DMA |

# 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. | G4-DMA |

**33.8%**  
gross margin

**US\$104**  
million net income

**US\$327**  
million free cash flow

**US\$350**  
million of dividends paid

## Company Financial Performance

In 2015, despite making progress in a number of financial metrics, our performance was limited due to a weak semiconductor market, particularly in the second half of the year, and some changes in customer plans did not allow us to grow revenues as we had expected. ST registered net revenues of US\$6.90 billion in 2015, a decline of 6.8% on a year-over-year basis, impacted by unfavorable currency effects and the progressive wind down of legacy ST-Ericsson product revenues. Excluding these two factors our revenues declined by 3.3%.

Our 2015 gross margin was 33.8% of net revenues, increasing by ten basis points compared to the prior year. This was primarily due to manufacturing efficiencies as well as favorable currency effects, net of hedging, and a favorable product mix largely offset by price pressure.

During 2015, the important progress ST made from a financial performance perspective included:

- Operating income before impairment and restructuring charges was US\$174 million, improving US\$13 million on a year-over-year basis (excluding the US\$97 million of R&D funding included in the 2014 operating income but related to 2013).
- Net income was US\$104 million; a significant turnaround from the US\$500 million loss incurred in 2013.
- Free cash flow again increased significantly to a positive US\$327 million, reaching the highest level the Company has recorded in the past five years.

In addition, ST continued to make progress in terms of the mix of Original Equipment Manufacturer (OEM) customers and distribution. Revenues from distribution were 32% of net revenues in 2015 compared to 31% in 2014. We are encouraged that this trend will continue, as we advance on our strategy to strengthen our mass market programs.

In the course of the year, ST paid dividends to shareholders totaling US\$350 million and used US\$200 million of cash for long-term debt repayment. As a result, ST ended 2015 with a solid capital structure, with a positive net financial position of US\$494 million and total liquidity of US\$2.1 billion.

## Product Group Performance

During 2015, we increasingly focused our R&D and Sales and Marketing efforts on two areas: Smart Driving, enabled by car digitalization and electrification, and the Internet of Things (IoT), including portable and wearable systems as well as smart home, city and industry applications. Our products, technologies and system application competencies are optimized for these areas, which we address with our products for automotive and industrial, our microcontrollers and digital ASICs, our analog and power portfolio as well as our MEMS and specialized image sensors.

Revenues from our Microcontrollers, Memories and Secure MCU (MMS) Product Group increased more than 7% in 2015 compared to 2014, driven by our general purpose STM32 family. This growth was possible thanks to a combination of new innovative products, now totaling over 600 part numbers, as well as a strong customer base expansion. Our STM32 series are at the heart of many IoT applications and they now serve over 40,000 customers worldwide.

Application-specific focus  
on **Smart Driving**  
and the IoT

## ST key figures

| G4-9 | G4-EC1 |

	2011	2012	2013	2014	2015
Net revenues (US\$m)	9,735	8,493	8,082	7,404	6,897
Gross profit (US\$m)	3,574	2,783	2,614	2,498	2,332
Gross profit as a percentage of sales (%)	36.7%	32.8%	32.3%	33.7%	33.8%
Net earnings (US\$m)	650	(1,158)	(500)	128	104
Earnings per share (diluted) in (US\$)	0.72	(1.31)	(0.56)	0.14	0.12
Market share versus TAM (%) (Total Available Market)	3.21%	2.87%	2.60%	2.20%	2.06%

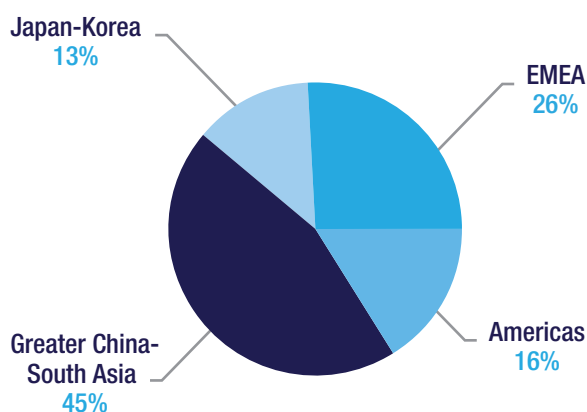
## Operating income and cash flow

| G4-EC1 |

	2011	2012	2013	2014	2015
Operating income (US\$m)	46	(2,081)	(465)	168	109
Net operating cash flow (US\$m)	(278)	34	(179)	197	327

## Net revenues by location of order shipment

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



Over **7% growth**  
in microcontrollers

24

ST leading in  
**ADAS**  
solutions

Another area of solid performance was our Automotive Product Group (APG), which, after growing by 8% in 2014, was stable year-on-year in 2015, excluding currency effects. Strong progress with both our individual products and our complete system solutions was key to this success. During 2015, seven out of ten ADAS-equipped cars on the road had our system on board.

Our Industrial and Power Discrete Product Group (IPD) was the group most affected by the market slowdown, driven by an industry correction in the channel leading to a sales decrease of 6% in 2015, excluding currency effects. At the same time, we moved forward during the year, seeding our future growth with a strong pipeline of new products, well focused on the fastest growing applications such as Smart Driving and the Internet of Things.

Our Analog, MEMS and Sensors (AMS) group continued to go through a difficult revenue transition in 2015. However, during the year, we made progress in building a more diversified portfolio and broader customer base that should ultimately allow a gradual return to growth.

In Digital ASICs, we strengthened our position in the networking market, with record billings in optical modules and a strong ramp-up of ASICs in leading-edge CMOS technologies. And in our imaging business, we started to demonstrate success with our refocused strategy of specialized image and photonic sensors. In fact, our FlightSense technology was integrated in over 20 phones during 2015 and we passed the milestone of 50 million units shipped. | G4-8 |

New  
organization  
with three product groups

Member of **DJSI**  
Europe

Record score of  
**96B** for CDP carbon

## Company Organization

Following an extensive review of our Digital Products Group, in January 2016 we announced that we will discontinue the development of new platforms and standard products for set-top box and home gateway. The slower than expected market adoption of leading-edge products and increasing competition on low-end boxes, combined with the required high level of R&D investment, has led this business to generate significant losses in the course of the last years. This difficult decision is consistent with our strategy to only participate in sustainable businesses.

At the end of January 2016, ST changed its organization, to align with the company's strategic focus on Smart Driving and on Internet of Things applications. Three product groups have been established. The first group, Automotive and Discrete (ADG), includes all of our automotive ICs, both digital and analog, and our discrete products, which are increasingly important in the growing segment of car electrification. The second group, Microcontrollers and Digital ICs (MDG), includes our general purpose and secure microcontrollers, our EEPROM memories and all of our digital ICs outside of automotive. The technical synergies between microcontrollers and the other digital ICs will benefit ST in terms of technology leadership and time to market. The third group, Analog and MEMS (AMG), includes our low-power analog ICs, smart power products for industrial and power conversion and all of our MEMS activity. The Technology and Manufacturing organization is now under the leadership of our Chief Operating Officer.

## Tax

ST acts with integrity in all tax matters and operates under a policy of full transparency with the tax authorities in all countries in which we operate.

In forming our own assessment of the taxes legally due for each of our businesses around the world, we follow two important objectives: to protect value for our shareholders, in line with our broader fiduciary duties; and to fully comply with all relevant legal and regulatory obligations, in line with our stakeholders' expectations. Our overall approach is to pursue clarity and predictability on all tax matters wherever feasible. We enter into commercial transactions only where the associated approach to taxation is justifiable under any reasonable interpretation of the underlying facts, as well as compliant in law and regulation.

## Extra-financial Performance

Socially Responsible Investment (SRI) rating agencies, analysts and investors regularly request detailed feedback on a wide range of Environmental, Social and Governance (ESG) topics to evaluate our Corporate behavior and performance.

While we endeavor to reply to each request, investors and analysts can also find comprehensive information in our annual Sustainability Report which is designed to communicate our ESG performance to all our stakeholders. Our report is complemented by our Company website, which provides detailed descriptions of our policies and actions on a more regular basis.

We continue to maintain a strong presence in the major sustainability indices including the Dow Jones Sustainability Index (DJSI) Europe and the Financial Times Stock Exchange's index FTSE4Good. As well as the ESG sustainability indices, each year we also reply to the Carbon Disclosure Project (CDP) and in 2015 we achieved our best ever score with 96B for carbon, which is significantly above the average of 84C (for more information see [page 63](#)).

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





**Carlo Ferro**  
Chief Financial Officer



### **How did ST perform during 2015?**

In 2015, our Microcontroller and Automotive businesses performed well again, thanks to all the efforts we placed on innovation management to drive competitive new products. Our Analog, MEMS and sensors business saw a continuation of the transition experienced in 2014, despite the positive initial results of our diversification strategy both in terms of products and applications. The Industrial and Power business was the most affected by the industry correction, while the Digital Product group saw a strong decline overall.

Globally, we managed to slightly improve operating income, to consolidate a net profit and to expand free cash flow generation. Thanks to the engagement of our employees, and sustainable efficiency initiatives, we also demonstrated a solid control of our cost; net operating expenses remained well on track with our objective while keeping an R&D effort of about 21% of sales to sustain future growth.

So some progress was made but we are not satisfied as the level of profitability generated in 2015 does not reflect the potential of the Company. This is due to two major factors: a low level of revenues compared to our cost structure and the significant losses of our Digital Product Group, mostly due to the structural deficit of our set-top box business.

### **What actions have been taken to improve the Company's performance?**

We conducted an extensive review of the possible options to fix the Digital Product Group losses in a sustainable way for all stakeholders. It translated into the difficult decision to discontinue our presence in platforms and standard products for set-top box and home gateway. This decision, however, does not significantly impact the overall presence of the Company in the markets we serve, nor our commitment or the value we can extract from our digital technologies which represented about US\$2.8 billion in revenues in 2015. We are dedicating 60% of our R&D to digital technology to translate the unique competences of our people into growth in microcontrollers, digital automotive, digital ICs and specialized image sensors.

### **What are the priorities for 2016?**

We are entering 2016 with a renewed focus on revenue growth centered on two core segments: Smart Driving and Internet of Things. Our strategic focus indeed now addresses the fast growing segments of the semiconductor industry and positions ST - with its unique set of broad technologies and competences - to capture the mega trend of electronics.

We have reshaped our organization, now simplified into three product groups and three regional marketing and sales organizations to move faster in capturing opportunities. We are engaging all our employees in leading these rapidly expanding markets with adapted innovative solutions to shape the evolving world.

Our portfolio of products and technologies, together with our system and application approach, is particularly well adapted to offer eco-designed, responsible products for the low-power, safety and advanced mobility applications used by the billions of customers of our customers.

Our ambition is clearly to transform the capital, the massive knowledge and potential we have built into a sustainable growth in terms of revenue, income, cash generation, people investment and recognition, and share value.

We aim to contribute to a sustainable world by fostering innovation wherever microelectronics can positively impact people's lives.



Smart lighting stand, ST Technoday and Innovation Night, Paris, France

**21%** of our net revenues spent on R&D

Updated **innovation framework**

Our approach to innovation is a strong reflection of our life.augmented vision. Through innovative product design and advanced technologies, we are positively impacting people's lives and providing users with an enhanced experience. Through our Sustainable Technology program, described on [page 71](#), we also constantly strive to reduce the energy consumption of our products, limit the use of chemicals and produce responsible products.

To encourage and sustain our innovation, each year we invest a significant percentage of our revenue in Research and Development (R&D). In 2015 our R&D investments totaled US\$1.43 billion, representing about 21% of our net revenue. We currently have 8,300 employees dedicated to R&D and product design.

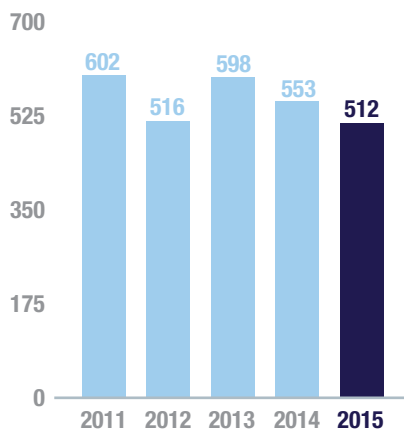
### **Innovation management**

Effective innovation doesn't just depend on having the right resources available; the innovation management process is equally important. Among other things, it facilitates and supports cross-functional involvement of resources, particularly for new disruptive, innovative projects or multiple applications of the Internet of Things (IoT). In 2015, ST refined the innovation management process, involving leaders, experts and executives of the Technical Staff.

The purpose of updating this process is to ensure shared understanding and principles of innovation at ST, and to align organizations and geographical regions so they have the same approach, from knowledge to value.

Our work on the process has already given us the opportunity to promote and share local and organizational innovation management successes in areas such as: knowledge management, disruptive innovation change management and university and research laboratory collaboration.

## ST patents filed



This updated framework will also help us refine our innovation key performance indicators and highlight efficiency improvement opportunities in our product development process. The metrics have deteriorated in 2015 (see table) due to the wave of reorganizations that followed the ST-Ericsson wind-down and a project mix that is gradually evolving towards more sophisticated products. In 2016, we will continue to develop and deploy our framework, setting up workshops with our Technical Staff to advance our reflection on how to best meet future challenges.

## Intellectual Property and patents

Intellectual Property (IP) is a key aspect of innovation management at ST, as we frequently buy and license-out IPs. We have an active patent licensing program which provides third parties access to many of our patents and enables them to make wide use of ST technology. Increasingly, such licensing activities help create a model of close and long-lasting partnerships where technology and IP flows are fluid. Since our inception, ST has amassed a portfolio of over 15,400 patents in more than 9,400 different patent families. In 2015 we shifted our focus from the quantity of patents filed to the quality, and consequently revised our objectives downwards, setting a new target of 480 filings for 2015. We surpassed this revised target by a wide margin, filing 512 new patents applications in 2015. More importantly, we implemented several programs to improve the quality of ST's intellectual property portfolio. This included a worldwide patent committee review of all inventions, a continuation program, the consolidation of patent translation firms, prior art searches and the revision of our inventor incentive awards.

We also promote patent walls to recognize the achievements of our inventive employees, share expertise and encourage further exchanges and contributions. The latest patent wall in our Crolles site (France) displays more than 450 local inventions that resulted in at least one patent filing in the past four years.

## Innovation Booster for startups



### FOCUS

#### ST Innovation Booster Initiative for startups

Our Innovation Booster Initiative for startups went from strength to strength in 2015. The program was initiated in 2014 by our European Sales team to build a bridge between startups, small companies, our customers and our development ecosystems.

In 2015, the initiative spread and by the end of the year there were already 11 startups working on five different ST sites in France.

In addition to favorable conditions for office space, the startups receive access to ST technology and products, such as the developer kits and supporting software tools from our broad STM32 ecosystem, which helps reduce their development time. We also provide technical support and put them in contact with technical consultants, sub-contractors and fab labs to ensure their projects make swift progress.

Several of the startups were present at the Consumer Electronics Show in Las Vegas in January 2016. Smart & Blue (Hydrao), a startup created following the STM32 design contest and hosted on our Grenoble site, France, won an award for their intelligent shower. For more information, see [page 72](#).

This initiative has already delivered benefits for ST. It gives us valuable feedback on our products and development ecosystems, and promotes our products in the field of Internet of Things. It also creates a dynamic and novel atmosphere at our sites, which inspires and motivates our own employees. As the startups grow, the initiative will also bring us significant new business opportunities.

**ico** sevenhugs  
Intelligent • Connected • Objects

CalmaSound  
www.calmasound.com

WibLABS

SMART & BLUE  
SMART SOLUTIONS FOR WATER MANAGEMENT

abeeway

WIZZILAB  
Connecting Things

bixi  
by bluemintlabs

Trovolone

Some of the startups hosted by ST in 2015

560  
Technical Staff

## Technical Staff

During 2015, ST's technical teams and individual experts once again demonstrated significant active participation and commitment. For many years, ST's worldwide Technical Staff community has played an instrumental role in bringing experts together to collaborate and share knowledge, developing this fundamental and critical asset for the Company. The community currently assembles 560 technical experts and leaders who are actively involved in the most advanced R&D projects.



Objectives	Status	Comments
In 2015, file 550 patents for innovation.	✗	Results 512 - see article. Objective discontinued.
Increase efficiency of product development: Reduce average age of development projects to 14 months.	✗	Increased to 20 months - see article. Objective 2016: 18 months.
Increase efficiency of product development: Increase proportion of projects less than one year old to 40%.	✗	Decreased to 27% - see article. Objective 2016: 30%.

## Internal design contest leads to startups



sevenhugs

**Stephane Jaubertou**  
Chief Operating Officer and Cofounder, Sevenhugs

Sevenhugs was founded in 2014 with the objective of creating products that reinvent the way families experience technology in their home. When we started designing our first product, the hugOne sleep tracker, we selected numerous ST products for the design. It was then that our distributor told us about the program and in 2014 we became the first startup to join ST's offices in Paris.

The privileged access to ST's technology and the technical and logistics support we have received, including access to ST's partners, have been key to our rapid development. In just one year we have gone from 4 to 17 people and have successfully commercialized our first product. We are now working on launching our second product, the Smart Remote, which is based on a patent pending technology, and again uses ST products.

2016 is going to be a busy year for Sevenhugs and we are looking forward to continuing our close partnership with ST.

Our Technical Staff members coordinate activities focused on incubating new, innovative projects. These projects cover areas spanning sensor-driven architectures and applications, smart power and automotive, healthcare and biomedical, design methodologies for ASICs in FD-SOI technology, and the IoT. Given the potentially disruptive nature of such projects, they are managed by cross-divisional teams in a flexible and agile structure, which facilitates an effective innovation incubation. When ready, they are then transferred to the relevant product teams for exploitation and commercialization.

### Innovation activity

	2011	2012	2013	2014	2015
Median age of immature projects (months)	15	18	15	15	20
% of immature projects* younger than 1 year	35	28	39	37	27
% of projects* maturing within year	33	30	41	25	17

\* Project: product development project, defined in accordance with IFRS criteria, measured in asset value, not yet at Maturity 30 at the end of the year.

### Innovation events

Each year, ST organizes and participates in a number of events to promote innovation, including design contests, exhibitions and award ceremonies. Here are some examples of events held in 2015.

#### STM32 internal design contest

For the first time, our STM32 internal design contest led to the creation of several startups in 2015.

This annual contest invites our engineers from around the world to use their imagination and passion for innovation to create the next big thing for the IoT, using our STM32 family of microcontrollers and other associated ST components. In 2015, an ST jury selected 14 projects based on their innovation, feasibility, functionality, usefulness and technical merit. More than 930 ST employees then voted online to select the following winners:

- Mathieu Behaghel with TapTapControl for the Innovation category
- Gabriel Della-Monica, Didier Chollat-Namy and Philippe Rochette with Hydrao for the Usefulness category
- Fabien Holin with BeeZbee for the Technical Value category

Two of the selected teams have since created startups to turn their designs into commercialized products, and a third startup is planned for 2016.

#### Technoday and Innovation Night

In September we held our eighth ST Technoday and Innovation Night in Paris. The event showcased a vast array of innovative applications made possible by ST products. With over 100 demonstrations from ST, startups and small companies as well as eight innovation awards, we illustrated how ST helps our partners create a smarter world.

#### Maker Faire in Rome

In October we presented at the Maker Faire in Rome, which was our first participation in this type of event. With 90,000 visitors and 600 exhibitors, the Maker Faire in Rome is the biggest event of its kind in Europe.

More than 7,000 hobbyists, teachers, professionals and people from fab labs and universities visited our booth, where we presented demonstrations based on STM32 Nucleo boards and expansion boards. These showed how easy it is to bring a project to life with ST products and the STM32 Open Development Environment, comprising boards and software tools.



# Customer Relations

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



Mobile World Congress, Barcelona, Spain

## New customer support center

ST's success depends on our ability to build strong and trusting relationships with our customers, to serve them effectively and to satisfy their needs. In 2015, we carried out various initiatives and launched a number of targeted programs to improve our sales processes and customer support.

### Satisfying our customers

Strong relationships drive increased customer loyalty. Following the launch of the new version of our online platform in 2014, we continued our efforts to improve the quality of our customer support. As part of this, in July 2015 we opened a Support Center at our Coppell (USA) site. There, a dedicated team handles calls, emails, and web requests from customers across the world. It has radically improved our technical support standards, especially for our mass market customers and those who have no personal contacts within ST. The systems now in place enable us to track requests by customer, by region and by enquiry type, and their analysis helps us to provide a better-quality service.

With the aim of improving product knowledge and hence customer service, we launched compulsory weekly technical product training for our Sales & Marketing personnel in the Americas Region.

## New customer classification

Measuring overall customer satisfaction and identifying areas for improvement are both essential in order to remain focused on customer needs. While we did not carry out a large-scale survey in 2015, we were able to evaluate customer satisfaction and expectations through a number of different means. These included dedicated meetings, site audits, business-quality reviews and the analysis of metrics such as complaints, customer scorecards and quality returns.

The mass market, which we serve through our distribution channels, represented 32% of our sales in 2015. It is one of the key areas that we are targeting for growth. To improve our support in this area, we strengthened the quality of our local marketing activities and sales teams across all regions, particularly in Asia. We plan to improve this set of competencies further during 2016. In November 2015, we held a successful Distribution Sales Convention in Singapore, which brought together 356 participants from across our Greater China & South Asia region (see Focus).

To improve coverage and respond better to changes in the market place, we took the decision in 2015 to restructure how we segment our customer base. The simplified customer classification that resulted will be in place in 2016.

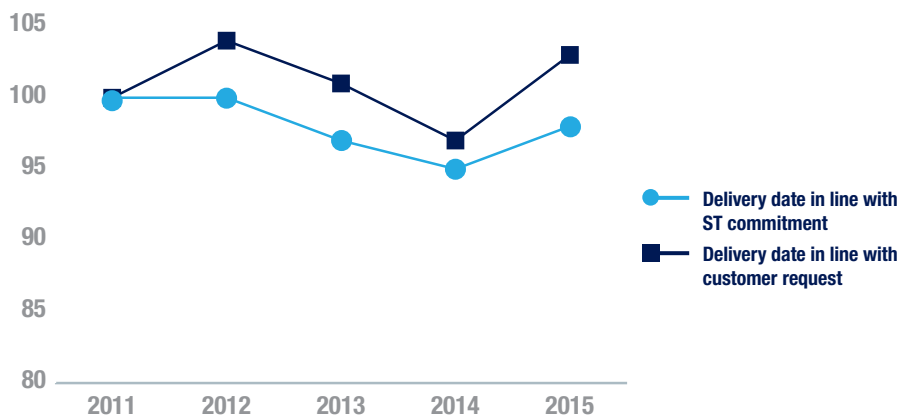
### Quality

| G4-PR5 |

	Q4 2011	Q4 2012	Q4 2013	Q4 2014	Q4 2015
Customer complaints	100	97	87	86	101
Cycle time to process failures analysis	100	112	113	112	104
Customer Quality returns	100	46	48	49	37

Baseline 100 in 2011.

### On time delivery



Baseline 100 in 2011.

## Strengthening business relationships



### FOCUS

#### Distribution Sales Convention in Singapore

Sales via distributors in ST's Greater China & South Asia (GC&SA) region represent about half of ST's total distribution sales and 70% of ST's sales in the region. It is therefore important to strengthen our relationship with those regional distribution partners who make such a large contribution to our success. We held our 2015 GC&SA Distribution Sales Convention in November in Singapore.

The event's 356 participants included personnel from 19 different distributors and value-added resellers. ST President and CEO Carlo Bozotti, as well as his executive management team, attended the event. Our guests stated their high appreciation of the event, thanks to the valuable exchange of internal and external feedback and a good mix of business and networking activities.



## Maintaining trust and dialog

## Increasing interest in our sustainability performance

32

### Reinforcing tools and procedures

Efficient tools and procedures are important assets in strengthening customer relationships. We implemented two new sales tools in 2015, to improve our Customer Relationship Management practices and so ensure that customers benefit from accurate and timely responses:

- **Salesforce.com** which allows the sales organization to track all actions associated with the customer demand, accelerate design activity and improve project management. This application is designed to monitor and ensure on-time completion of actions associated with customer needs and therefore to improve the customer's experience with ST.
- **ModelN Channel Sales** is being used to closely monitor inventories in the Distribution Channel for mass market customers. The use of this tool allows ST to better monitor and meet customer demand.

### Customer Change Notifications

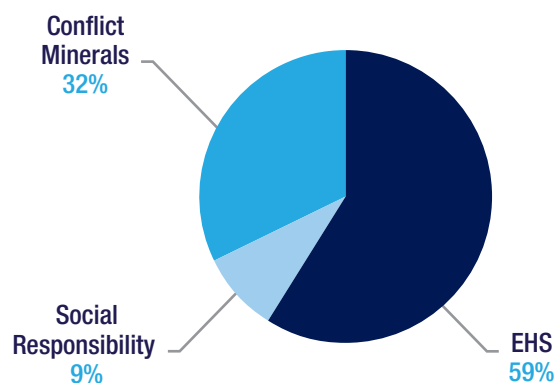
Maintaining dialog with customers is essential to retaining their trust and satisfaction. That is why in 2015, we improved the tool we use to manage how we notify customers of any changes. Called NOTICE (NOTification & Information to CustomErs), the system enables our sales teams to track changes to products and processes. More importantly, it also allows them to inform customers of these changes and gain feedback before implementation. In parallel, we implemented a new internal system that will help us improve how we track changes for better traceability, discipline, and risk assessment. Using this system will enable us to reduce the number and severity of quality excursions that our customers may experience.

### Customers and sustainability

During our 2014 materiality exercise, our customers ranked Health and Safety and Supply Chain Responsibility, including Conflict Minerals, among their top priorities. This was once more confirmed in 2015, when we received over 1,000 requests for information relating to sustainability (up from 800 in 2014). The number of different customers contacting us also increased, with four times as many customers compared to 2014.

Enquiries relating to Environment, Health and Safety (EHS) issues, which represented 59% of all those we received, are primarily related to the legal compliance of products. In 2015, our customers expressed increased interest in reporting on greenhouse gas (GHG) emissions and water. Although 80% of all EHS requests were linked to product compliance, the number linked to GHG emissions and water grew to 10% of non-product-related requests. Every year since 2010, we have responded to the Carbon Disclosure Project's supply chain program questionnaire. In this, we transparently show our customers how we manage the climate-change and water challenges and risks we face.

### Customer requests on Sustainability



**EICC risk assessments and third-party audits shared with our customers**

Another 32% of requests related to our management of Conflict Minerals. We answered these with the regularly updated information we provide in the Conflict Minerals Reporting Template (CMRT), developed by the Conflict-Free Sourcing Initiative (CFSI). For more information, see [page 77](#).

Nine percent of the information requests we received from customers in 2015 related to social responsibility. We are a full member of the Electronics Industry Citizenship Coalition (EICC). As such we are committed to the EICC Code of Conduct, and we carry out EICC risk assessments and third party EICC audits at our sites worldwide. We transparently share results with our customers, both upon request and through the EICC-ON online platform, which manages and shares sustainability data. In 2015, we recorded 99 links on EICC-ON, corresponding to the number of requests from our customers to access the social responsibility results of our operations. This helps us to pursue our aim of providing our customers standardized answers. For more information, see [page 45](#).

In 2015, we made efforts to improve how we respond to customer enquiries regarding sustainability and the legal compliance of our products. In July, we opened a Regional Support Center for our Americas region sales team in order to centralize all of the product-related documentation and information that customers require. In addition, in October we held a seminar in Agrate (Italy), to launch the Hazardous Substances Program Management (HSPM) initiative (see [page 70](#)). This gave the attending sales teams the opportunity to learn more about ST's sustainability programs and how to answer more easily customers' questions. Over four days, ST subject experts informed them about the management of hazardous substances, legal EHS compliance, material declaration, conflict minerals management, supply chain and social responsibility. Feedback was positive, highlighting how the event increased awareness of these issues.



**Marc Coronel**  
Field Quality Support  
EMEA Sales & Marketing



Our customers ask us to demonstrate that we manage the economic, environmental and social impact of our activities in a responsible manner, and that we are compliant with the highest standards. We regularly receive requests for information about our social responsibility practices, our management of hazardous substances and conflict minerals as well as the legal compliance of our products. Attending the HSPM seminar in Agrate (Italy) was a great opportunity for me to better understand the roles and responsibilities of everybody involved and to create a 'Sustainability' network. The 20 participants who came from all over the world happily shared their current practices and experience. The presentations by subject experts were very clear and detailed, providing the support we need to better answer our customers' questions. At ST, for social responsibility, we favor standardized answers using EICC standards. During the workshop, I learned more about the benefits to promote common standards within the industry.

**Objectives**



Objectives	Status	Comments
<b>Just in Time on committed rate superior to 90%.</b>	✗	85.1% end 2015 gaps on specific product families. Objective discontinued.
<b>Delinquency on requested date to be at 0.35 week of sales.</b>	✓	0.34
<b>Reduce customer complaints per million units by 6% by Q4 2015 compared with a 2011 baseline.</b>	✗	High increase due to a manufacturing excursion shared with our customers and fully contained by end 2015.





# Business Indicators

This section includes indicators and GRI Standard Disclosures.

## Dividends paid

| G4-EC1 |

	2011	2012	2013	2014	2015
Dividends (US\$m)	327	355	346	354	350

## ST sales by market channel\* (%)

| G4-8 |

	2011	2012	2013	2014	2015
OEM	77	78	74	69	68
Distribution	23	22	26	31	32

\* 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\* (%)

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

	2011	2012	2013	2014	2015
EMEA	24	25	24	26	26
Americas	14	15	15	15	16
Greater China - South Asia	45	42	42	45	45
Japan - Korea	18	19	19	14	13

\* 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 U.S.-based companies to be invoiced to Greater China - South Asia affiliates are classified as Greater China - South Asia 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.

## Taxes

| G4-EC1 |

	2011	2012	2013	2014	2015
Tax expense for the year (US\$m)	205	79	72	67	75

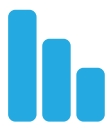
## ST inclusion in the main sustainability indices in 2015





ST showroom, Grenoble, France

# People



**ST recordable case rate**  
**0.17**

- 18 of our sites are OHSAS 18001 certified, including all our manufacturing operations



**Average of**  
**42**  
**hours training per employee**

- 100% of our manufacturing sites and our three major design sites are covered by EICC programs



**15**  
**ST sites subject to human rights assessments**

- 90% of employees have a yearly individual performance review

- 62,577 medical examinations, screening tests and immunizations practiced in 2015



# Development and Engagement

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



Workshop, ST Calamba, the Philippines

**100%**  
organizations covered

**2.1** million hours of  
training delivered

## An effective learning delivery, aligned with business and people needs

In 2015, we deployed a new Learning Needs Analysis process, based on strategic organizational priorities aligned to business objectives, business needs and local plans. To be consistent with ST's global strategy and to support its core business, in 2015 we focused on product Research and Development and leadership training families. Training hours for these domains increased by 30% and 18% respectively, compared to 2014.

To ensure we deliver training hours that meet each organization's priorities, we monitor the adherence to the Learning Needs Analysis. We also systematically measure the effectiveness of strategic courses and assess their impact during individual annual performance reviews. Results on strategic courses show that 63% of managers observe changes in line with, or better than expectations after only four months.

**| G4-DMA |**



Increase of **28%**  
e-learning and  
**7%** workshop hours  
for non-manufacturing  
employees

> **700** managers  
trained on coaching skills

## A 'total learning' approach and culture

To further increase learning effectiveness, we continue to promote our blended learning offer and our longstanding talent development 'boosters' programs. Beyond the typical education framework, our 'total learning' approach includes methods and tools for:

- distance learning (e-learning, webinars, Massive Open Online Course, etc.)
- one-to-one learning (coaching, mentoring, tutoring, etc.)
- self-learning (videos, audio/podcasts, documents, etc.)
- custom learning (workshops, assessments including 360°, collaborative projects, etc.)

On-the-job learning remains a critical aspect of our educational strategy in all our job functions. | G4-DMA |

To promote custom learning, we started an innovative program relying on internal accredited coaches trained to facilitate co-development groups. This provides employees with the opportunity to learn from each other and improve their practice. Individual and group reflection is encouraged through a structured consultation exercise which addresses problems that participants experience. The key benefit is to develop professional and managerial efficiency by sharing professional practices and co-coaching techniques. It also aims to strengthen change management in current and future professional situations. This initiative started in 2015 in our Grenoble (France) and Rousset (France) sites and is in the process of being deployed to all ST regions.

'Coaching at ST' is another growing 'total learning' initiative. Launched in 2013 to answer specific performance and business needs, it helps individuals or teams facing changes. This initiative is now in effect at main ST sites. Local HR teams coordinate this development program through a structured process with managerial support. These internal coaching programs target ST employees who are volunteers. Coaches are accredited by a recognized external coaching school.

## Performance management and feedback

In 2015, we implemented a revised Individual Performance Management (IPM) process. The objective is to better empower managers for performance reviews and give more time and transparency for individual, qualitative feedback and development plans in line with our leadership model.

As part of this initiative, we significantly improved: the clarity of annual goals (both in terms of initial ambitions and quarterly results); alignment with company strategy; consistency across organizations; simplification of variable schemes; and effective overall reward differentiation.

After one full IPM cycle, we conducted a survey with panels of managers and employees worldwide. Around 80% of respondents were very satisfied or satisfied with the way their performance was managed in 2015 and felt that the revised process enabled them to better understand how their performance is assessed. Ninety percent of respondents also had a favorable perception of the new online tool supporting the process.

## Employee yearly Individual Performance Management (%)

| G4-LA11 |

	2011	2012	2013	2014	2015
<b>Operators</b>					<b>71</b>
Female					<b>76</b>
Male					<b>68</b>
<b>Non-exempts</b>		<b>90</b>	<b>91</b>	<b>91</b>	<b>83</b>
Female				<b>89</b>	<b>80</b>
Male				<b>91</b>	<b>84</b>
<b>Exempts</b>	<b>96</b>	<b>98</b>	<b>98</b>	<b>97</b>	<b>93</b>
Female				<b>97</b>	<b>91</b>
Male				<b>97</b>	<b>93</b>
<b>Total of employees</b>	<b>89</b>	<b>93</b>	<b>92</b>	<b>93</b>	<b>90</b>
Female				<b>93</b>	<b>87</b>
Male				<b>93</b>	<b>91</b>





77 sessions of leadership/management development held in 2015

## Leadership and engagement

In line with our leadership model, which was revised in 2014, we develop leadership at every level of the company to enhance alignment, accountability, robustness and engagement.

One of our most significant leadership programs of 2015 was developed by the Americas Region (see focus below).

A core objective of ST's leadership development is to support the 'lean' approach as a driver to enhance people development and engagement. Leaders are encouraged to go onto the shop floor in order to promote teamwork and empower people to solve problems.

First implemented in 2008, lean practices are now deployed in all Back-end and Front-end manufacturing sites. In 2015, numerous technology and product development teams and support functions also adopted this approach, experiencing its benefits. Lean adds value for the customer by consistently improving the efficiency and quality of activities and processes. By focusing on a flow approach, silos and waste are identified and reduced.

As part of our continuous improvement approach, each organization and site worldwide completed the action plan from the 2014 employee survey. These actions aimed to simplify our support processes and associated tools, develop organizations' autonomy in defining and running specific business workshops, and better connect employees to our Company strategy. A local example is the applications week that took place in Crolles (France) based on other sites' previous experience (see interview on [page 39](#)).

The next employee survey is scheduled for the last quarter of 2016, where we will monitor employees' engagement together with their perception of organizational alignment and agility.

## Developing our leaders



### FOCUS

#### America's Leadership Program

In July 2015, the first group of the Americas Region Leadership Program celebrated the successful completion of their 18-month investment in the program with a recognition dinner held in Boston. This program, designed by America's Human Resources, addresses high potential, new, experienced, senior and executive leaders. It seeks to provide the basis for organizational transition towards a culture of higher performance and stronger commitment to excellence, through the support, development and enhancement of core leadership competencies.

Participants can benefit from external coaching support or internal mentors identified within the region, across multiple disciplines and organizations.

"Investing in leadership skills is a prerequisite for developing a high-performance organization," said Bob Krysiak, Executive Vice President and President, Americas Region. "The results of the first wave of attendees are visible: employees are more confident, motivated and striving for higher levels of performance – both from themselves and the people they lead."

The third leadership program group kicked off in October 2015.



## Looking forward to 2016

Our focus moving forward is to make ST a leading, innovative company with a learning culture where speed and results are emphasized and feedback, collaboration and leadership behaviors are visible everywhere. To this end, we will pursue further leadership development in 2016, supporting managers and employees in change management, and promoting manager-coach behaviors and advanced innovation practices.

## Objectives



Objectives	Status	Comments
Ensure that all eligible* employees have qualitative performance feedback, and the majority have a development plan related to their annual performance.		90% with performance feedback, 51% with development plan. Objective 2016: Ensure that >90% eligible* employees have qualitative performance feedback, and >50% have a development plan related to their annual performance.
Increase the percentage of open positions for exempts filled by internal candidates to exceed 50% in 2015.		29% of jobs filled internally for exempts. We have a high turnover in Asia and so need to hire externally. Objective 2016: Increase the percentage of open positions for exempts filled by internal candidates to exceed 35%.
Continually increase the engagement level, and keep voluntary turnover within 10% worldwide (excluding operators).		Excluding operators, voluntary turnover rate was 7% in 2015.
Ensure a worldwide average of 35 hours of learning per employee.		42 hours average in 2015.

\* Exempts and non-exempts.



**Emmanuel Verleyn**

Equipment Engineer - Front-end Manufacturing & Technology R&D Crolles (France)

The first 'applications week', organized in Crolles (France) in November 2015, aimed to create a stronger connection between employees' daily work and ST's business strategy.

The event gave employees the opportunity to watch demonstrations showing the latest applications made with products designed, developed and manufactured in Crolles. The initiative satisfied employee expectations to gain greater understanding of, and proximity to, these finished products, and to better understand their contribution to ST's business.

Along with 32 other volunteers and eight start-ups, I participated in more than 27 hours of demonstrations, to an audience of around 1,650 employees.

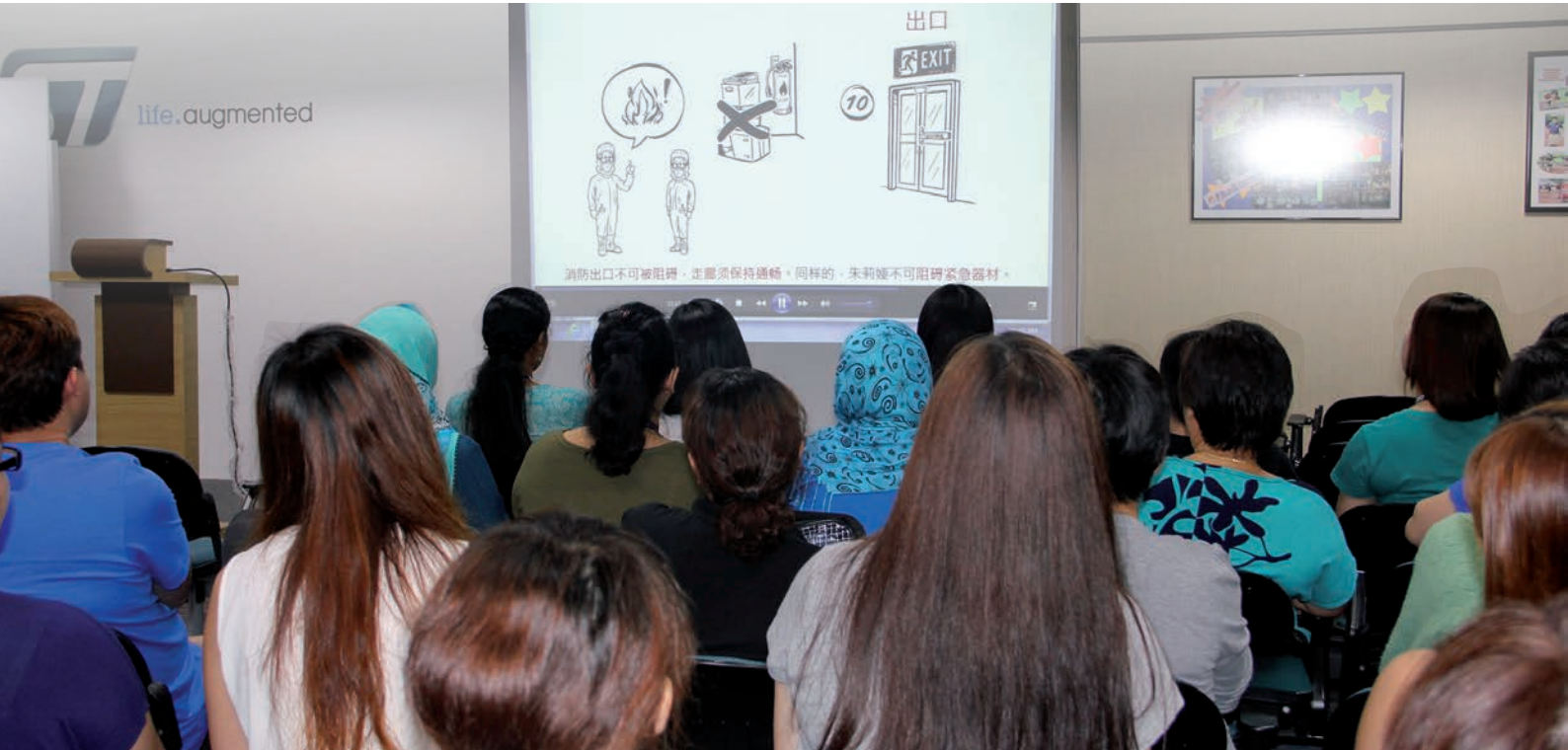
It was a great opportunity to share my passion for drones with Crolles employees. Using educational support material, including a video specifically made for this event, I was able to show employees how ST products like the STM32 microcontrollers are embedded in such machines.

Next year, I'd be happy to repeat this experience fostering employee exchanges, and hope that I'll get more time to discover the other applications presented by my colleagues.



# Health and Safety

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.



10 Safety Golden Rules video, ST Ang Mo Kio, Singapore

18 sites are **OHSAS 18001** certified.

## Management approach

For ten years, ST has been committed to its goal of achieving zero accidents in the workplace, through formal safety programs such as Safety First. Today, 18 of our sites are OHSAS 18001 certified, including all our manufacturing operations. All our sites are engaged in reporting and improving their safety performance. We are committed through our Corporate Environmental, Health and Safety (EHS) Decalogue to providing voluntary health promotion programs to enhance employees' well-being. We remain focused on reducing hazards and risks, and improving our practices, results and all associated indicators. Health and safety are closely linked, and when we conduct site audits, we assess health and safety together. When addressing health or safety, risk prevention is crucial for achieving better results, and ST relentlessly pursues this approach wherever possible. **| G4-DMA |**

## Health

We aim to expand and promote employees' health and well-being through the ST Health Plan program, while also leveraging local initiatives and specific medical and wellness campaigns. The Plan ensures that employees can benefit from medical services and advantages, even in countries where no legal obligation prevails.

Identification of **high risks factors**

New **Health Plan**

## Health Plan - Medical examinations

Exam type	2011	2012	2013	2014	2015
Medical examinations	70,480	60,216	43,411	49,310	47,278
Screening test	13,097	8,837	12,438	13,564	13,693
Immunization	3,019	2,234	2,153	1,721	1,606
Total services provided	86,596	71,287	58,002	64,595	62,577

### Trend analysis

Identifying trends helps us to anticipate risks and enable actions. In 2015, the overall number of medical check-ups remained at a reasonable level; the deployment rate stood at 72% of the covered individuals over an 18-month rolling period. This level of uptake was due to good coverage in most large sites and was primarily driven by legal requirements in the host countries, especially those in Europe.

The global volume of screening examinations has been stable over the last five years, although the deployment rate varies across regions, primarily due to local and corporate budget cuts. Bio-monitoring and vaccination levels are also satisfactory. However, the number of preventive medical examinations has decreased in some regions.

### Prevention

Preventive health assessments are based on voluntary participation by employees. During check-ups, medical staff members capture at least six indicators, including smoking habits, blood pressure, diet and obesity, exercise, and cholesterol levels. The aim is to identify high-risk factors and use this information to prioritize local prevention campaigns, such as stopping smoking or promoting healthy eating and sport. During the past two years, we have collected data on more than 15,000 risk factors from volunteer employees.

Our reporting highlights the risk parameters for each site and enables comparisons between sites and regions. While at some sites all indicators are green, 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 preventive campaigns. Based on such analysis, we created a Health Plan working group at the end of the first quarter of 2015. The working group launched a worldwide mapping of medical examinations and preventive-health activities to identify potential improvements, taking country-specific factors and priorities into account. The variation in coverage from country to country following budget cuts was confirmed.

## Preventing stress



### FOCUS

#### Health day dedicated to stress prevention and back care in ST Munich

Following recent research, more health risks in the working environment have been identified in the areas of mental health and back problems. For a sales and marketing site like ST Munich (Germany), it is therefore crucial to be aware of such risks and to minimize them for employees.

This was the premise which led the local HR department in Munich to implement a regular health and prevention day for employees. The biennial event, which was sponsored by a medical insurance company, took place in July 2015 with the focus on stress prevention and back care. Throughout the day, employees could participate in a range of presentations, medical checks and workshops at the ST office to increase their knowledge and awareness about the health risks and to learn how to respond to and prevent them. In response to employees' widespread and constructive feedback, it is planned to repeat the health day in 2017 with a focus on the same topics.







**Alain Fonters**

Lieutenant-Colonel East group leader SDIS (Service Départemental d'incendie et de Secours des Bouches du Rhône, France)

As a member of the chain of command in the fire and rescue service in the Bouches du Rhône region of France, I visited the STMicroelectronics Rousset manufacturing site in November 2015. I was very impressed by the cleanliness and high-tech nature of the industrial plant.

This visit took place in the context of a wider collaboration, between the fire and rescue service and STMicroelectronics Safety team, which has been in place for more than 15 years.

To intervene as efficiently as possible in the event of a disaster, it is essential for us to know the companies we cover and build a strong relationship with them. It is also important to be able to trust each other and working together at different levels ensures this trust is effective.

At an operational level, formal intervention plans are built in advance and the teams have regular exercises on site. They also meet regularly to know each other better and understand each other's internal rules, protocols and the complementarity expertise of the teams.

ST went a step further in 2015 by inviting our decision makers to visit the plant, which helps us to understand the specific industrial issues and priorities. This is of great importance to ensure our mission which is the safeguarding of people, goods and the environment.

A proposed new scheme and principle for deployment in 2016 (Health Plan #2) has been submitted to and agreed by Company management. This aims to standardize practices across most sites, creating realistic targets tailored by region. It will be financed locally, with an additional corporate budget allocation to promote and support local initiatives in prevention programs that demonstrate the Company's involvement in protecting employee health.

**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. We also monitor the implementation of the various programs and key points with a set of safety KPIs (Key Performance Indicators). **| G4-DMA |**

This approach continues to deliver results: our recordable case rate decreased by 2% compared to 2014 to achieve our best ever annual result, and our structured analysis with management of root causes rose to 98%. We have also significantly improved the analysis of recordable cases and first-aid interventions, while we conducted more than 43,000 field safety visits, including 13,000 done by the management.

Turning to our manufacturing sites, we are particularly proud of our Kirkop (Malta) site, which has had no accident for over eight years, and of our Calamba (Philippines) and Agrate R2 (Italy) sites, which have had no accidents for over 18 and 14 months respectively. This is due to the rigorous deployment of our safety programs and special awareness initiatives, some of which are illustrated in our focus on our Calamba and Shenzhen (China) sites.

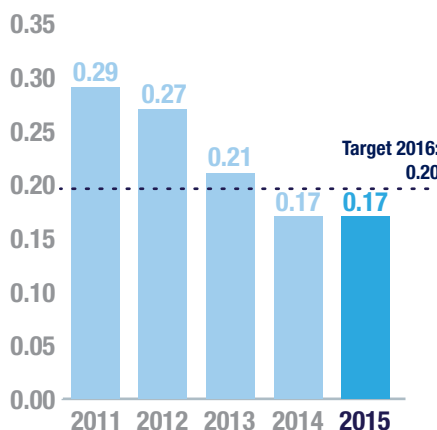
However, despite all our efforts, in 2015 we had a tragic accident following the accidental explosion of a portable cryogenic liquid nitrogen container at our Muar (Malaysia) site. One subcontractor was fatally injured and one ST employee was seriously injured. We immediately carried out a root cause analysis, which resulted in the implementation of containment, preventive and corrective actions and the creation of a taskforce to ensure the deployment of these actions across all sites.

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. We want to strengthen the integration of ergonomics into our current working practices, preventing injuries and illnesses.

We have completed gap assessments and sites are working on actions to further improve their approach and address priorities.

**Recordable cases rate\***

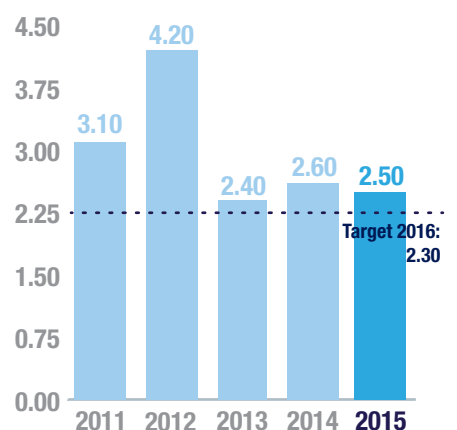
**| G4-LA6 |**



\* Work-related injuries and illnesses per 100 employees per year as defined by OSHA-US regulation.

**Severity rate\***

**| G4-LA6 |**



\* Number of days lost per 100 employees per year as defined by OSHA-US regulation.

9 internal  
Corporate EHS  
audits

10 Safety  
Golden Rules

### More effort required

The severity rate decreased by 4% compared to 2014, but this was still slightly above our target (2.5 versus 2.3 targeted).

This was mainly due to the increase of on-site domestic accidents. One domestic accident in particular, due to a slip on a slight slope, caused a much longer period of days lost than usual (159 days).

Our severity rate target for 2016 remains at 2.3, with the aim of driving further improvements in employees' behavior and working conditions. We will ensure this through our safety programs at site level, with a continued focus on the most important gaps.

We will continue to focus on inspiring proactivity through training and the early detection of hazards and unsafe actions and conditions. We have clear goals to reduce accidents and to analyze every recordable case, first-aid incident and significant event, and to define and implement adequate actions to prevent recurrence.

### Audits and certifications

In 2015, we carried out nine internal Corporate EHS audits. 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 have 18 OHSAS 18001, 15 ISO 14001 and 13 EMAS certifications. These three certifications cover all of our manufacturing sites, as well as our largest non-manufacturing sites such as Castelletto (Italy) and Grenoble (France).

### Training and awareness

At 5.4 hours, we exceeded our target of an average of four hours training and awareness per employee. We also increased by 20% the number of ST employees trained.

The deployment continued of two e-learning courses on safety management and leadership which started in 2013, reaching more than 9,000 managers trained by the end of 2015.

In addition, 85% of ST employees were involved in evacuation drills, and we continue to push sites to improve coverage and reach the ST goal of 100%.

The deployment of safety videos and the 10 Safety Golden Rules awareness program is ongoing and will be completed by mid-2016. We plan to deliver it to about 80% of the ST population, mainly covering people working in manufacturing sites. We aim to ensure that all employees are constantly reminded of our focus on safety. We engage them through a four-minute video presenting the 10 Safety Golden Rules with a concrete illustration for each rule, making essential safety messages accessible to all.

## Increasing awareness



### FOCUS

#### Calamba EHS week

Our Calamba (the Philippines) site celebrates an Environment, Health and Safety week each year, to make employees more aware of the importance of EHS issues to themselves and to the Company. This was held in August, with the theme: 'My Earth, my Shelter, my Home: One Direction towards sustainability, a Safe ST and a Healthy Family'. With the involvement of the General Manager, the Management Team, Employee Clubs and guest speakers, and with the active support of EHS Committee members, this was a fun and educational event.

Activities included the introduction of an Adopt-A-School Program and a window tour of our manufacturing plant for the Buntog Elementary School, the school selected to benefit from among 52 nominated by the Department of Education. Exciting games and other events included: a Spot-the-Ergo Hazard test; safety and environmental videos refreshing employees on the 10 Safety Golden Rules; and an Emergency Response Team (ERT) Fire Fighting Competition.



# Objectives



Objectives	Status	Comments
Reduce the main on-site subcontractors Lost Work Day Cases rate to 0.5 or less.	✓	0.4 a 25% reduction compared to 2014. Objective 2016: 0.38 or less.
Update the Company-wide standard for medical visits and preventive measures.	⊗	Preventive measures will be done in Q1 2016.
Deploy the new Company-wide standard for medical care and preventative health initiatives.	NEW	
Maintain our Recordable Cases rate at 0.2 or less.	✓	0.17 in 2015.
Reduce our Severity Rate to 2.3 or less.	⊗	2.5 a reduction of 4% compared to 2014.
Ensure ST employees have an average of four hours of training and awareness per year on environment, health and safety (EHS) topics.	✓	5.4 hours per employee in 2015.

Subcontractors LWDC rate  
- 25% vs 2014

## Subcontractors

Our subcontractors' accident rate, the Lost Workdays Cases Incidence (LWDC) rate, decreased by 25% from 0.54 in 2014 to 0.40 in 2015, which is below the target of 0.50.

Tragically, one of our subcontractors was victim of a fatal accident during the year following the accidental explosion of a portable cryogenic liquid nitrogen container at our Muar (Malaysia) site.

In order to continue to improve and involve our subcontractors in our whole Safety First program, we have set the 2016 target for the subcontractors' LWDC rate at 0.38.

## Lost WorkDays Cases Incidence rate (LWDC rate) Subcontractors\*

| G4-LA6 |

	2014	2015
Lost workdays cases per 100 FTE (Full time equivalent) employees	0.54	0.40

Target 2016: 0.38

\* ST considers subcontractors as independent contractors working on-site for more than 3 months.

## Promoting a safety culture



### FOCUS

#### Shenzhen safety training and awareness activities

Our Shenzhen (China) site is working hard to enhance the safety culture across the whole plant, with the aim that everyone feels safe and cares for one another at all times. The local Guangdong Fire association has recognized the site in 2015 as best-in-class and as a model for the town of Shenzhen. The site's high level of safety awareness, engaging a wide spectrum of participants through various activities, is fully aligned to the communication and training pillars of the Safety First program.

Activities to promote a safety culture include an Environment, Health and Safety (EHS) week, a safety-management skills competition, exchanging safety methodology with external groups, field safety inspections and the reporting of hazards by safety guardians and managers in the workplace.

There is a strong focus on Emergency Preparedness and Response Planning, and a competent Emergency Response Team (ERT), comprising around 60 members from different departments, covers all shifts and is at operational readiness around the clock. Each ERT member received an average of 36 hours of ERT training during 2015, and participated in ERT night exercises addressing incidents such as a chemical leakage and an electrical room emergency.





# Labor and Human Rights

We ensure that all our employees are treated with respect and dignity, and that our business practices are aligned with the highest international, social and labor standards for the electronics sector. This includes promoting diversity and equal opportunities at all levels of our organization.



EICC audit, STS Shenzhen, China

## Labor and human rights due diligence in our own operations

### Human rights is part of our sustainability culture

Promoting human rights is one of ST's core values, guiding our behavior in all our business activities. We are committed to identifying and assessing the adverse impacts our operations can have on human rights. We do this through rigorous and continued monitoring of priority topics in our own operations, such as working hours, prevention of forced labor, freedom of association, minimum age requirements and fair wages, taking into account the associated risks of the regions in which we operate. In addition to covering our own employees, we also address Labor and Human Rights in our supply chain. More information can be found in Supply Chain Responsibility, on [page 75](#).

As a decade-long member of the Electronic Industry Citizenship Coalition (EICC), 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. We have adopted a proactive strategy for our own operations based on a benchmark of the most stringent industry standards, such as the EICC Code of Conduct, as well as annual risk assessments and audits of our operations.

We maintain a culture free from discrimination, where individuals are treated with respect and dignity, independent of gender, nationality, race, political opinion, sexual orientation, physical challenges or other characteristics. Diversity remains one of our biggest strengths and we enforce a zero-tolerance approach to incidents of discrimination or harassment of any kind. [I G4-56 I](#)



## ST Code of Conduct

### Promoting human rights

We believe that human rights are nurtured through strong Company commitment. This includes fostering continued awareness and providing ongoing information to managers and employees. In 2015, we updated our ST Code of Conduct, using easy-to-read language supported by links to relevant policies and other learning aids. ST's Code of Conduct encourages a speak up culture. It invites employees to seek advice and report concerns through internal and external whistleblowing channels, without fear of retaliation. More information on ST's Code of Conduct can be found in Ethics and Compliance, on [pages 16 and 17](#).

Our new Corporate Social Responsibility Policy further supports our high level of commitment to labor and human rights. The Policy defines labor and human rights, transparency on our social performance, and the integration of stakeholders' expectations as the key principles of our Corporate Social Responsibility strategy. In several of our Asian sites, in particular Calamba (the Philippines) and Ang Mo Kio (Singapore), we developed annual refresher training. These courses were designed to train employees on ST and EICC standards and provide in-depth information about their rights.

### Addressing our risks

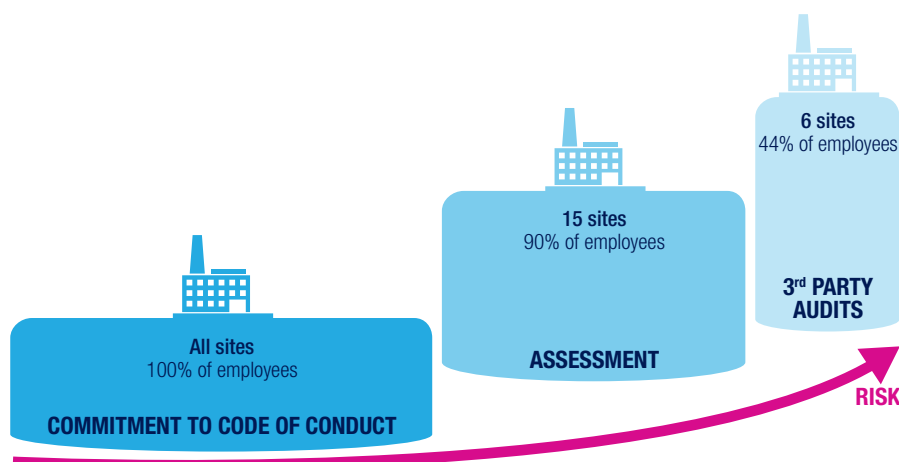
Our pyramid approach to human rights risk management enables us to adapt due diligence measures to the criticality of the risk in our operations:

- All our sites have committed to respect ST's Code of Conduct and the EICC Code of Conduct, and to participate in our annual social reporting campaign, where we track the application of main labor and human rights principles (fair wages and benefits, reasonable working hours, freedom of association, etc.).
- Our 15 major sites (those with more than 1,000 employees and all manufacturing sites) perform annual self-assessments. Within this scope, in 2015, we covered 90% of our employees. This includes our Design & Engineering workforce in India and Europe, but also small manufacturing sites that perform specific steps of our process, like smart card embedding in Marcianese (Italy).
- Finally, we conduct voluntary third party audits in our six high risk sites, namely in regions where risks are higher or in sites where workers have lower average academic qualifications, which increases their vulnerability to potential violations. In 2015, the sites covered by third party audits represented 44% of our total headcount.

Our continuous effort to reduce global risk levels through sustainable corrective actions and encourage knowledge sharing between sites, led to particularly good results this year. The increase of our average scores in terms of year-on-year self-assessment and audit results shows the sustainable value of our actions. Our average audit scores increased from 175/200 to 190/200 in 2015. We achieved this despite our adoption of the new, more stringent, EICC standard Version 5.0, which is fully aligned to the United Nations Guiding Principles on Business and Human Rights.

Identifying risks and non-conformance gives us the opportunity to empower our community of local coordinators and partner organizations, to build large-scale programs that take into account the local and corporate contexts. More specifically, in 2015, we focused on ensuring all our employees in China receive a day of rest per week and on managing the risk of forced labor in our operations. [| G4-DMA |](#)

Audit scores increased from **175** to **190/200** in 2015



## EICC Audit program results - Major non-conformances | G4-HR9 |

	2011	2012	2013	2014	2015
<b>Number of audits</b>	2	4	5	4	7
<b>Major non-conformances</b>					
Working hours	2	4	4	2	2
Wages and benefits	1	1	1	2	
Occupational injury and illness		3	1	1	
Freely chosen employment	1			1	
Child labor avoidance (Young Workers)		1		1	
Occupational safety	1			1	
Wastewater and solid waste				1	
Emergency preparedness		2			1
Hazardous substances		1	1		
Supplier responsibility		1			
Non-discrimination	1				
Machine safeguarding	1				
Protection of identity		1			
Freedom of association					1
<b>Total of major non-conformances</b>	<b>7</b>	<b>14</b>	<b>7</b>	<b>9</b>	<b>4</b>
<b>Average major NC/audit</b>	<b>3.5</b>	<b>3.5</b>	<b>1.4</b>	<b>2.25</b>	<b>0.57</b>

### Day of rest

We strictly monitor the working time of all our operators in our manufacturing sites to ensure compliance with the EICC's working hours and day of rest standards. All of our manufacturing sites reached full compliance before 2014 with the exception of STS Shenzhen in China where the complex economical context of the electronic sector encourages worker turn-over and overtime.

In 2014, we reached full compliance with the weekly 60-hour working limit in STS Shenzhen, placing ST in the 10% of companies complying with the EICC standard in China. However we encountered difficulties in achieving more than 70% compliance with the day of rest. In 2015, we ended the year with 85% compliance for the day of rest, achieved through constructive coordination between production and human resources. In 2016, we aim to reach 95% compliance.

### Risk of forced labor

We continue to increase our control over labor agencies to ensure foreign workers are fully protected against excessive fees or other aspects of forced labor – from their country of origin until their arrival in the country of employment. Sub-tier agencies in the country of origin are now audited directly by our local teams.

In 2015, we implemented a 'zero fees' policy to prevent these workers from having to pay external recruitment and hiring fees out of their salaries. Instead, ST now pays 100% of foreign workers' fees. This concerns our Ang Mo Kio (Singapore) and Muar (Malaysia) sites, the only sites where we have foreign migrant workers. We first implemented this policy in our Muar site, where we have the highest risks of forced labor.

'Zero  
recruitment  
fees' policy



**Meng Lu Lu**  
Operator – Ang Mo Kio (Singapore)

I am a 27 year-old Chinese Operator in Ang Mo Kio Front-end Manufacturing site in Singapore. I have been working for ST for 1.5 years. Before my departure from China, ST provided me with a very comprehensive pre-departure briefing including my salary, benefits and job scope. This gave me the confidence to accept ST's job offer. In 2015, I completed the Annual Refresher Training for the ST and EICC Code of Conduct organized by my site. I think receiving that kind of information is important for employees as it allows us to understand ST's expectations on ethical behavior and makes us aware of our rights and how to report any concerns.

# Objectives



Objectives	Status	Comments
Ensure that 100% of major and minor non-conformances are closed during the closure audit.		Achieved in 2 sites. 1 site closed 81% of its non-conformances and improved its performance in the remaining areas by the end of the year.
Ensure 100% of ST Asian and Back-end sites are audited every two years versus the EICC Code of Conduct.		100% of eligible sites have received 3 <sup>rd</sup> party audits over the 2014-2015 period.

In Ang Mo Kio, in response to a customer's demand, we reimbursed all workers for any external recruitment or hiring fees they paid in 2015. Not only did we apply this measure to workers employed for this customer's production, we also extended it to all the foreign workers to ensure equal treatment for all employees. More information on management of labor agencies can be found in Supply Chain Responsibility, on [page 75](#).

## Creating value from our diversity

As a large international company present in more than 30 countries worldwide, diversity has a prominent place in our culture. ST has been able to leverage this broad cultural diversity to create additional value in supporting our employee development and strategy.

A recent example focused on the gender diversity initiative which was launched in 2015. The 'Women in Leadership' program started as a pilot workshop in Grenoble (France), gathering new female managers from 12 different nationalities. The session was structured around making the necessary shift in mindset to: become a leader regardless of gender; understand how different genders can strengthen a workforce; and devise innovative ways to drive and develop mixed gender teams. Additional sessions of this workshop are scheduled for 2016 in Agrate (Italy) and Ang Mo Kio (Singapore) to build communities and support local initiatives on the topic.

Other programs leveraging cultural diversity include our flagship program 'Grow your Career', which encourages managers and engineers to pursue their career and develop new competencies and skills in the US or Asia over a three-year period. Since the start of the program in 2014, 65 employees have benefited from this fantastic opportunity to experience a new culture. [I G4-DMA I](#)

## 'Women in Leadership' program

## Promotion ratio female/male by category and by region (%) 2015

[I G4-LA12 I](#)

	Operators		Non-exempts		Exempts	
	Female	Male	Female	Male	Female	Male
Americas	NA*	NA*	3	0	15	13
Asia-Pacific	5	6	9	4	17	15
Japan	NA*	NA*	NA*	NA*	8	15
Europe	13	7	14	11	14	11
Mediterranean	9	5	18	8	30	28

\* The company has no manufacturing sites in these regions.

## Disability programs



### FOCUS

#### My difference is not a handicap

Since 2005, ST has been engaged in disability programs with the objective of supporting the employment of disabled people. Each site is responsible for managing programs for integrating disabled employees according to their local context. In France, this work led to a new collective agreement signed in 2015, delivering significant social benefits for disabled people, such as training, increased employment potential and measures to accommodate disabilities within the workplace. ST France received an award in 2015 for the integration of people with disabilities – see [awards on page 91](#). In 2016, ST will develop partnerships with other companies to diversify our training offer and create more opportunities to recruit people with disabilities into various job functions.



# People Indicators

This section includes indicators and GRI Standard Disclosures.

## Headcount evolution by region

| G4-10 |

	2011	2012	2013	2014	2015
<b>Americas</b>	1,176	1,158	967	870	839
Female				202	190
Male				668	649
<b>Asia Pacific</b>	19,757	19,652	18,910	17,699	17,115
Female				7,129	7,132
Male				10,570	9,983
<b>Europe</b>	18,724	19,346	20,789	20,308	20,327
Female				4,932	4,925
Male				15,376	15,402
<b>Mediterranean</b>	4,348	4,349	4,493	4,550	4,697
Female				2,478	2,563
Male				2,072	2,134
<b>Japan</b>	207	208	202	204	205
Female				51	50
Male				153	155
<b>Total</b>	44,212	44,713	45,361	43,631	43,183
Female				14,792	14,860
Male				28,839	28,323

## Gender split by category (%)

| G4-10 | G4-LA12 |

	2014	2015
<b>Operators</b>		
Female	58	56
Male	42	44
<b>Non-exempts</b>		
Female	23	23
Male	77	77
<b>Exempt</b>		
Female	21	22
Male	79	78

## External hires in manufacturing (%)

	2011	2012	2013	2014	2015
Percentage of jobs filled externally vs overall jobs filled	90	95	98	97	96

## Hires by job type

| G4-LA1 |

	2011	2012	2013	2014	2015
<b>Operators</b>	5,154	6,833	8,013	7,748	6,906
Female				2,723	3,073
Male				5,025	3,833
<b>Non-exempts</b>	1,728	1,716	1,586	2,094	2,297
Female				411	525
Male				1,683	1,772
<b>Exempt</b>	2,563	2,721	1,770	1,578	1,397
Female				356	374
Male				1,222	1,023
<b>Total</b>	6,882	8,549	11,369	11,420	10,600
Female				3,490	3,972
Male				7,930	6,628

## Newcomers induction program (%)

	2011	2012	2013	2014	2015
Newcomers who participated in a formal induction session (e.g. newcomers seminar) during their first year of employment	97	98	72	93	78

## Workforce by employment type (% of employees)

| G4-10 |

	2011	2012	2013	2014	2015
<b>Full time contract</b>	98	97	97	97	97
Female				93	93
Male				99	99
<b>Part time contract</b>	2	3	3	3	3
Female				7	7
Male				1	1

## Workforce by employment contract (% of employees)

| G4-10 |

	2011	2012	2013	2014	2015
<b>Regular contract</b>	97	98	96	95	96
Female				95	96
Male				95	97
<b>Temporary contract</b>	3	2	4	5	4
Female				5	4
Male				5	3

## Remuneration (%)

	2011	2012	2013	2014	2015
Employees below the ST minimum salary scale in their job grade (exempts)	13	14	19	15	14
Employees covered by annual individual salary increase	97	98	92	89	81



## Benefits, bonus & Unvested Stock Awards (USA)

| G4-EC1 |

	2011	2012	2013	2014	2015
% of eligible (exempt >JG 11) employees receiving USA	21	22	22	26	26
Number of employees rewarded	3,390	3,570	3,920	4,620	4,730

## Number of nationalities in the headcount by region\*

| G4-LA12 |

	2011	2012	2013	2014	2015
Europe	74	78	76	74	76
Americas	26	25	25	23	19
Mediterranean	16	17	17	21	25
Asia Pacific	36	36	36	37	38
Japan	NA	4	5	5	4

\* Expatriates and assignees are counted in host country.

## Number of nationalities in Corporate staff

| G4-LA12 |

	2011	2012	2013	2014	2015
Different nationalities represented in the corporate staff	7	6	7	8	8

## Gender split by region (%)

		2011	2012	2013	2014	2015
Europe	Male	75	75	75	76	76
	Female	25	25	25	24	24
Americas	Male	79	78	78	77	77
	Female	21	22	22	23	23
Mediterranean	Male	43	44	44	46	45
	Female	57	56	56	54	55
Asia Pacific	Male	57	58	58	60	58
	Female	43	42	42	40	42
Japan	Male	76	75	76	75	76
	Female	24	25	24	25	24

## Career length and voluntary turnover rate (%)

| G4-LA1 |

	2011	2012	2013	2014	2015
new hires (below 2 yrs)	53	52	72	74	66
employees from 2 to < 5 yrs	28	24	23	32	19
employees from 5 to < 10 yrs	8	8	10	11	11
employees from 10 to < 20 yrs	2	2	4	3	4
employees above 20 yrs	1	1	7	5	4

## Average turnover rate (%)

| G4-LA1 |

	2011	2012	2013	2014	2015
Average turnover rate	18.5	15.6	15.9	14.0	14.2

## Average turnover rate by gender, by category and by region (%) 2015

| G4-LA1 |

	Operators		Non-exempts		Exempts	
	Female	Male	Female	Male	Female	Male
Americas	NA	NA	2.5	6.6	7.7	6.1
Asia-Pacific	35.0	73.4	17.3	40.6	9.7	10.7
Europe	0.3	0.2	0.6	0.5	1.4	1.5
Mediterranean	2.5	7.7	0.5	3.7	12.4	11.2

## Average employee age by category

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

## Age group split by category (%) 2015

| G4-LA12 |

	Under 30 years old	30-50 years old	Over 50 years old
Operator	41	51	8
Non-Exempt	23	67	11
Exempt	9	72	20

## Women in management

| G4-LA12 |

	2011	2012	2013	2014	2015
Women in experienced management (% JG15 and above)	14	14	14	15	15
Women in senior management (% JG17 and above)	10	10	10	11	11
Women in executive management (% JG19 and above)	10	9	10	9	8
Women on the Board (value)	-	1	2	3	3

## Disabled employees

| G4-LA12 |

	2011	2012	2013	2014	2015
Disabled people employed as % of total workforce	1.1	1.3	1.3	1.5	1.5

## Employees survey - Engagement rate

	2011	2012	2013	2014	2015*
Overall participation rate (%)	86	87	NA	84	NA
Individual Engagement index	0.33	0.32	-	-	-
Individual Engagement index (%)	NA	64	NA	66	NA
Organization Agility Index (%)	NA	NA	NA	58	NA
Goal Alignment Index (%)	NA	NA	NA	68	NA

\* No survey conducted in 2015.

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

	2011	2012	2013	2014	2015*
Non Exempts	19	17	16	16	41
Female				20	44
Male				15	40
Exempts	45	27	22	23	55
Female				25	56
Male				22	54

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

## Career development (%)

	2011	2012	2013	2014	2015
Employees with a promotion in the year	16	16	15	11	10
Employees with a job function change in the year	25	15	20	6	4

## ST population recognized through the technical ladder\* (%)

	2013	2014	2015
Worldwide	2.4	2.8	3.0
Asia Pacific	1.2	1.2	1.2
Europe/Mediterranean	3.2	3.8	4.1

\* The specified path starts from job grade 14.

## Internal mobility for exempt positions (%)

	2011	2012	2013	2014	2015
% of jobs filled internally	23	26	40	25	29

## Average training hours

| G4-LA9 |

	2011	2012	2013	2014	2015
Operators	78	70	70	79	65
Female				75	57
Male				84	75
Non-exempts	38	36	42	38	35
Female				45	27
Male				36	37
Exempts	31	29	30	22	22
Female				23	24
Male				22	22
Total*	50	46	48	47	42
Female				57	45
Male				41	41

\* Includes training on equipment and outside training.

## Employees enrolled in ST supported external education programs (%)

	2011	2012	2013	2014	2015
Operators	8.0	2.3	2.4	0.8	0.9
Non-exempts	7.6	1.0	0.9	1.7	1.6
Exempts	5.3	1.7	1.8	2.2	1.5

## Formal recognition and suggestion scheme

	2011	2012	2013	2014	2015
Number of people recognized*	48,606	33,823	39,629	25,178	15,899
% of accepted suggestions which were implemented	65	60	50	61	60

\* Can include more than one recognition per employee over the year. Trend is decreasing as we are concentrating more on individual recognition rather than recognition of large groups.

## Unplanned absenteeism (%)

| G4-LA6 |

	2011	2012	2013	2014	2015
Unplanned absenteeism	2.77	2.82	2.93	2.45	2.95
% by region					
Americas				NA*	0.00
Asia-Pacific				1.27	2.96
Europe				3.45	3.53
Japan				0.21	0.00
Mediterranean				3.47	1.30
% by gender					
Female				3.28	2.74
Male				2.00	3.34

\* Not tracked in 2014.

## Collective bargaining

| G4-11 |

	2011	2012	2013	2014	2015
Number of collective agreements signed in the year	33	45	38	39	39
% of people covered by collective bargaining agreements				67%	75%
Number of people covered by representatives		31,962	34,225	32,694	31,049
% of people covered by representatives		72%	76%	75%	72%

## Average weekly working time in selected countries<sup>(1)</sup> (hours)

		2011	2012	2013	2014	2015
China	ST standard working time	40	40	40	40	40
	Overtime	5.0	11.4	5.7	3.7	5.5
France	ST standard working time <sup>(2)</sup>	38.5	38.5	38.5	38.5	38.5
	Overtime	0.3	0.2	0.0	0.0	0.1
Italy	ST standard working time	40	40	40	40	40
	Overtime	1.0	0.7	0.2	0.2	0.3
Malaysia	ST standard working time	48	48	48	48 <sup>(3)</sup>	48
	Overtime	9.4	8.5	8.7	9.3	11.5
Malta	ST standard working time	40	40	40	40	40
	Overtime	4.5	5.0	5.9	5.4	6.4
Morocco	ST standard working time	44	44	44	44	44
	Overtime	1.5	1.1	1.8	1.7	0.3
North America	ST standard working time	40	40	40	40	40
	Overtime	0.6	0.9	0.1	0.1	2.0
Singapore	ST standard working time	44	44	44	44	44
	Overtime	1.5	3.8	3.2	4.7	4.8
The Philippines	ST standard working time	-	48	48	48	48
	Overtime	-	6.0	4.3	4.0	6.3

(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. The figures have been corrected accordingly for the previous 4 years.

(3) The 2014 figure of 44 was an error and has been corrected.

## Working time and overtime hours

	2011	2012	2013	2014	2015
Employees with regular worktime less than 48 hours per weeks (%)	100	96.3	96.0	96.0	96.2
Average weekly overtime (hours per employee)	3.1	3.6	1.7	2.3	3.8

## Fair wages (%)

	2011	2012	2013	2014	2015
Percentage of employees paid up to 105% of the legal or conventional minimum wage	12.2	12.0	10.8	11.8	9.9

## ST sites subject to human rights SAQ & Audits in 2015 | G4-HR9 |

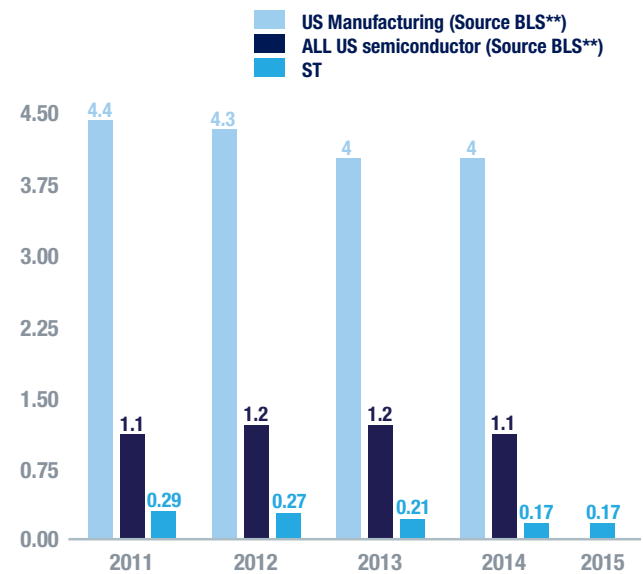
Major sites*		Self Assessment	Audits	% workforce
<b>High Risk</b>				
Singapore	Ang Mo Kio	✓	✓	10%
The Philippines	Calamba	✓	✓	4%
Malaysia	Muar	✓	✓	9%
China	Shenzhen	✓	✓	11%
<b>Medium Risk</b>				
Morocco	Bouskoura	✓	✓	6%
Malta	Kirkop	✓	✓	4%
<b>Low Risk</b>				
India	Greater Noida**	✓		3%
Italy	Agrate	✓		10%
	Castelletto**	✓		2%
	Catania	✓		9%
	Marcianise	✓		1%
France	Crolles	✓		8%
	Grenoble**	✓		4%
	Rousset	✓		6%
	Tours	✓		3%
Number of sites that have been subject to human rights assessments and audits		15	6	
Percentage coverage		100% major sites*	100% high and medium risk sites	90%

\* Site with >1000 employees and all manufacturing sites.

\*\* Design centers. Other sites are manufacturing.

## Recordable cases rate benchmarks\*

| G4-LA6 |



\* Latest data available. 2015 Benchmark data not available at time of publishing.

\*\* Bureau of Labor Statistics.

## Recordable cases rate\* by gender and by region

| G4-LA6 |

	2011	2012	2013	2014	2015
<b>Gender</b>					
Female				0.19	0.15
Male				0.16	0.18
<b>Region</b>					
Americas	0	0	0	0.00	0.00
Asia Pacific	0.2	0.1	0.1	0.10	0.12
Europe & Mediterranean	0.5	0.4	0.3	0.24	0.21

\* Work-related injuries and illnesses per 100 employees per year as defined by OSHA-US regulation.

## Recordable cases rate - Breakdown: industrial/domestic

| G4-LA6 |

	2011	2012	2013	2014	2015
Recordable cases industrial rate	0.19	0.17	0.13	0.11	0.12
Recordable cases domestic rate	0.11	0.10	0.07	0.06	0.05

## Breakdown of recordable cases by type of event, accident or exposure (%)

| G4-LA6 |

	2011	2012	2013	2014	2015
Fall or slip	20	31	25	32	31
Struck by or against	41	26	40	36	30
Overexertion	9	7	11	5	6
Others	5	3	8	7	10
Caught in, under or between	7	10	5	5	7
Contact with chemicals	7	13	8	8	9
Bodily reaction from slip or motion	11	10	3	7	7

## Severity rate by gender and by region

| G4-LA6 |

	2011	2012	2013	2014	2015
<b>Gender</b>					
Female				3.2	3.3
Male				2.4	2.2
<b>Region</b>					
Americas	0.0	0.0	0.0	0.0	0.0
Asia Pacific	0.5	0.8	0.9	0.6	0.7
Europe & Mediterranean	6.5	7.8	4.1	4.5	4.1

## Lost WorkDays Incidence rate (Subcontractor)\*

| G4-LA6 |

	2014	2015
Lost workdays per 100 FTE (Full time equivalent) employees	8.5	6.8

Target 2016: 6.1

\* ST considers subcontractors as independent contractors working on-site for more than 3 months.

## Lost WorkDays Cases Incidence rate (Subcontractor)\* by region | G4-LA6 |

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

\* ST considers subcontractors as independent contractors working on-site for more than 3 months.

## Lost WorkDays Cases (Subcontractor)\* by gender (%)

| G4-LA6 |

	2014	2015
Female	21	30
Male	79	70

\* ST considers subcontractors as independent contractors working on-site for more than 3 months.

## Lost WorkDays Incidence rate\* (Subcontractor)\*\* by region | G4 - LA6 |

	2014	2015
Americas	0.0	0.0
Asia Pacific	1.0	1.9
Europe & Mediterranean	12.6	10.4

\* Number of days lost per 100 employees per year as defined by OSHA-US regulation.

\*\*ST considers subcontractors as independent contractors working on-site for more than 3 months.

## Lost WorkDays (Subcontractor)\* by gender (%)

| G4 - LA6 |

	2014	2015
Female	19	54
Male	81	46

\* ST considers subcontractors as independent contractors working on-site for more than 3 months.

## Health Plan - Medical examinations

Exam type	2011	2012	2013	2014	2015
Medical examinations	70,480	60,216	43,411	49,310	47,278
Check up with a physician	35,689	34,604	19,645	22,042	21,978
Blood analyses (including biomonitoring tests*)	15,954	11,986	10,987	13,150	11,981
Chest X rays	8,881	5,624	5,782	6,380	6,906
Colorectal cancer immuocult test	966	310	277	412	436
Electrocardiograms	5,497	4,682	4,427	5,489	4,194
Mammography	1,094	1,026	760	573	626
Pap smear tests	1,586	1,572	1,198	890	766
Prostate cancer screening	813	412	335	374	391
Screening test	13,097	8,837	12,438	13,564	13,693
Immunization	3,019	2,234	2,153	1,721	1,606
Total services provided	86,596	71,287	58,002	64,595	62,577

\* These tests are dedicated to employees working in manufacturing areas and on some specific maintenance operations.

## Injuries/Illness cost and savings (US\$m)

	2011	2012	2013	2014	2015
Injuries/illness cost	2.37	2.94	1.83	1.94	1.59
Results without action	8.90	8.50	9.60	9.22	8.18
Savings*	7.14	5.80	7.80	7.28	6.59

\* Savings around US\$ 70M in 12 years.

## Fines and total number of non-monetary sanctions in 2015

No fines or non-monetary sanctions.





ST Atrate site, Italy



# Environment & Operations



**91%**  
of waste  
reused, recycled,  
recovered

- 15 of our sites are ISO 14001 certified
- 13 of our sites are EMAS validated



**22.5%**  
of energy  
purchased comes  
from renewable  
sources

- Our six Front-end manufacturing sites are ISO 50001 certified



**> 90%**  
of key suppliers  
committed to the EICC  
Code of Conduct

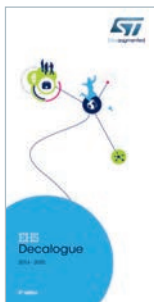
- ST aligns its chemical management system with the IECQ QC 080000 HSPM standard

| G4-DMA |



# Environmental Efficiency Energy

We reduce energy consumption and our associated carbon footprint through energy efficiency and conservation programs, and by purchasing CO<sub>2</sub>-free and renewable energies. In addition, we carefully monitor and anticipate developments in the energy market to mitigate business exposure to climate change.

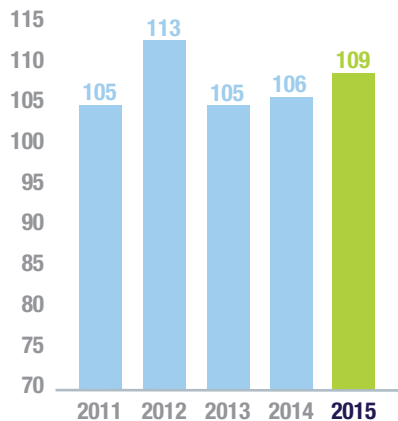


EHS 5<sup>th</sup> Decalogue

27 GWh  
saved

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

| G4-EN5 |



Baseline 100 in 2010.

Although the power consumed by semiconductor chips has been reduced significantly, manufacturing semiconductors remains energy intensive as it requires an ultra-clean and stable production environment.

At ST, we have considered and addressed the issues of responsibly managing energy and mitigating indirect greenhouse gases (GHG) under GHG Protocol scope 2 since our first Environmental, Health & Safety (EHS) Decalogue published in 1995. In accordance with our fifth EHS Decalogue (2014-2020), we continue to set targets, take actions, and implement and monitor programs across all sites. This activity is primarily driven by our corporate EHS team, and site energy and environmental champions. | G4-DMA |

## Energy management and performance

### 2015 results and trends

Regardless of the number of silicon wafers we produce, we need to maintain the necessary conditions in our manufacturing environment, which means energy requirements remain stationary. Therefore, fluctuations in our production levels can significantly impact energy performance, as the ratio of energy consumption per production unit can quickly change. However, at ST we develop specific programs to reduce energy consumption, independent of our production levels.

In 2015, these energy saving programs were effective and contributed to 27GWh of electrical and thermal energy saving. However, as wafer production decreased, the consumption of energy per unit of production increased slightly over the same period.

### ISO 50001

All ST Front-end sites have been ISO 50001 certified since 2013. The benefits of implementing energy management systems, combined with our aim for continuous improvement, have resulted in the decision to increase the number of ISO 50001 certifications. ST Grand Ouest (Le Mans and Rennes, France) began the certification process at the end of 2014. The final reviews were completed at the end of 2015, and ST Grand Ouest became the first Research and Development site of ST certified ISO 50001 in January 2016. This certification involves implementing a systematic approach to energy management and helps us improve our energy performance.

## Energy consumption, efficiency and conservation

ST strives to reduce its energy consumption and the carbon footprint generated by its operations, through its energy efficiency and conservation programs. We adopted a Total Cost Of Ownership (TCOO) approach for all sites. The purchase of any major new facilities equipment is done in line with this methodology, and the total costs of acquisition, maintenance and energy consumption are assessed over a ten-year period. Facilities and site service providers are required to comply with ST's energy management obligations, and are made aware of energy efficiency and renewable energy opportunities.

### Replacing equipment

Total Cost  
Of Ownership  
(TCOO)  
approach

22.5%  
of purchased energy  
comes from  
renewable  
energy

Replacing old equipment with more efficient models helps reduce our energy consumption. In manufacturing, compressors are used to heat and cool air to maintain a stable temperature in the production environment. In 2015, our Muar (Malaysia) site replaced two screw compressors that had been in service for more than 20 years, with a single new centrifugal compressor. This resulted in greater energy efficiency and fewer maintenance costs. Consequently, the site expects to save 3,840kWh/day.

### Energy saving programs

For more than two decades, we have been reducing our energy consumption and gaining efficiency by regularly upgrading existing equipment and optimizing manufacturing processes. Lean methodology and ISO 50001 standards are part of our culture and help teams to eliminate waste and develop efficient solutions.

Energy savings can be achieved through optimizing settings and processes. All sites are requested to identify opportunities for improvement and put action plans in place. In 2015, various actions, such as free-cooling optimization, LED lighting conversion, heat recovery, exhaust balancing and inverter installations, were conducted leading to the above mentioned 27GWh of saving.

### Energy sourcing

Reducing our carbon footprint is a key part of our Sustainability strategy. ST's main source of energy is electricity, but as we know electricity produced by fossil fuels impacts global warming, we are committed to sourcing CO<sub>2</sub>-free and renewable energies. Our sourcing department always considers both the financial and environmental impact of each solution. Through selecting the most environmentally friendly solution wherever possible, we are able to progress and demonstrate our commitment to sourcing energy responsibly. In 2015, 22.5% of energy purchased by ST came from renewable sources, compared to 7.4% in 2012.

ST encourages sites to install photovoltaic panels for producing electricity. In 2015, the photovoltaic installations of Catania (Italy), Grenoble (France) and Geneva (Switzerland) produced 2.1GWh.



**Claudia Sterlini**  
General Services Director -  
Agrate (Italy)

My daily activity of running the site services allows me to participate in ST's challenging programs to save energy and preserve natural resources.

On our journey to improve our energy efficiency in Agrate, we have been able to reduce the electrical consumption per unit produced (kWh/wafer out) by 80% over the past 25 years.

In an effort to further improve the efficiency, the Site Energy Team has deployed a new challenging approach - the '4-RE methodology'.

The challenge is to RE-design, RE-value, RE-think and RE-engineer all the elements in the electrical consumption chain from the identification of needs and tools to recycling wasted energy:

- RE-design: identify and install high efficiency tools (inverter, high efficiency motors etc.)
- RE-value: deploy processes and methods to re-value the wasted energy (heat recovery from cooling water)
- RE-think: review needs versus effectiveness (clean room environmental conditions)
- RE-engineer: adopt best practices and operative procedures to optimize infrastructure efficiency

The Agrate site was the first ST site to receive its ISO 50001 certification in September 2010.

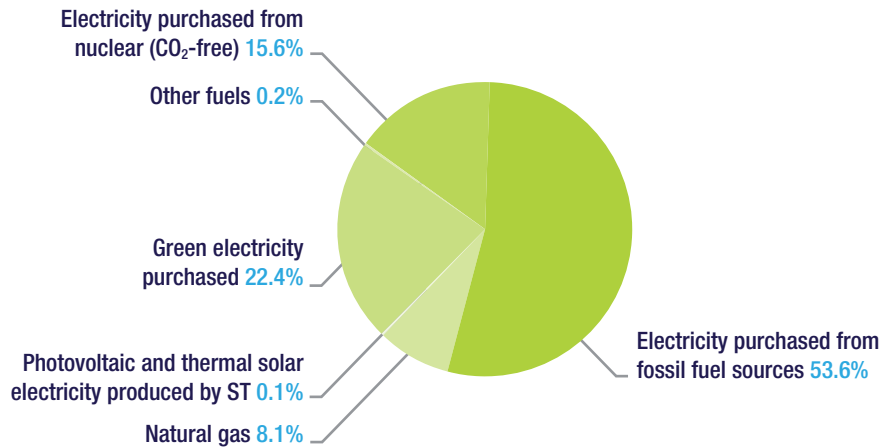




Objectives	Status	Comments
Continually improve energy efficiency at equivalent production level (kWh per production unit) through process and facilities optimization, conservation and building design.	✗	See article.
Yearly increase by 10% the quantity of green energy used by the Company.	✓	22.5% versus 19.7% in 2014.
By 2015, ensure that 100% of call for tenders from 200 kUS\$ include criteria on energy efficiency and use of CO <sub>2</sub> emission-free and/or renewable energy regarding facilities and site services.	✓	Criteria included in all contracts in 2015. Objective 2016: Changed to '90% of call for tenders'.

### Direct and indirect energy consumption by primary sources (%)

| G4-EN3 |



### Breakdown of energy sources

| G4-EN3 | G4-EN6 |

	2011	2012	2013	2014	2015
Electricity consumption (TJ)	7,409	7,347	7,530	7,649	7,517
Natural gas consumption (TJ)	598	550	657	650	661
Others sources (TJ)	0	13.57	16.34	16.23	15.98
Total energy consumption (TJ)	8,006	7,911	8,204	8,315	8,193
Energy consumption due to electricity %	92.5%	92.9%	91.8%	92.0%	91.7%

## Reducing energy consumption



### FOCUS

#### Decreasing nitrogen consumption to reduce energy consumption

Nitrogen (N<sub>2</sub>) is extensively used in wafer manufacturing. In our Tours (France) site, an analysis of the use of power and gas identified N<sub>2</sub> consumption as the second largest expense after electricity. N<sub>2</sub> is produced on site through cryogenic separation with compressed air and, as air compressors are big energy consumers, N<sub>2</sub> production represents 10% of the site electricity consumption. Consequently, the power and gas savings team (who work on our energy savings project) focused on improving their management of N<sub>2</sub>. Their aim was to reduce N<sub>2</sub> consumption and save both costs and overall energy consumption. The team achieved these objectives through leakage inspections, flow settings, flow reductions and process optimization (through settings or N<sub>2</sub> elimination). These actions reduced N<sub>2</sub> consumption by 15% in two years and saved energy, while related costs were reduced by 27% compared to 2014. A similar project focusing on water consumption was simultaneously carried out and the initiatives were rewarded with an internal Gold Star Award, recognizing the team's engagement and contribution to environmental responsibility.







# Environmental Efficiency

## Water

We are committed to reducing water use and ensuring high standards of effluent and wastewater treatment. We also identify and manage water-related risks and opportunities, including the impact on local communities.



Water treatment plant, Rousset, France

Climate change and population growth make water a critical resource for both businesses and communities. Manufacturing semiconductors requires a large volume of water and generates wastewater that can be harmful for the environment and local communities.

### Our approach to water management

Tackling the challenges of water scarcity and wastewater treatment has been a fundamental part of our strategy since 1994. We have adopted a comprehensive approach to this, including water stress assessments, conservation programs, wastewater treatment and initiatives with local communities to reduce water extraction, consumption and the risk of pollution. Through two decades of continuous efforts, we have succeeded in reducing our overall water footprint by more than 73%. However, it has become more challenging to improve on this reduction as our facilities are already optimized for efficiency.

Nevertheless, we continue to responsibly manage our water use, and to identify and implement solutions to reduce it. We set targets as part of our Environmental, Health & Safety Decalogue, develop specific programs and monitor our performance throughout all our sites. Our emphasis on reducing water use is reflected in our key performance indicators of normalized consumption and the recycling ratio. [I G4-DMA I](#)

Water footprint reduced  
by more than  
**73%** in 20 years

**45%**  
of water recycled  
and reused

**330,000m<sup>3</sup>**  
of water saved

## Water management performance

In 2015, for the first time ever, we achieved a rate of 45% recycled and reused water. Our next step is to analyse the constraints of our sites and suppliers in terms of water scarcity.

Programs developed over the past years resulted in water savings of about 330,000 m<sup>3</sup> in 2015. We achieved this result through optimizing water consumption and improving the efficiency of our reclaimed water systems.

Water management is an increasing focus for our stakeholders. In 2015, one of our customers asked to inspect four of our Front-end manufacturing sites. Following these audits, ST was recognized as a 'best in class' supplier (see quote on [page 60](#)).

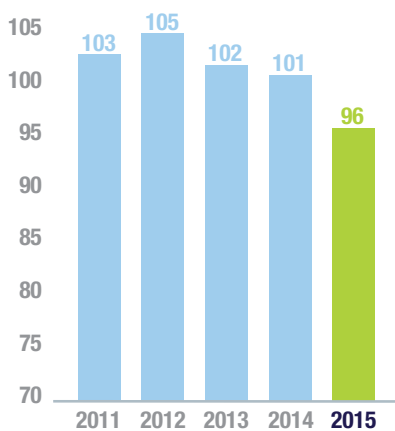
Saving water saves energy too, as the more water we use, the more energy we require to treat it. Consequently, ST Tours (France) power and gas savings team (see the Energy focus on [page 57](#)) has worked to reduce the water consumption of wet benches, which consume significant amounts of ultra-pure water. Through optimizing this process and adjusting tools, they were able to reduce water consumption by 25% in two years.

## Recycled and reused total water

| G4-EN10 |

	2011	2012	2013	2014	2015
Total water used (1,000m <sup>3</sup> )	29,113	28,315	30,967	30,421	29,022
Water recycled and reused rate (%)	40.5	43.0	43.5	42.8	45.1

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



Baseline 100 in 2010.

## Wastewater collection and treatment

Preventing pollution is critical for ST and we pay special attention to reduce all risks related to water discharge and pollution. Before being discharged, wastewater is treated in treatment plants to remove polluting substances. When a sufficient level of purity is obtained and any risk of pollution eliminated, it is discharged into the natural environment. All our wastewater is treated internally with a dedicated wastewater treatment plant or, when available, externally through a dedicated municipal treatment plant.

We continue to improve wherever possible and in 2015, our Ang Mo Kio (Singapore) site worked in partnership with Micron to install a new fluoride waste treatment plant.

## Water risk assessment

Identifying and mitigating major water-related risks is part of ST's water management. In 2014, we developed a water risk methodology in collaboration with Quantis ([www.quantis-intl.com](http://www.quantis-intl.com)), a sustainability consultancy. This methodology evaluates the risks and related impact due to a physical event such as drought, flooding, an extreme climatic event or water pollution for each ST manufacturing site. The associated risk assessment identifies the major risk factors, considering not only the impact on ST operations but also the possible impact on local communities where we operate. In 2015, we initiated the deployment of this methodology that enables our sites to perform their own risk assessment.

## Wastewater treatment

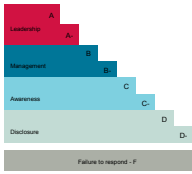


### FOCUS

#### Ang Mo Kio's initiative to improve wastewater treatment

Rinsing and cleaning operations in semiconductor manufacturing generates wastewater containing fluoride. This has to be treated to remove the polluting substance. In 2015, our Ang Mo Kio (Singapore) site joined forces with Micron to set up a wastewater treatment plant dedicated to segregating and treating fluoride in a new way. Thanks to this new installation, the four process steps of the conventional precipitation process (coagulation, flocculation, sludge/water separation and dewatering) are now combined into one by fluidized bed crystallization, resulting in a smaller footprint and less waste generation. Commissioned in May 2015, fluoride waste discharge decreased immediately, reducing the impact of our activities on the environment.





The guidelines and methodology are developed at corporate level but the availability and quality of water, as well as its related costs, risks and challenges, are typically considered at site level.

### Reporting through the Carbon Disclosure Project

Responding to the Carbon Disclosure Project's (CDP) water questionnaire helps ST to understand better the risks and opportunities related to water challenges. We have been responding to the water questionnaire since 2011. In 2015, 405 companies answered the questionnaire and ST scored B on a scale of A (highest) to F (lowest), demonstrating the maturity of our water management strategy and good performance.

## Objectives



Objectives	Status	Comments
Continually improve water efficiency at equivalent production level through water saving programs and water recycling projects (cubic meters per production unit).	✓	See article.
Achieve an overall Company recycling rate of 45% by 2015.	✓	45.03% Objective 2016: Remain among the best in class companies with a recycling rate of 45% or more.



**Alessandro Beretta**  
Water & Environmental Facilities  
Manager - Agrate (Italy)

Water is one of the world's most valuable resources. It is also becoming increasingly scarce and polluted. 'To promote sustainable water use and prevent environmental impacts from process wastewater' is the vision of the clean water program, a new water management audit system developed by one of our customers. In 2015, four of our Front-end manufacturing sites – Agrate (Italy), Catania (Italy), Crolles (France) and Ang Mo Kio (Singapore) – were audited by our customer using this approach. The work of the Environmental and Facilities Corporate teams and the commitment of the local site managers largely contributed to the final outcome. Among 73 facilities audited in 12 different countries, ST received a special mention as one of the best suppliers, with our sites being ranked as 'leading' (Crolles and Agrate) and 'performing' (Ang Mo Kio and Catania). For ST, this achievement validates our longstanding programs and confirms our leading position in the semiconductor industry in terms of water preservation and management, which is increasingly important for our stakeholders. The clean water program audit scheme is an effective way to evaluate and benchmark water management systems and our Back-end sites have decided to use it to pro-actively conduct self-audits. The adoption of this systematic and stringent approach will enable us to compare our water management performance internally and externally, and to decide future-focused actions for continuous improvement.

## Conserving Water



### FOCUS

#### Conserving Malta's water

ST has always shown a keen interest in water conservation. Malta has a very limited supply of water as there are no mountains or rivers on the island. Around 50% of water is extracted from an aquifer and 50% is obtained from sea water through reverse osmosis plants. Because of this, water is a precious natural resource. Social responsibility and costs have driven ST's Kirkop (Malta) plant to find solutions to reduce its use of raw water through implementing recovery systems that save and reuse water. This has been the case since the creation of the plant in the 1980's. In 2015, our Kirkop site invested US\$505,000 to increase its deionized water production and recovery capacity. This included a microfiltration plant with an ion exchange system and a mixed bed and filter press, which improved the site's water recycling rate to 58%.







# Environmental Efficiency

## GHG Air Emissions

We aim to manage and reduce our direct and indirect greenhouse gas (GHG) emissions, including perfluorinated compounds (PFCs), from all our manufacturing and other business operations.



Scrubbers, ST Catania, Italy

**COP21**  
**PARIS**

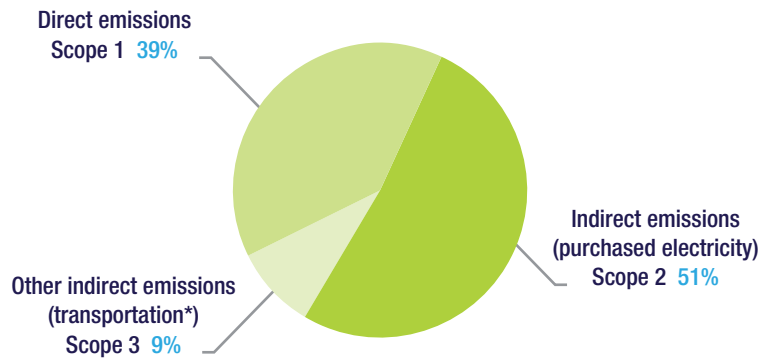
Climate change was an important topic of discussion in 2015 with the COP 21 conference in Paris. ST's President and CEO, Carlo Bozotti signed the 'Business Proposals for COP 21', a business-led initiative sponsored by Global Compact, showing the global awareness of top Executives on climate change issues. In signing, Mr. Bozotti confirmed ST's commitment to minimizing carbon emissions. We have been considering the impacts of ST's activities on climate change for more than 20 years. Our EHS (Environment, Health and Safety) Decalogue sets targets for ST to reduce CO<sub>2</sub> emissions related to energy consumption and transportation, and for reducing emissions of perfluorinated compounds (PFCs). We have implemented programs to achieve these targets across the whole company. We measure, manage and report our direct and indirect emissions in accordance with scopes 1 to 3 of the Greenhouse Gas GHG protocol and Global Reporting Initiative (GRI) standards.

**I G4-DMA I**



## Summary of net CO<sub>2</sub> emissions (%)

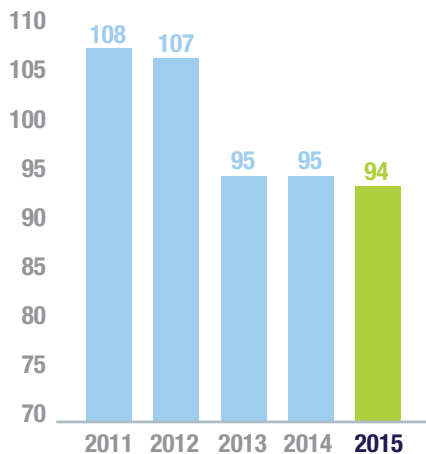
| G4-EN15 | G4-EN16 | G4-EN17 |



\* The transportation emissions value is a global estimate of employees transportation and transportation of goods.

## CO<sub>2</sub> emissions: (per unit of production) normalized values

| G4-EN18 |



Baseline 100 in 2010.

## Mitigating our direct emissions (scope 1)

We have made constant efforts to limit our impact on the environment since the early 1990s, and reducing our GHG emissions is part of our Sustainability strategy. Since 1997, ST has been a member of the European Semiconductor Industry Association (ESIA), which represents the European semiconductor industry in Brussels. ST is directly involved with its Environment Health and Safety (EHS) committee and a specific working group that deals with PFC emissions. ST's position is aligned with ESIA's own target of reducing normalized emissions by 30% by 2020 from the 2010 baseline.

### Reducing our PFC emissions

Our direct emissions (Scope 1 of the GHG protocol) result mainly from PFCs that are widely used in the semiconductor manufacturing processes. At ST, we encourage all sites to adopt tools and optimize processes to develop greener manufacturing techniques. We also encourage sites to find solutions to replace high global warming potential (GWP) gases with lower or GWP-free alternatives. In 2015, our Ang Mo Kio (Singapore) site carried out a challenging project of replacing a high GWP gas used in CVD (Chemical Vapor Deposition), which is used to clean process chambers after the wafer deposition process. To deliver the strategy of reducing our GHG emissions, we created a team with the objective of finding alternatives to this scarce gas and reducing consumption without impacting product quality.



**Joseph ONG**  
Project leader - Ang Mo Kio  
(Singapore)



Reducing PFC emissions by replacing the gas used in CVD (Chemical Vapor Deposition) to clean process chambers was a very challenging project. First the obstacle was the lack of process, as we were the first ST site to carry out this kind of action. No known clean recipe was available, there were no documents or references, and there was no OEM tool vendor to support us. The team had to go through several experimental runs to develop a working recipe, optimized with no impact on performance. The second major obstacle, on the hardware side, was the need to use the existing gas supply configuration that relied on one source to supply up to 39 tools. The inherent low-pressure characteristics of this gas meant it was hard to make it flow to all the tools, but we overcame this obstacle thanks to the strong determination and engineering mindset of the team. The success of this project has been recognized within ST and shared with other ST sites to benchmark the approach. To enable the reduction of PFC emissions in this way is a great achievement by the team.

## Process optimization

The team identified a readily available gas with a lower environmental impact and minimal conversion costs. Team members developed the gas recipe and carried out simulations through their own analysis and brainstorming. Ensuring chamber cleanliness was a major challenge, and several trials were necessary to achieve the best recipe. We introduced the gas in a two-phase implementation, both to collect sufficient data for fine-tuning and to minimize the impact on manufacturing during the switch-over. This project is the first of its kind in ST. Its results indicate the success of its implementation, with gas consumption down by 30%, PFC emissions reduced by more than 13% after six months. PFC annual emissions reduction is estimated at 26% and annual savings are estimated at some US\$300,000. This innovative solution has been widely shared with other sites as an example of a best practice that could be replicated elsewhere.

### Decreasing our indirect emissions (scope 2)

ST's programs on indirect emissions, scope 2 of the GHG protocol, are detailed in the Energy [page 55](#).

### Our approach to product and employee transportation (scope 3)

One commitment of our EHS Decalogue is to reduce CO<sub>2</sub> emissions resulting from the transportation and logistics of our employees and products. We report on three out of the 15 GHG Protocol scope 3 categories: employee commuting, goods transportation, and business travel.

We have adopted several initiatives to decrease transportation emissions, including better loading of containers, optimizing the routes used, and changing the means of transportation (from air to road).

We collaborate with local authorities to develop greener alternatives and promote mobility plans for our employees' journey to work. Several green transport initiatives are deployed at our sites. They are promoted by communication and awareness campaigns, as well as incentives to use public transport, coaches, and car-pooling networks. For example, at our Agrate (Italy) site, there is a dedicated website connecting employees wishing to rent or buy bicycles, both for commuting and private use. In 2015, we also installed two charging stations for electric vehicles.

To reduce the CO<sub>2</sub> emissions generated by business travel, ST continued to encourage employees to organize meetings via our video-conferencing network in 2015. ST is now equipped with 41 virtual conference rooms (up from 25 in 2013) in 36 sites, allowing employees to participate in face-to-face virtual meetings.

### The Carbon Disclosure Project

Since 2004, ST has responded to the annual questionnaire issued by the Carbon Disclosure Project (CDP), an initiative that provides a global system to measure, disclose and share information about carbon management.

CDP's climate change program works to reduce companies' GHG emissions and mitigate climate change risk. Today, more than 5,500 companies disclose their environmental performances to the CDP, generating the world's largest database of corporate environmental information, covering climate, water and deforestation risks. In 2015, we obtained our highest score for disclosure and performance on carbon management, recognizing the attention we give to climate change, adaptation and mitigation and the actions we take.

We achieved 96-B<sup>1</sup> for CDP carbon (compared to the average of 84-C), three points higher than our 2014 score. This is the result of many activities undertaken within the Company over the years, including the use of renewable energy, programs to reduce emissions related to energy consumption and transportation, and actions to reduce the emission of perfluorinated compounds (PFCs).

Reporting to the CDP brings ST some significant benefits: it encourages us to take action on carbon management by identifying opportunities on global warming and climate change; it helps us to identify risks; and it enables us to adopt a long-term vision.

Our participation in the CDP's water and supply-chain programs is detailed in the Water and Customer Relations [pages 60 and 32](#).

## Green transport initiatives



96-B

# Objectives



Objectives	Status	Comments
<b>Direct emissions (Scope 1): reduce PFCs emissions (tons CO<sub>2</sub> per production unit) by 30% in 2020 from 2010 baseline.</b>		See article.
<b>Indirect emissions (Scope 2): decrease CO<sub>2</sub> indirect emissions through our energy management programs.</b>		Increased by 0.15%.
<b>Transportation emissions (Scope 3): reduce CO<sub>2</sub> emissions (tons CO<sub>2</sub> per production unit) from transportation and logistics for our products, materials and employees.</b>		Increased by 11.6% due to an increase of emissions from transportation of goods.

>40% of direct emissions compensated by our forests

## Compensation and reforestation

To compensate for our remaining direct emissions, we have developed Company-level reforestation programs in Australia, Italy, Morocco and the USA where the projects bring more benefits than just carbon sequestration. Indeed, in one project in Texas, ST bought the land, planted the trees and then donated the planted land to a local foundation<sup>2</sup>. Since then, ST has been receiving carbon credits, while the local foundation benefits from the ‘living laboratories’ the forests provide, offering opportunities for academic activities that are crucial to the research and teaching of natural resource management.

In 2015, the 9,000 hectares of trees we planted in 2002 and 2003 sequestered 227,962 kTons of CO<sub>2</sub>, compensating more than 40%<sup>3</sup> of our annual direct emissions. At a local level, some sites are very active in regional reforestation programs. For example, ST Calamba (the Philippines) aims by 2020 to successfully plant or adopt 20,200 fully grown trees in the Caliraya watershed, a protected area. Despite a poor survival rate of 50%, efforts are continuing; ST Calamba employees have already planted more than 25,000 trees. They also carried out tree-tagging activities in 2015 to monitor the number and survival rate of the planted trees. The site will pursue its efforts to ensure that the target is achieved by 2020.

1. The letters A to E represent the performance (mitigation, adaptation and transparency) while the numbers 0 to 100 represent the disclosure (comprehensiveness, data management, understanding and transparency).
2. Article published by the foundation in 2016 <http://atcofa.sfasu.edu/index.php/id-category-blog/234-partnership-between-industry-and-natural-resource-management-benefits-the-environment-and-sfa-students>
3. Internal calculation methodology

## Working with the industry



### FOCUS

#### ST and ESIA: working in our industry's interests

ST is an active participant in ESIA (the European Semiconductor Industry Association), whose mission is to represent and promote the common interests of our industry in European Institutions. ESIA's activities are varied, and include a focus on Environment, Safety and Health (EHS). ESIA also plays an important role as a member of the EHS Committee of the World Semiconductor Council (WSC), where the global semiconductor industry works together to collaborate on resource conservation and many other EHS issues.

ST is represented in both the ESIA and the WSC PFC working groups by Francesca Illuzzi, Senior Member of Technical Staff. Within the scope of the latter activity, the semiconductor industry has successfully reached the agreed 2010 reduction goal. Currently the group is working on the 2020 reduction goal alongside the adoption of the best available technology and practices to minimize greenhouse gas emissions. Such objectives require the semiconductor industry to make significant investments as well as a considerable technical effort. So far we have achieved very positive results thanks to the collaboration with other European semiconductor companies, and it is important to continue to reinforce the European position inside the worldwide semiconductor industry.





# Environmental Efficiency Waste

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



Waste sorting 'Eco Island', ST Agrate, Italy

Waste is a focus of concern because of its potentially negative impact on the health and safety of employees and the environment. Managing waste requires a multidisciplinary approach based on waste reduction, reuse, elimination and treatment.

## Waste strategy

For more than two decades, we have set ourselves ambitious targets through our Environmental Health & Safety (EHS) Decalogue to reuse and recycle materials, dispose of waste safely and minimize waste to landfill. Waste management is driven by national or local regulations, but our EHS Decalogue requires that all sites meet the most stringent of either national or local regulations, or Company procedures. Our waste management strategy covers all waste streams, from operations (such as metals, plastics and chemicals) to surrounding activities (such as offices and canteen) and products. We have established an integrated process to manage waste which involves compliance, monitoring the quantity of annual waste production, collecting data and reporting strict controls across all company activities. [I G4-DMA I](#)

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





Objectives	Status	Comments
Remain among the best in class companies with a reuse, recovery and sent for recycling rate of 90% or more.	✓	91% in 2015.
Remain among the best in class companies with landfilled waste rate of 3% or less.	✗	4.25%.

**Waste in Tons | G4-EN23 |**

	2011	2012	2013	2014	2015
Total hazardous waste	10,415	12,624	11,031	10,644	10,406
Total waste	38,592	37,511	36,091	34,472	34,571

**Waste performance**

In 2015, we achieved our objective to remain a best-in-class company, as 91% of waste generated through our operations was reused, recovered or sent for recycling. Aware of the potential risks, we pursue our effort to reduce the amount of waste in landfill and to reach our target of 3% or less.

**Minimizing environmental impact and creating added-value**

Our waste management strategy covers all waste streams, and we implement specific programs to treat waste at the site level in partnership with local subcontractors. As potential secondary raw materials are present in waste streams, revalorizing waste can bring many benefits. We are taking steps toward a circular economy as it creates added-value, minimizes risks for people and the environment, and benefits local communities.

For example, in Singapore, we have deployed a waste recycling program for both manufacturing and non-manufacturing sites since 2005. Implemented by the Global Purchasing Organization (GPO), this program benefits the environment because waste is properly handled and recycled, but it also benefits the Company through generating revenue from its sale. Metal waste as well as trays, tubes, wafer boxes and stainless steel are collected for recycling. From offices, there are computers, paper boxes, used papers and metals.

**Hazardous waste management**

Hazardous or potentially hazardous waste, such as chemical substances or contaminated plastics, is generated from the various processes for manufacturing semiconductors. As hazardous waste can be harmful to people's health and safety and to the environment, we need to handle, treat and dispose of all hazardous waste properly. At ST, we pay particular attention to this, and 87% of hazardous waste was reused, recovered or sent for recycling in 2015. The remaining waste is treated locally by specialized companies. Where local treatment is not possible, we transport hazardous waste safely to a location where it can be treated, in full compliance with the Basel convention. In 2015, 0.49% of ST's hazardous waste was transported from Kirkop (Malta) to France and Italy and from Ang Mo Kio (Singapore) to Japan.

87% of hazardous waste is reused, recovered or sent for recycling

Going beyond our operations



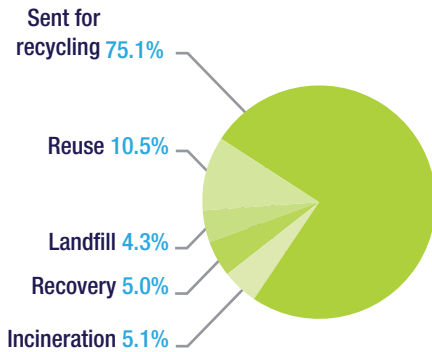
**FOCUS**

**Waste collection for employee household equipment**

Following the best practice of ST Calamba (the Philippines) to go beyond the footprint of its operations (see 2014 Sustainability Report, page 54), in August 2015, ST Muar (Malaysia) decided to extend its WEEE management initiative to employees' household equipment. Collection points were installed and an awareness campaign was conducted to change consumer behavior. The site ensures this waste is properly handled and managed by a sub-contractor who is licensed by Malaysia's Department of Environment. Following the success of this initiative it will now be deployed to all our Back-end sites in 2016.



## Waste split (%) | G4-EN23 |



## 12 WEEE disposal suppliers audited in 2015

### Improving waste sorting

We continually encourage all ST sites to improve waste management and to deploy solutions to optimize waste treatment. Maintenance operations generate different kinds of waste that can be recycled, whether hazardous or not.

In Tours (France) in 2015, Environment Engineer, Romain Fouqueray, together with a working group, proposed to implement new solutions to encourage waste sorting of maintenance operations. Waste-sorting containers, chemical-resistant bags and a dedicated shelf to receive Waste of Electrical and Electronic Equipment, cables, metals and plastics, were installed in the cleanroom area. To make this initiative a success, awareness and training actions were conducted during weekly maintenance meetings and published in the local newsletter. The site can now confirm that all waste generated by maintenance operations is properly sorted, evacuated, disposed of or recycled. This initiative achieves the objectives to reduce risks linked to hazardous waste handling and optimize waste sorting, and demonstrates that awareness and clear instructions lead to beneficial actions. Following this success, maintenance waste management has now become a part of our internal environmental audits.

### Waste of Electrical and Electronic Equipment – WEEE

As a supplier of components to the electronics industry, rather than a manufacturer of electronic equipment, ST is not directly affected by the European Directive 2012/19/ EU Waste of Electrical and Electronic Equipment (WEEE), which requires manufacturers and importers in the EU member states to take back their products from consumers. However we do regularly dispose of electronic equipment resulting from our operations, such as scrap PCs and laptops, screens and dashboards.

Considering the potential health and environmental impact of our electrical and electronic equipment, we implement specific programs to ensure correct handling and treatment of our WEEE. In 2015, we launched a large-scale initiative to reinforce the audit plan of our key WEEE disposal suppliers. Our aim was to conduct specific checks to ensure the WEEE reuse/recycle rate is correct and meets the declared value.

This initiative applies to all our manufacturing sites, large non-manufacturing sites and design sites. We defined a common methodology to conduct audits that would verify the different processes of recycling, the recycle rate and compliance with laws and local regulations. Coordinated by the corporate EHS team, each site was asked to audit its local WEEE supplier and provide an audit report describing their results and processes for collecting and handling each type of waste.

During 2015, 12 of the 15 eligible sites conducted audits on their local disposal suppliers. The results demonstrate that our electric and electronic waste is correctly dismantled and that on average 85% to 95% is reused through a raw material valorization process. The amount of waste that cannot be revalorized is generally incinerated and the produced energy is recovered. The three remaining sites plan to audit their suppliers in the first half of 2016.

This initiative allows us to verify published information, gain visibility on WEEE management and ensure our waste is managed correctly. It also strengthens the close collaboration between ST and its local suppliers, and we intend to repeat this initiative over the coming years.



**Mustapha HIDRA**  
Dauphiné Savoie Manager - Veolia



As a specialized waste management company, Veolia is committed to providing its customers traceability of their waste, from collection to recovery. The request of STMicroelectronics to audit the plant of Triade in Chassieu (France), our subsidiary in charge of WEEE treatment, demonstrates an environmental policy based on waste control and monitoring. Through this process, carried out with transparency, strengths and opportunities for improvement have been identified. STMicroelectronics was particularly sensitive to our insertion program for people facing employment difficulties and to WEEELABEX ('WEEE label of excellence'), a European labeling process currently being deployed. WEEELABEX focuses on collection, depollution and recovery of WEEE, with the aim to bring more transparency and homogeneity (standardization) to the recycling industries in Europe.



# Environmental Efficiency Chemicals

We are committed to reducing and managing the environmental, health and safety risks of the chemicals and materials used in our manufacturing processes. We achieve this by basing their selection, handling and substitution on the precautionary principles.



Deposition process, ST Tours, France

A Site **Chemical Committee** for each manufacturing site

Many substances used for manufacturing semiconductors can be hazardous for the environment and people's health and safety, particularly in Front-end activities. Since the early 1990s, ST has been engaged in the management and control of chemical substances and materials to protect both people and the environment from potential exposure, and to comply with legal and customer requirements.

### **An approach based on precautionary principles**

To comply with our Environmental, Health & Safety (EHS) Decalogue, all our manufacturing sites have a Site Chemical Committee (SCC) to ensure that the site adopts an approach based on precautionary principles to assess the EHS impacts of new processes, chemicals, materials and their related-risks. All relevant site organizations, such as EHS, Purchasing, Facilities, Research and Development, and Physicians participate in the SCC. However, it remains the ultimate responsibility of the Site's Management to ensure the whole process is properly applied. **I G4-14 I** We conduct regular EHS internal audits to ensure that conditions of use (defined by the SCC in line with ST procedures) are maintained.



Heraeus

**Steven Wong**  
Senior VP Marketing  
Heraeus Electronics Singapore

Pursuing product excellence though sustainable, environmentally conscious development has been at the forefront of Heraeus Materials' development efforts. At Heraeus Materials, EHS legislations are constantly monitored and the need for new products resulting from changes in EHS legislation is continuously factored into the product development roadmap. It is our pleasure to collaborate with STMicroelectronics in the search for greener materials and solutions for the next generation of products. ST is actively driving changes to meet new EHS legislations and it is indeed our privilege to be collaborating with a forward-looking organization like ST to meet environmental challenges and customer needs.

**11** regulated  
Substances, including  
SVHC, replaced  
since 2008

1. ISO 14001 = Environmental Management Systems Requirements
2. OHSAS 18001 = Occupational Health and Safety Management Systems Requirements
3. IPC = Association Connecting Electronics Industries®
4. REACH = Registration Evaluation and Restriction of Chemicals
5. RoHS = Restriction of Hazardous Substances
6. ELV = End of Life of Vehicle

## Complying with the highest standards

Across our manufacturing activities and supply chain, we implement the highest standards to ensure legal compliance with applicable Regulatory and Permit requirements for chemical handling and storage. ST adopts ISO 14001<sup>1</sup> and OHSAS 18001<sup>2</sup> management systems.

Through our Material Declaration Process, we report externally on the chemical composition of all our products and track the presence of all substances, according to the IPC 1752<sup>3</sup> standard.

Additionally, we evaluate chemicals using ST's EHS-regulated substances lists (which contains more than 2,500 substances) to identify potential handling issues or changing legal requirements. In 2015, more than 4,600 chemicals were used and assessed across ST manufacturing sites.

ST annually reviews and updates the EHS-regulated substances list to comply with standards and regulations (REACH<sup>4</sup>, RoHS<sup>5</sup>, ELV<sup>6</sup>) and meet customers' requirements. We communicate the list to all our suppliers and subcontractors, perform detailed checks, and validate their compliance through certification, safety datasheets and written commitments. This ensures that they are aligned with the rules for chemicals and hazardous substances use.

Substances may be identified with specific risks, for example, due to possible future restrictions, or regulatory and customer requirements. If this happens, specific actions are taken to reduce these impacts, ensure employees' health is adequately protected and enable business continuation.

## ST exposure to Substances of Very High Concern (SVHC)

	2011	2012	2013	2014	2015
<b>SVHC</b>	71	138	151	161	168
<b>ST concern</b>	8	18	20	21	22
<b>ST concern Annex XIV</b>	1	1	1	1	1
<b>Total replaced since 2008</b>	4	5	5	5	6

## Collaborating for improvements

To ensure that sites and products are adapted to comply with European regulatory requirements, ST proactively works with other semiconductor manufacturers to:

- assess the use of specific chemicals
- identify alternatives where necessary
- ensure manufactured products are compliant with regulations
- help regulators develop sustainable regulations

We also consult on the regulations applicable to the sectors (electric and electronic consumer goods and automotive) relevant for ST products.

During 2015, ST contributed to the ELV and RoHS European Consultation to ensure hazardous substances are adequately controlled. Both of these directives focus on the presence of lead in components.

Despite the considerable progress made since the initial RoHS directive took effect in 2006, lead is still used for several processes in semiconductor manufacturing. Five semiconductor manufacturers, including ST, have created a consortium named DA5 (Die Attach 5). Together, we seek to identify alternatives to using lead as a solder constituent to attach the semiconductor to its base. We have not yet identified lead-free solutions for all processes and, due to its characteristics, lead is still required for several specific processes and applications, such as die attach and in products with glass or ceramic materials.

## Substituting and eliminating substances

In 2015, ST continued to replace Substances of Very High Concern (SVHC); the DEHP replacement is almost complete. To ensure supply chain continuation in two European sites, we began replacing Nonylphenol and HBCDD (HexaBromoCycloDoDecane), two SVHC that will be restricted in the coming years.

Nonylphenol is a component of a cleaning chemical used at our ST Tours Front-end manufacturing site. In order to be compliant with future regulation, elimination of this substance was almost completed in 2015, thanks to a close cooperation within Tours' teams. Process engineers proposed an alternative chemical and tests started in 2014.



# Objectives



- 29% selected PFOA-related substances consumed vs 2014

Objectives	Status	Comments
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.	✓	Elimination of 1 substance completed in 2015.
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.

Once the proposed chemical's qualification phase is complete at the beginning of 2016, Nonyphenol will be totally substituted. This new solution offers many benefits, including increased employee safety, compliance with REACH requirements, reduced Volatile Organic Compound emissions, cost savings and extended equipment operating life. HBCDD is a flux component used in the wafer level balling process which is performed to improve soldering between the semiconductor and its base. It ensures a robust interface between the ball and the pad, and also helps guarantee the reliability of the connection. At the Stockholm Convention in May 2015, the Conference of the Parties (COP) listed HBCDD as a substance to be banned. It is also a candidate for inclusion in the RoHS Directive's list of restricted substances. It was therefore critical to remove it from the manufacturing process to ensure site and product compliance. We have looked for a new flux to replace the existing one and evaluated several candidates by verifying the main parameters of wetting capability, workability and solderability. We chose the new flux proposed by Heraeus after identifying it as the most suitable. The study took eight months from the benchmark to final qualification in production. In cooperation with some suppliers, ST is also engaged in a voluntary program to reduce PFOA-related substances, involving chemicals producers and the majority of ST Front-end sites. As a result, consumption of the selected PFOA-related substances decreased by 29% in 2015 compared to 2014. Once the program is completed, ST will continue to use some PFOA-related substances in very limited quantity.

## Managing hazardous substances

ST is aligning its materials management with HSPM<sup>1</sup> systems requirements. A new system was deployed worldwide in 2015 to collect data and analyze, monitor and report the hazardous substances used in ST products. The data collected from all our materials suppliers is ready to be uploaded to assess the content of substances in each component, enhancing traceability and complying with customer demand. A four-day event gathering our domain experts, regional coordinators and sales force was organized in October to launch this initiative. The system will be fully deployed in 2016.

1. HSPM = Hazardous Substance Program Management

# Sustainable cleaning

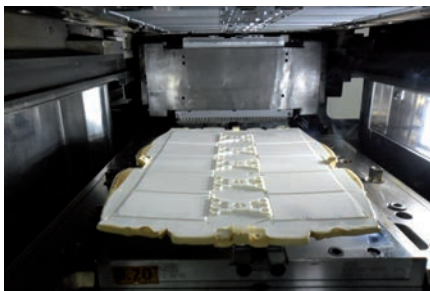


## FOCUS

### Cleaning molds sustainably

During assembly manufacturing, the die is protected from the outside with a polymer resin. One of the processes used to inject the resin onto the die is transfer molding. The resin is loaded into the equipment in pellet form, the pellets are melted at a specific temperature and pressure, and then injected onto the die through a mold. The mold's cleanliness is important to enable it to release the products with ease and ensure the molded products are robust. It's therefore necessary to clean the mold tool frequently and effectively. These cleaning materials require good workability and filling performance to remove stains and clean the mold cavities.

While current cleaning materials are not confirmed to be hazardous, the cleaning process may release traces of hazardous components. Therefore, ST has been proactive in progressively reducing these molding cleaning materials, throughout all Back-end manufacturing sites. Our five Back-end sites have participated in testing and validating the new materials which can minimize the emissions in the manufacturing environment during handling while maintaining a good level of cleaning. In 2015, 50% of our production in ST Back-end sites used the new cleaning materials. However, it was not qualified for all the Back-end lines, due to an incompatibility with the design of the mold for specific packages.





# Sustainable Technology

We identify and promote innovative products that provide environmental and social benefits to society, for example, through reducing end-application energy consumption, saving resources, protecting the environment or providing solutions to improve the end-user's quality of life. We also aim to design products, taking into consideration the environmental impact of their entire life cycle.



Mobile World Congress, Barcelona, Spain

## Sustainable Technology program

The focus on sustainability-linked product characteristics today continues to gain external interest. In order to anticipate requests from the market and increase competitive advantage, ST launched the Sustainable Technology program in 2011. The program, which provides a common framework comprising all the elements that connect products with sustainability, has three main pillars:

- Product Compliance: covering legislation and customer requirements regarding REACH, RoHS and conflict-free minerals
- Responsible Products: identifying innovative products that provide clear environmental and social benefits
- Eco-design: designing products systematically taking into account their environmental impact during their whole life cycle

Customers and investors alike reconfirmed their interest in this program during a survey in 2014, by rating Eco-design and Responsible Products among their top five Sustainability priorities. [I G4-DMA I](#)

In 2014, we started integrating the Responsible Product and Eco-design pillars of the Sustainable Technology program into the product development process. During 2015, the program entered a new phase where all Product Groups agreed and approved the process describing how to deploy the programs.



**Gabriel Della-Monica**  
CEO & Founder - Smart & Blue

Before I started Smart & Blue I was an engineer working for STMicroelectronics in Grenoble. While attending a brainstorming session on automation and ‘wireless in the home’, I imagined objects being active and informing users about their status. After I saw the movie ‘A thirsty world’ dealing with water wastage, I wondered how many liters I used for my last shower. I realized that saving hot water had an even larger impact on energy consumption. Globally water and energy are linked. You need water to produce energy and you need energy to carry or process water, that’s the water energy nexus.

Smart & Blue was founded in 2015 to develop connected solutions for smart water management. We have already supplied 1,000 HYDRAO smart showerhead units and have 10,000 orders in the pipeline. The strength of HYDRAO comes from ST’s ultra-low-power STM32 and BlueNRG Bluetooth low-energy ICs that allow the shower head to connect and function with only the power generated from the water flow.

## Product Compliance

Our products are branded ECOPACK® and meet all applicable requirements such as REACH and RoHS. In the Chemicals pages of this Report [page 68](#), we provide full details of the HSPM (Hazardous Substances Process Management) program we use in ST to eliminate forbidden chemical compounds from our manufacturing lines and products. Our Conflict Minerals policy and status is covered in the Supply Chain Responsibility on [page 77](#).

Regarding ECOPACK®, as shown in the table below, our products are becoming greener and greener. The journey towards meeting our internal objective of having 25% of products graded Ecopack3 is progressing well. [I G4-DMA I](#)

## ECOPACK® products (%)

[I G4-PR3 I](#)

	2011	2012	2013	2014	2015
<b>Non ECOPACK®</b>	1.3	0.8	0.3	No data	0.3
<b>ECOPACK® 1: Compliant with the RoHS/ELV directives, second level interconnect lead free.*</b>	28.7	16.8	12.2		8.7
<b>ECOPACK® 2: as ECOPACK® 1, plus free of brominated, chlorinated and antimonyoxide flame retardants.</b>	70.0	82.4	87.5		83.0
<b>ECOPACK® 3: as ECOPACK® 2, plus free of halogens with no RoHS exemptions.</b>	NA	NA	NA		8.0

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

## Responsible Products

Our Responsible Product program ensures we identify and promote innovative products that provide clear environmental and social benefits to society, such as reducing the energy consumption of the end-application, saving resources, protecting the environment, or providing new social solutions which improve the end-user’s quality of life.

This program is divided into three categories.

**Social** - products that provide new social solutions and improve the quality of life for end users (such as all medical and/or health-related products, safety applications and social solutions for developing countries).

**Energy Saving** - products that reduce energy consumption, enable our customers’ applications to reduce their energy consumption or provide new environmental solutions (such as smart grids and power-management solutions).

## 2-STAR Responsible Product



### FOCUS

#### STM32L4: a powerful microcontroller using less energy

ST has built a new microcontroller architecture to reach best-in-class, ultra-low-power performance. The STM32L4 series of ultra-low-power microcontrollers, with a 32-bit ARM® Cortex®-M4 core, is a 2-STAR Responsible Product in the Energy Saving category.

It adds a new dimension to the ultra-low-power world, and it achieved an industry-leading EEMBC score (the industry-standard benchmark for embedded systems, <http://www.eembc.org/>) for its performance.

The combination of an excellent low-power performance and the high level of integration of memory and innovative peripherals is unique in the market.

Thanks to this new technology, our customers create amazing products such as fitness trackers or smart watches with more features and innovations, while increasing battery life by up to 50%.





Environmental impact systematically taken into consideration in the design process

**General Environment** - products that increase the ability to save resources and protect the environment (such as automotive start/stop systems and solutions lowering the use of water or chemicals, reducing emissions or generating renewable energy).

In the Responsible Products program we evaluate our products and then award STARs to indicate their value to society. We award one, two or three STARs according to the product's level of innovation. The awards are managed in our Project Management System (PMS).

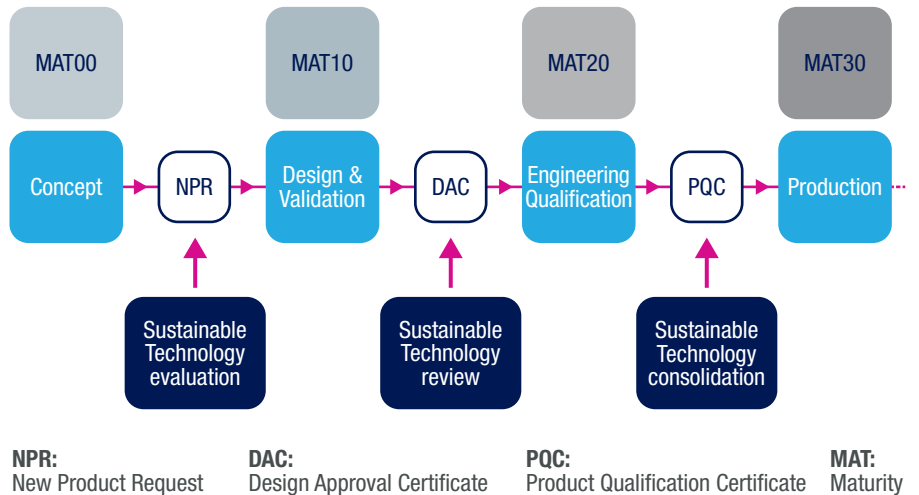
**Eco-design**

Our Eco-design program ensures that we design our 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. This program encourages our designers and product development teams to implement green designs wherever possible and to track and share best practices, thus minimizing our products' impact on the environment. [IG4-EN27 I](#)

Eco-design is integrated throughout the product development process via the PMS, as shown in the diagram below.

The diagram shows that an Eco-design evaluation, which requires the completion of a checklist and a Responsible Product classification, is mandatory at the New Product Request (NPR) stage. It can optionally be reviewed at the Design Approval Certificate (DAC) stage. A final review is mandatory at the Product Qualification Certificate (PQC) stage for the Eco-design status to be awarded before the product enters production.

**SUSTAINABLE TECHNOLOGY THROUGH PRODUCT MATURITY LIFETIME**



**Daniel Orsatti**  
Standardization Director,  
Strategic Planning (Microcontrollers,  
Memories & Secure MCU) Group

My primary responsibility relates to standardization. In this role, I manage the strategy and actions of my Group in standards organizations and industry alliances that are relevant to the group's products.

Among my other responsibilities, I joined the Sustainable Technology Working Group in 2014 to represent my Group. At that time, my main focus was on consolidating data for Responsible Products as well as for Eco-design.

In 2015, we started to use a new tool to manage product development throughout the Company – the PMS or Project Management System. This was a major change, and we were successful in including Sustainable Technology within this new tool.

To support the change, I helped to start the process by organizing training for Program Managers, Design Managers, System Architects and Marketing personnel in the Group. Additionally, with the support of the Sustainable Technology Working Group, we used coaching to reduce the learning curve for those teams involved in preparing product-development milestones. This was to ensure the accuracy and relevance of all the Eco-design and Responsible Product data in the PMS.

When available, the external communication of our products' green and socially responsible attributes will provide an additional competitive advantage.



# Objectives



Objectives	Status	Comments
90% of new products to apply Sustainable Technology criteria within our Product Development Process.	✓	100%. Sustainable Technology criteria have been embedded in PMS (Project Management System) from January 1 <sup>st</sup> 2015.
Systematically apply Sustainable Technology criteria during the product development process to identify Responsible Products.	NEW	

## PMS implementation in 2015

The PMS (Project Management System) is the tool ST uses to manage the development of all new products. This made it the ideal system for supporting the deployment of our Sustainable Technology program.

The Responsible Products and Eco-design pillars have been embedded in the PMS since January 2015. Until 2014, we collected information manually. Since Q2 2015, however, we have been able to extract information on all products under development in real-time from the PMS, both simplifying the process and increasing its robustness. By the end of 2015, we had identified 43 distinct products, contributing to a total of 89 STARs for innovation.

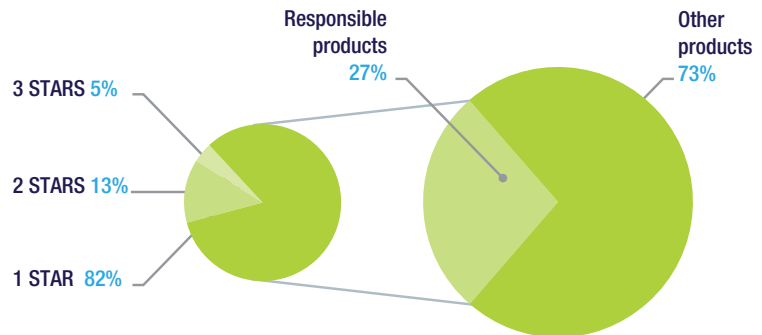
We held face-to-face training sessions in eight ST sites in 2015, at: Catania, Agrate and Castelletto (Italy); Grenoble, Rousset, Sophia Antipolis, Tours (France); and Greater Noida (India). These reached around 240 people from our R&D (at Project/Program Manager level), Product Marketing, Design and Packaging Communities.

The next step for the program is to create internal and external communication packages to develop the competitive advantage perspective.

The STAR rating tracks the innovation of the products, in increasing levels from 1- to 3-STARs.

89 STARs  
for innovation

## STAR classification for new products in 2015 | G4-PR3 |



- 1 STAR Incremental improvement to existing offer
- 2 STARS Significant improvement to existing offer
- 3 STARS New or dramatic improvement to existing offer

## Social and Energy Saving Responsible Product



### FOCUS

#### LSM6DS3 Ultra-low-power 6-AXIS inertial module

The LSM6DS3 is a system-in-package, featuring a 3D digital accelerometer and a 3D digital gyroscope, which operates with an ultra-low current consumption in high-performance mode. This enables low-power 'always-on' features that give consumers an optimal motion experience.

Its highly effective power-management system is typically 20% more energy-efficient in low-power mode than the best alternative system-in-packages, while still delivering outstanding performance.

The LSM6DS3 is ideally suited for indoor navigation, wearable fitness, healthcare and safety applications like motion, shock or fall-detection triggering automatic alerts, all of which provide social benefits. It has a 2-STAR ranking for innovation in the Social category.

Its advanced energy-saving features and significantly extended battery usage time, means it also has a 2-STAR ranking in the Energy Saving category.





# Supply Chain Responsibility

As part of their contract with ST, our suppliers are required to commit to ST and the EICC's Social Responsibility standards, including conflict mineral and chemical requirements. In order to positively contribute to progress in the electronics supply chain, ST monitors supplier performance through regular assessments and audits.



EHS suppliers' day, ST Bouskoura, Morocco

## A step further towards a responsible supply chain

For more than a decade, accounting for the impact of our sourcing decisions has been fundamental to our sustainability culture. In 2015, by updating ST's Code of Conduct and adopting the latest version of the Electronics Industry Citizenship Coalition (EICC) Code, we reinforced our commitment to only partner with suppliers who share our values and standards, and also to monitor their performance through assessment and audits.

Through effective collaboration amongst our procurement, outsourcing, quality and sustainability organizations, we have progressively structured and formalized our approach to sustainability, based on EICC standards. Our Supply Chain Responsibility program has so far enabled us to monitor more than 85% of our procurement volumes. **| G4-DMA |**

Increasing interest from our main stakeholders gives us an incentive to go a step further in our supply chain responsibility. For example, customers are focusing on social factors, recent regulations requiring supply chain due diligence, including conflict minerals and forced labor issues, and more specifically, new EICC standards are more stringent on supplier management.

In 2015, we consequently focused on increasing the percentage of suppliers monitored, enhancing the level of compliance verification and developing local risk approaches.

> 85% of procurement volumes monitored



**Jess Cheong**

Senior Project Manager  
Labor Agency Syarikat Perkhidmatan Awam CYS

CYS has supplied labor services to ST for about 14 years now, and I have worked with CYS for 3.5 years. We are regularly informed and trained by ST on the EICC Code of Conduct. This has led us to adapt our recruitment, hiring and dormitory management practices to the latest requirements. For example, we have set up flow charts to align our practices and we have trained our staff to respect specific procedures. We now have a Business Ethics and Labor Policy that all our employees have to acknowledge. When we were audited for the first time, we were all resistant, as we thought interviews of the workers could be biased and could prejudice our reputation. But we haven't seen major negative impact and we even saw some improvements in our practices, which are now more structured and formalized.

One of the main challenges we face in our implementation is that audit standards and local government standards are sometimes different. For example, buildings standards in Malaysia don't require two fire exits, but EICC audits do. Another challenge is the rising costs in maintaining the hostel standards, which has become the labor agency's responsibility, and workers now expect a lot more from us. The major difference we see is that workers are now more confident of voicing any grievances they have as they feel more support coming from third parties.

In terms of hiring, the new regulations in Malaysia now require manufacturers to hire foreign migrant workers directly from their country of origin, so we no longer hire them for ST, but still hire and supply local workers.

## Managing risks in our supply chain

We have structured our supply chain programs through a risk-based approach. We also successively implement actions in our various procurement segments in order to extend our due diligence and drive continuous improvement. We use three main criteria for our risk analysis: category of suppliers, business volume and in-region risks. They determine:

- priority areas such as labor and human rights, health and safety, environment, ethics, management of hazardous substances and responsible sourcing of minerals,
- level of monitoring, from commitments embedded in contracts, to third party audits and corrective action plans

We continue to deploy these initiatives among our key suppliers and subcontractors in manufacturing procurement segments, who represent 75% of our spend. They include Front-end and Back-end subcontractors, and material, spare-parts and equipment suppliers, managed at the corporate level.

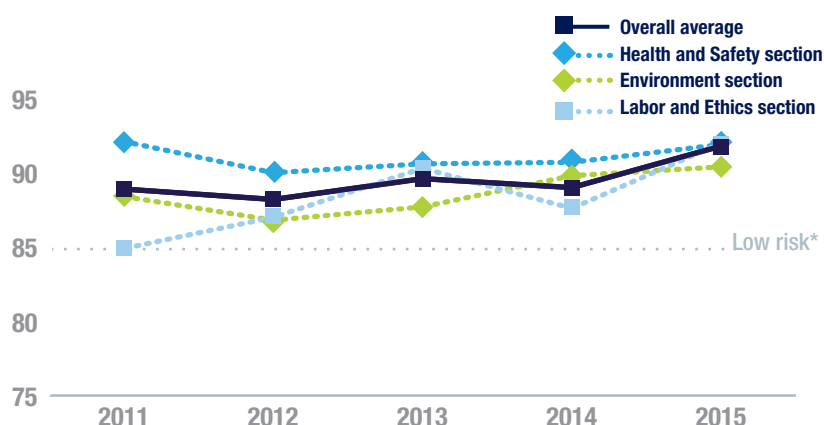
In 2015, we closely collaborated with the corporate and local procurement organizations at all of our locations, including design and sales sites, with the aim to increasingly deploy these programs to indirect services, such as labor agencies, dormitory management, canteen, cleaning and security. Our supply chain responsibility program now covers more than 85% of our direct and indirect spend. | G4-12 |

## Communicating on our standards and verifying compliance with our key suppliers

We consider communicating with, and monitoring, our business partners as an ongoing process based on ST's Sustainability strategy and the evolution of industry standards. In 2015, we requested 100% of our key suppliers and subcontractors to renew their commitment to respect the newly-deployed Version 5.0 of the EICC Code. We also require all of them to complete a new self-assessment questionnaire (SAQ) through the EICC online platform, except for equipment and spare-part suppliers where we have identified an eligible target according to procurement volumes. The results progressed in both the number of SAQs completed and in the performance of our suppliers. They demonstrated an overall increase of awareness and understanding of corporate social responsibility issues, as well as a greater ability to address social and environmental risks.

ST's overall SAQ supply chain score reached 91.8% (an increase of 2.8% vs 2014). This indicates a reduced level of risk and exceeded the EICC low risk threshold of 85% in the three main areas of Labor & Ethics, Environment, and Health & Safety. More detailed information on scores by section can be found in our performance indicators.

## Suppliers facilities average SAQs scoring (%)



\* EICC risk threshold

In 2015, we added an indicator to transparently disclose the main risk areas identified (see below).

### Top 10 risks in our Supply Chain

Number of Critical Questions for suppliers/subcontractors who scored <90% in SAQ



DJSI score of **90**  
for Supply Chain  
Management

These risks are closely addressed with our suppliers through direct dialog and targeted corrective action plans until we are satisfied with the level of closure reached. We consider this a vital step to ensure a sufficient maturity of supplier management systems, and trust and transparency in our business relationships.

Through the identification of risks, and in line with the critical areas of our business, we identify the suppliers and subcontractors to engage in audits. Our priority is to verify the practices of our strategic Front-end and Back-end subcontractors. Although 80% of our Back-end subcontractors received third party audits in 2014, we ensure they pursue their efforts and renew their verification every two years. Following the first round of initial audits in 2014, this year we have conducted closure audits on the Front-end segment to verify the effectiveness of corrective action plans. With 100% of major non-conformances closed and an overall closure rate above 80%, results showed a major improvement on working hours and the prevention of forced labor. Our target for 2016 is to engage the top 50% of our Front-end subcontractors in audits.

Our efforts have been recognized by the socially responsible investment community and in 2015, we obtained a record score in the Dow Jones Sustainability Index with 90 out of 100 for Supply Chain Management, compared to the industry average of 59.

## Conflict Minerals



### FOCUS

#### Commitment to conflict-free sourcing

The US Dodd Franck Act and related conflict minerals regulation adopted in 2010, has led companies to better identify the origin of metals contained in their products. In order to ensure that extraction of these raw materials doesn't contribute to armed conflict and human rights violations, companies now collect data in their upstream supply chain and request third party certifications.

We engaged the 139 smelters identified in our supply chain in the Conflict-Free Smelters (CFS) Initiative. Our aim was to ensure 100% of these smelters are CFS-validated (and remain so) by the end of 2015.

We achieved this objective for more than 99.9% of our products, corresponding to 138 out of 139 smelters validated. The one remaining smelter impacts only one product line, which we sell to one specific customer and represents a very low volume in terms of our business and production. We are closely following this smelter, which is engaged in the process and should be CFS-validated in 2016. Detailed information of our progress is reported annually to the US Securities and Exchange Commission and published at [www.st.com/conflict-free\\_minerals](http://www.st.com/conflict-free_minerals).





## OUR SUPPLIERS

Procurement volume



**Direct manufacturing**  
(Equipment, material, suppliers, subcontractors)



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



**Others**  
(ICT, patents, ...)



## Focusing on local supply chains

We also address working conditions and workers' rights through local supply chain programs. Building on our previous years' focus on recruitment and employment agencies for foreign migrant workers in Asia, we have extended visits and verifications to both 'receiving country' agencies in Malaysia, and 'country of origin' agencies in Indonesia, Nepal and Sri Lanka.

At the end of 2015, 100% of new foreign migrant workers were directly hired by ST in order to reduce the risk of forced labor and illegal practices. This represents a significant achievement to prevent the violation of vulnerable workers' rights. The testimony of a recruitment agency we have worked with for 14 years, illustrates the positive impact this approach has on our supply chain. See [page 76](#).

Local initiatives in manufacturing sites, such as the supplier performance evaluation, which integrates environment and health and safety (EHS) criteria, and the suppliers' EHS day, with more than 100 external participants in Bouskoura (Morocco), are other examples of good practice. These show the increasing integration of supply chain responsibility into procurement practices.

One of our 2016 objectives is to deploy the Supply Chain Responsibility program to the remaining indirect services, such as dormitory management, canteen, cleaning and security, on all our sites. We will ask all identified eligible suppliers to commit to the EICC Code and then proceed to assess and verify compliance when necessary. To ensure a successful implementation we are launching worldwide communication and training to develop the competency of both the procurement and sustainability communities.

As part of the commitment to the EICC Code, our suppliers are informed of our misconduct reporting hotline, described on [page 17](#), which is open to all external third parties.

## Management of hazardous substances

Another key supply chain consideration is the responsible management of chemicals. In 2015, we launched the innovative Hazardous Substance Program Management initiative. This program aims to integrate the full traceability of substances, directly and automatically, in the final product genealogy. More information on Chemicals management can be found on [page 70](#).

## Objectives



Objectives	Status	Comments
<b>Create and implement a process to engage local suppliers in Sustainability programs including audits.</b>		See article.
<b>Get 100% of the smelters identified in our supply chain verified by a 3<sup>rd</sup> party as Conflict-Free by the end of 2015.</b>		98% of smelters CFSP compliant. Tantalum, Gold and Tungsten all 100%; Tin 98% (3 Tin smelters are active in the CFSP verification but not yet compliant as of Dec 31 2015). <b>Objective 2016: Maintain CFSP compliance for 100% of smelters in product supply chain and extend due diligence to evaluation boards.</b>
<b>Deploy and control ST Hazardous Substance-Free programs to suppliers and subcontractors.</b>		Achieved via the deployment of the HSPM program.
<b>Ensure 80% of key suppliers are involved in the EICC program, and continuously improve their performance.</b>		
<b>Ensure 80% of all eligible local suppliers have signed an agreement to comply with the EICC Code of Conduct.</b>	<b>NEW</b>	
<b>Ensure 80% of all eligible local suppliers are audited by end of 2017.</b>	<b>NEW</b>	



# Environment & Operations Indicators

This section includes indicators and GRI Standard Disclosures.

Our environmental data collection covers our 11 manufacturing sites representing more than 95% of the overall environmental impact of the whole company.

For CO<sub>2</sub> emissions reporting, ST uses the following international methodologies:

**SCOPE 1:**

- PFC 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)
- 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 4.5

**SCOPE 3:**

- Emissions due to Goods transportation, Employee commuting and Employee business travels: Mobile Combustion GHG Protocol tool v.2.5
- 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).

## Environmental investments

	2011	2012	2013	2014	2015
% of total company investments	0.50	0.85	0.21	0.73	0.70

## Direct and indirect energy consumption by primary sources (%)

| G4-EN3 |

	2011	2012	2013	2014	2015
Green electricity purchased	8.6	7.4	17.6	19.7	22.4
Photovoltaic and thermal solar electricity produced by ST	0.1	0.1	0.1	0.1	0.1
Electricity purchased from nuclear (CO <sub>2</sub> free)	23.2	22.1	17.8	17.4	15.6
Electricity purchased from fossil fuel sources	59.5	63.3	56.3	54.7	53.6
Natural gas	7.5	7.0	8.0	7.8	8.1
Other fuels	0.0	0.2	0.2	0.2	0.2

## Consumption: absolute values

| G4-EN3 | G4-EN6 |

	2011	2012	2013	2014	2015
Electricity (TJ)	7,409	7,347	7,530	7,649	7,517
Water (1,000m <sup>3</sup> )	17,314	16,151	17,484	17,386	15,940
Chemicals (tons)	17,076	17,792	19,713	19,170	19,125
Natural gas (TJ)	598	550	657	650	661

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

	2011	2012	2013	2014	2015
Consumption of electricity	105	114	105	106	109

Baseline 100 in 2010.

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

	2011	2012	2013	2014	2015
Consumption of natural gas	100	101	108	106	113

Baseline 100 in 2010.

## Total water discharge | G4-EN22 |

	2011	2012	2013	2014	2015
Water discharge (1,000m <sup>3</sup> )	13,650	12,444	13,422	13,457	13,053
Treated in ST wastewater treatment plant (%)	74	76	78	79	79
Treated in external wastewater treatment plant* (%)	55	54	58	62	58

\* Part of this water has already been treated in ST wastewater treatment plant, meaning that 100% of water discharge is treated either internally, externally or both.

## Summary of net CO<sub>2</sub> emissions (KTons)

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

	2011	2012	2013	2014	2015
Direct emissions Scope 1	626	561	554	626	575
Indirect emissions (purchased electricity) Scope 2	903	828	815	778	748
Other indirect emissions (transportation*) Scope 3	116	107	108	121	135
<b>Total emissions</b>	<b>1,645</b>	<b>1,497</b>	<b>1,477</b>	<b>1,525</b>	<b>1,459</b>

\* The transportation emissions value is a global estimate of employees' transportation and transportation of goods.

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

	2011	2012	2013	2014	2015
Air <2,000km	0	11	11	12	14
Air >2,000km	1	89	89	86	85
Road	0	0	0	2	2
Ocean	<1%	0	0	0	0

## Environmental burden: net values

	2011	2012	2013	2014	2015
<b>Emissions to air</b>					
Global warming <sup>(1)</sup> (MTCE)	429,187	408,202	402,875	415,960	397,832
Ozone depletion (kg R11 Eq)	0	0	0	0	0.25
VOCs (Tons)	192	147	153	221	224
Atmospheric acidification (Kg SO2 Eq)	41,525	34,456	42,181	45,610	34,170
Photochemical oxidant creation (Kg ethylene Eq)	38,125	27,165	29,501	16,946	31,498
Air emission toxicity <sup>(2)</sup> Kg PH3 Eq	3,075	4,337	2,680	2,598	2,063
<b>Emissions to water<sup>(3)</sup></b>					
Eutrophication (Kg (P+N))	378,339	330,993	326,918	261,468	259,428
Aquatic oxygen demand (Kg COD <sup>(4)</sup> )	667,146	529,623	565,693	452,943	474,486
Heavy metals to water (Kg Heavy metals)	9,796	6,458	6,446	5,710	6,022
Aquatic ecotoxicity (Kg Cu Eq)	4,032	4,109	4,437	4,795	4,097

(1) Includes direct greenhouse gas (GHG) emissions from our manufacturing plants and indirect emissions from energy consumption and transport, reported in Metrics Tons of Carbon Equivalence (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 |

	2011	2012	2013	2014	2015
Hazardous waste transported (as a % of total hazardous waste)	0.00	0.00	1.33	0.87	0.49

## Waste split in tons

| G4-EN23 |

	2011	2012	2013	2014	2015
Total Waste	38,592	37,511	36,091	34,472	34,571
Reuse	2,414	3,427	4,690	3,567	3,634
Sent for recycling	32,973	30,044	27,105	26,535	25,969
Recovery	338	561	1,179	1,629	1,741
Incineration	1,795	1,758	1,352	1,371	1,757
Landfill	1,072	1,721	1,764	1,370	1,470

## Hazardous waste split (%)

| G4-EN23 |

	2014	2015
Reuse	24.3%	26.4%
Sent for recycling	50.6%	48.5%
Recovery	14.9%	15.0%
Incineration	6.0%	7.4%
Landfill	4.2%	2.7%

## Non Hazardous waste split (%)

| G4-EN23 |

	2014	2015
Reuse	4.1%	3.7%
Sent for recycling	88.8%	86.6%
Recovery	0.2%	0.8%
Incineration	3.1%	4.1%
Landfill	3.9%	4.9%

## 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

	2011	2012	2013	2014	2015
Consumption of chemicals	103	117	116	113	117

Baseline 100 in 2010.

## Elimination of substances of very high concern (SVHC)

	2013	2014	2015
Total number of action plans* completed since 2008	19	20	22
Action plans completed on time (%) for the elimination and reduction of hazardous substances including Substances of Very High Concern (SVHC)	100	100	67

\* 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

	2011	2012	2013	2014	2015
Response rate from key partners (%)	100	100	100	100	99
Full commitment from key partners to ST substances specification (%)	99	99	99	97	96

## Fines and non-monetary sanctions in 2015

**The Philippines (Calamba)**  
Plant power generator exceeded particle emissions limit of 150 mg/Ncm.  
Administrative Fine: Php25,000 (US\$532).

**Malta (Kirkop)**  
€ 1,165 paid in 2015 for failing to register as a Packing and Packaging Producer in 2012 base for year 2011.

## Incidents in 2015

| G4-EN24 |

None

## Suppliers' and subcontractors' environmental and health and safety performance

| G4-12 |

	2011	2012	2013	2014	2015
<b>Number of suppliers/sub-contractors</b>					
Suppliers of materials	102	94	92	73	89
Suppliers of equipment	40	40	40	40	40
Suppliers of spare-parts	38	39	44	43	40
<b>Total</b>	<b>180</b>	<b>173</b>	<b>176</b>	<b>156</b>	<b>169</b>
Subcontractors Back-end	59	51	59	60	55
Subcontractors Front-end	22	19	19	17	16
<b>ISO 14001 certified/EMAS validated (%)</b>					
Suppliers of materials	81	76	90	76	79
Suppliers of equipment	80	83	78	55	70
Suppliers of spare-parts	47	59	61	58	73
<b>Total</b>	<b>74</b>	<b>74</b>	<b>80</b>	<b>66</b>	<b>75</b>
Subcontractors Back-end	98	98	98	100	100
Subcontractors Front-end	96	100	100	100	100
<b>OHSAS validated (%)</b>					
Suppliers of materials	50	48	51	40	47
Suppliers of equipment	21	18	18	25	18
Suppliers of spare-parts	16	18	18	26	33
<b>Total</b>	<b>36</b>	<b>34</b>	<b>35</b>	<b>32</b>	<b>37</b>
Subcontractors Back-end	62	67	64	66	67
Subcontractors Front-end	77	77	73	77	75

Suppliers and subcontractors change from one year to another. The list is updated regularly which changes the reference perimeter.

## Number of Suppliers/Subcontractors targeted for EICC programs

| G4-12 | G4-HR11 |

	2011	2012	2013	2014	2015
<b>Direct manufacturing</b>					
Suppliers of materials	102	102	92	76	91
Suppliers of equipment/facilities/IT	87	87	86	86	85
Suppliers of spare-parts	35	35	33	33	40
Subcontractors Back-end	32	32	59	60	55
Subcontractors Front-end	22	22	19	17	5
<b>Indirect services</b>					
Local suppliers*	NA	NA	NA	NA	193
Local labor agencies**	NA	NA	NA	NA	63

\* Local supply chain program launched in 2015 - services and on-site suppliers in the following categories: canteen, cleaning, gardening, security, dormitory management, external students provider, on-site doctors and employee transportation.

\*\* Local labor agency: private Employment Agency, recruitment agent or any other third parties involved in the recruitment, selection, hiring, transportation and management of migrant workers in their sending or receiving countries.

## Phase 1 - Introduction: Agreement to comply with EICC (%)

| G4-HR11 |

	2011	2012	2013	2014	2015
<b>Direct manufacturing</b>					
Suppliers of materials	95	82	97	96	95
Suppliers of equipment/facilities/IT	99	93	97	97	93
Suppliers of spare-parts	94	87	94	93	88
Subcontractors Back-end	97	100	100	100	96
Subcontractors Front-end	96	100	100	100	100
<b>Indirect services</b>					
Local suppliers	NA	NA	NA	NA	49
Local labor agencies	NA	NA	NA	NA	54

## Phase 2 - Assessment: number of EICC self assessment questionnaires completed\*

| G4-HR11 |

	2011	2012	2013	2014	2015
<b>Direct manufacturing</b>					
Suppliers of materials	97	183	209	233	241
Suppliers of equipment/facilities/IT	0	13	18	19	51
Suppliers of spare-parts	NA	NA	NA	NA	NA
Subcontractors Back-end	23	42	49	37	51
Subcontractors Front-end	4	8	6	5	14
<b>Indirect services</b>					
Local suppliers	NA	NA	NA	NA	12
Local labor agencies	NA	NA	NA	NA	0

\* An SAQ is completed for each facility, so suppliers and subcontractors may complete multiple SAQs.

## Number of suppliers engaged in reporting EHS and social KPI's

	2012	2013	2014	2015
Number of Front-end material suppliers	18	34	44	37
Number of Back-end material suppliers	45	43	26	39
Number of key FE & BE subcontractors' plants	24	27	NA	NA

## Suppliers terminated as a result of a negative Human Rights assessment in 2015

| G4-HR11 |

None



## Conflict minerals - Number of suppliers/ subcontractors and smelters

	2011	2012	2013	2014	2015
Number of materials suppliers and subcontractors involved in the EICC-GeSI Due Diligence survey	171	168	162	139	148
Number of involved suppliers and subcontractors associated with at least one 3TG metal	84	88	105	104	117
% 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	61	74	75	89	118
Number of smelters identified in ST subcontractors' supply chain	111	102	98	113	133
Total number of smelters identified in ST supply chain				119	139

## Conflict minerals inquiry results 2015

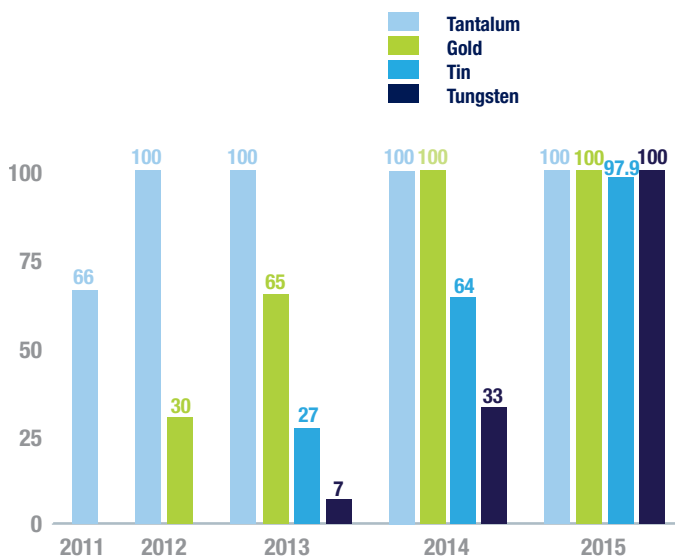
	Tantalum	Gold	Tin	Tungsten
Number of smelters	20	57	47	15
Percentage of smelters which are CFS validated <sup>(1)</sup>	100	100	97.9	100
% of smelters which are active in the CFS Program but were not CFS validated as of December 31 2015 (Active smelters)	0	0	2.1	0
% of active smelters which have declared sourcing from L1/L2 countries or (ii) recycled or scrap sources <sup>(2)</sup>	0	0	100 <sup>(3)</sup>	0
% of active smelters which have not provided a declaration regarding country or origin of recycled or scraps sources	0	0	0	0

(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 in (%)





IRIS Photographers, Malta

Funwalk in aid of Puttina Cares, ST Kirkop, Malta

# Local Communities



**338**  
initiatives  
from 24 sites  
worldwide



**7,680**  
employees  
engaged in  
volunteering



**157,281**  
direct  
beneficiaries

- Within the framework of our Community Involvement Charter we let our sites decide which initiatives correspond best to their local, operational and cultural context
- ST favors long-term partnerships with associations and local authorities, rather than one-off events
- We proactively engage with industry and academic bodies to fulfil our role as a responsible citizen and to ensure our long-term viability in a highly competitive market





# 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.



Chinese New Year celebration with the elderly, ST Ang Mo Kio, Singapore

## Local communities are essential to ST

### Our culture and values

Our wide-ranging engagement with the local communities around our sites all over the world is a strong aspect of our culture. Whether at corporate, site management or employee level, the many initiatives we launch or participate in year-round reflect our commitment to positively impact the local communities around our sites. **| G4-DMA |** We have been applying the London Benchmarking Group methodology to measure our engagement since 2012. This has helped us structure our reporting and improve the relevance of our investment. The ST Community Involvement Charter, formalized in 2013 and rolled out in 2014, enables the global deployment of our strategy to all sites, where the Sustainable Excellence Coordinator, in close relation with HR and site management, drives and reports on most of these initiatives. Where possible, we favor activities in three main areas: community involvement, industry and academic partnerships, and local economic development. Most initiatives are site driven so that our sites can decide which initiatives correspond best to their local, operational and cultural context. As per our Charter, our main areas of involvement are: **| G4-15 |**

- young generation and education
- social welfare and charity
- innovation and high technology
- economic development
- environmental involvement
- supporting the ST Foundation

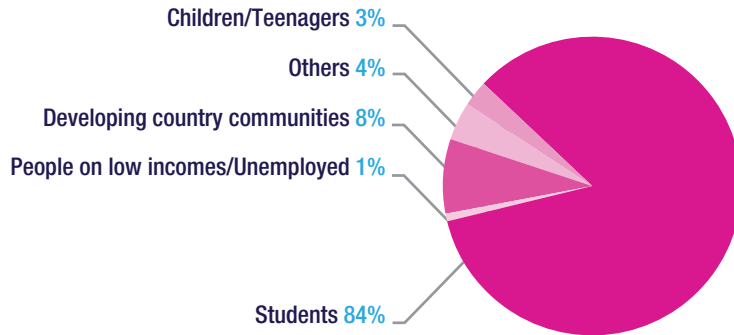


London  
Benchmarking  
Group  
methodology  
used

7,680  
ST volunteers

138,519 hours  
of company time  
donated

### Direct beneficiary groups (%) 2015



As in previous years, in 2015, education was our main driver. This is reflected in:

- Our partnerships in education and our intent to highlight our industry, jobs and activity. Indeed, our main sites regularly organize visits for schools, universities and associations. Our employees give lectures and our managers are proactively engaged with local educational authorities or associations. These activities all promote the variety of jobs that our industry offers to men and women.
- The ST Foundation, which helps bridge the digital divide through its main program, Digital Unify. It sets up laboratories with recycled Company PCs and volunteers, including ST employees, to train local communities to use modern technologies.

The majority of our activities are run in long-term partnerships with associations and local authorities, rather than one-off events. Activities held outside working hours are either driven by ST or by employees engaged in causes, who encourage their colleagues to participate through communication or logistic support from their site. In 2015, our contributions, totaling 338 recorded initiatives worldwide, included:

- cash donations of US\$601,516
- involvement of more than 24 sites in 14 countries
- 7,680 ST employees volunteering their time
- 138,519 hours of company time dedicated to the community

In addition, 7,647 hours were given to managing these initiatives, while 4,450 hours were contributed by employees outside work hours, either for employee or company-driven initiatives, benefiting around 157,281 individuals. Over the coming years we will increasingly focus our efforts on initiatives which simultaneously support several priorities of our Sustainability strategy.

## Innovation Campus for students



### FOCUS

#### Hackfest during Neapolis Summer campus – ST Naples (Italy)

Our Naples site hosted a weekend HackFest in September 2015, where students and associations took part in three challenges based on the STM32 Nucleo. The event was the conclusion of the second annual NeaPolis Innovation Summer Campus, which gives university students intensive hands-on experience of 32-bit microcontrollers.

During the event participants used our hardware and software and their knowledge of C programming languages to develop applications based on the STM32 Nucleo board ecosystem. Each of the 15 teams then had four minutes to demonstrate their innovation.

“The participants were full of enthusiasm, energy and ideas,” said ST technical staff member Giovanni Di Sirio. “Many of the teams even continued to work at home through Saturday night. In addition, five volunteer student tutors ensured that all teams successfully delivered a working project.”

NeaPolis Innovation is a partnership between STMicroelectronics, Università di Napoli Federico II, Università di Salerno, Seconda Università di Napoli, Università di Sannio, Università di Napoli Parthenope, Confindustria Campania, Micron, ENEA and CNR.





In 2015 we organized calls throughout the year with our sustainability and internal communications networks to raise awareness on our Sustainability priorities. In addition, for each initiative we began to monitor the link to the three pillars: People; Business; and Environment & Operations.

We also contribute to local economic development through direct and indirect employment, investments in local infrastructure and hiring local suppliers.

## ST Foundation

The Foundation continues to bridge the digital divide throughout the world (the gap between those who have access to modern technologies and who do not), both in countries where ST is present and also in several others, especially in Africa. The program started in 2003, and has trained over 327,000 people in 23 countries since its inception. In 2015, as well as a cash donation, the Foundation received a range of support from ST, including:

- PCs and other electronic and IT equipment
- time from those employees engaged in the Digital Unify program, who gave courses or translated course materials
- support from ST Management and Corporate External Communications to produce the Foundation's activity report to external stakeholders and to organize the 100,000-trainee celebration in Morocco
- support for the implementation of a real-time data collecting system to monitor the Digital Unify courses held worldwide

For more information, please visit the ST Foundation website [www.stfoundation.org](http://www.stfoundation.org).

## Sharing our knowledge and values



### FOCUS

#### 'Dream Class' comes true – ST Greater Noida (India)

Employees at ST India are always extremely keen to serve the community, so it took just a brief discussion by a group of self-motivated people to come up with the idea of 'Dream Class'.

The project is now benefiting 100 pupils from Class 6 at a local school for underprivileged children. Under the scheme, our employees visit the school at least twice a month to impart values-based education to the children through videos, open discussions, quizzes and games. Topics have included India's national heroes, the environment, the importance of good hygiene, a clean India and more. Classes also cover subjects such as Mathematics and General Science. The children eagerly look forward to these visits.

As well as our employees visiting the school, the children have also had two opportunities to visit our site. The first of these was for a Sports Day to celebrate Indian Independence Day, during which our employees relived their childhood by participating along with the children.

The second occasion was just ahead of Diwali, the festival of lights, for an event called the 'Gift of Education through Gift of Time'. Employees teamed up with the children to create handicraft items, which were then put up for sale. US\$4,500 was raised within just a few hours, and is now being used to refurbish the school's computer lab.

Every step in this journey has been truly memorable for our volunteers. As one of them rightly commented: "Dream Class – a dream come true".



## Objectives



Objectives	Status	Comments
Local initiatives and communication 100% aligned with new strategy (main sites).		Communication plan done throughout the year. Indicators in place (initiatives linked to pillar).
All sites to report their local community initiatives in the CSR tracking tool throughout the year.		
Support ST Foundation's activities.		Cash, PC, voluntary time.
For the mid-to-long term: raise young populations' employability by providing access to PhD, apprenticeships and internship experience.		Objective discontinued.



# Local Communities Indicators

This section includes indicators and GRI Standard Disclosures.  
Data consolidated according to the London Benchmark Group (LBG) methodology.

## Community involvement - Inputs

| G4-S01 | G4-EC1 |

	2012	2013	2014	2015
Number of community involvement activities	374	385	312	338
Total contribution (evaluated in US\$M)	8.5	11	6	7

## Type of contribution break down

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

## Domains of involvement\* (%)

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

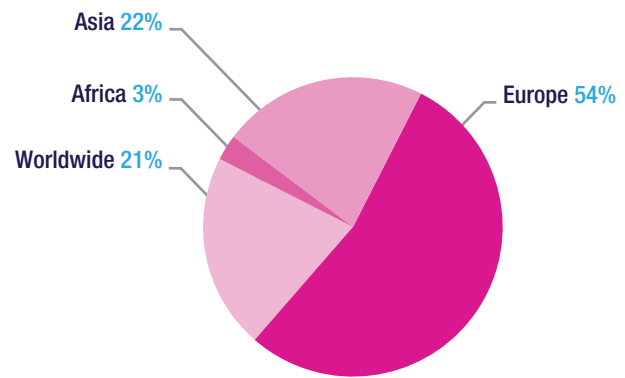
\* Among initiatives classified as young generation and education, we notice some also related to economic development and Innovation and high technology.

## Motivation for contribution (%)\*

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

\* The sums may not add up to 100% due to rounding of the figures.

## Geographical spread of contribution\* (%) 2015



\* There is no historical data as the LBG changed the classification of the beneficiary regions in 2015.

## Community involvement - Outcomes

| G4-S01 | G4-EC1 |

	2013	2014	2015
Number of beneficiary organizations	826	1,204	1,832
Number of direct beneficiaries	34,495	121,166	157,281

## ST Foundation

| G4-S01 | G4-EC1 |

	2011	2012	2013	2014	2015
Total trainees	36,444	28,307	42,257	53,127	55,333
Total trainees from beginning of program	148,136	176,443	218,729	271,856	327,189

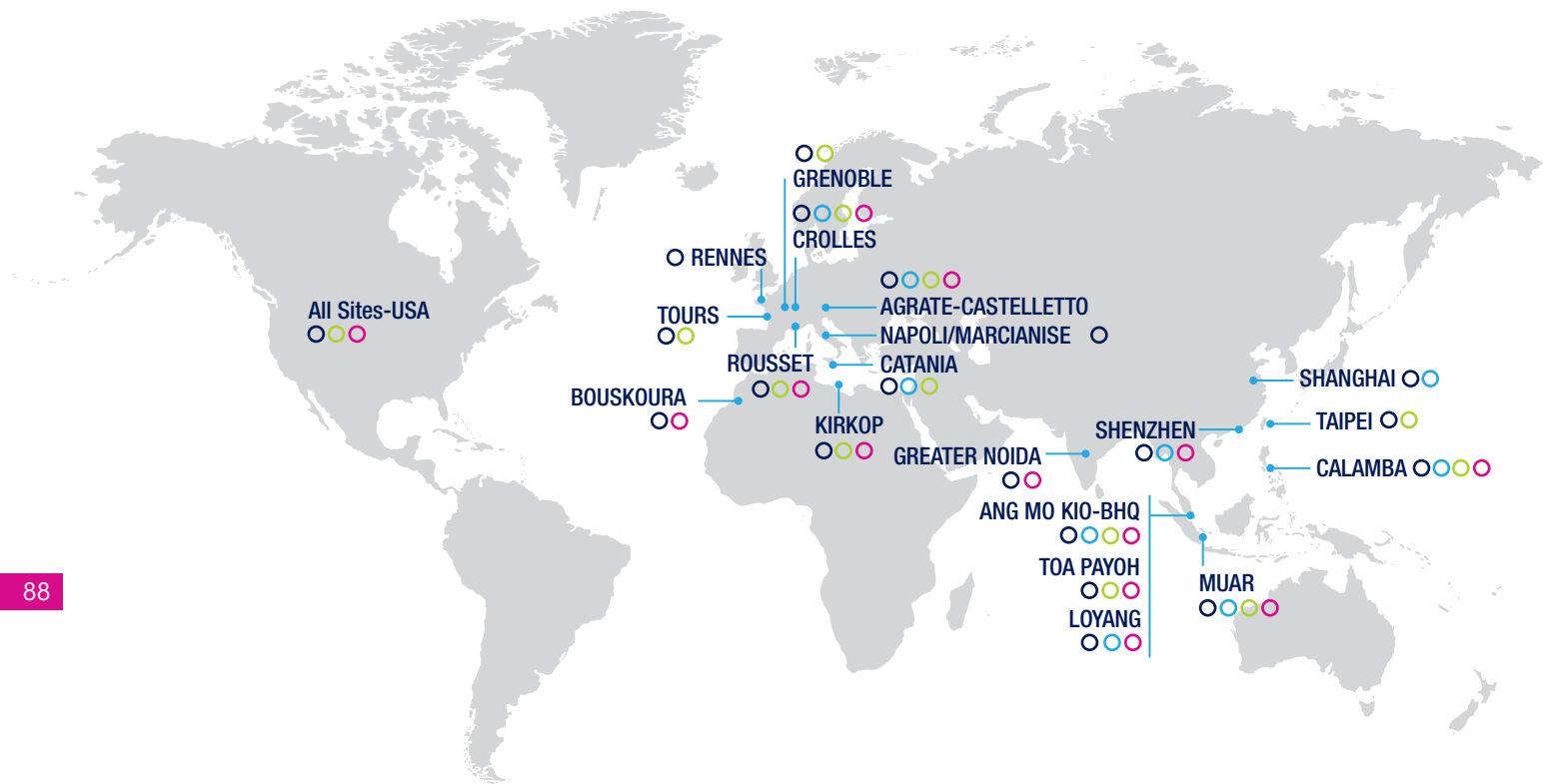


MEASURING  
COMMUNITY  
INVESTMENT



# 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.



## 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, internal musical contest, Valentine Day celebration, eat-with-your-family day, 'book for one books for all' are events that reinforce ST employee proudness 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 environmental-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.



**An ST relay team in the Milan marathon**

More than 250 employees, relatives and friends of STMicroelectronics attended the 2015 Milan Marathon in April. Through ST’s membership of the Marathon Charity Program, we contribute to the entry fees of our competing athletes – ten solo runners and 64 teams of four relay runners. Our employees collected donations for AGPD, a local charity for people with Down’s syndrome and their families. One relay team included Pietro Palella (retired president of ST Italy), Domenico Rossi and his son, Paolo Murari and Mattia Oltolino from AGPD.

**Local stakeholder engagement**

More than 80 employees from ST Crolles and Grenoble (France) participated in the Sport2Job event, which combined sports competitions with recruitment meetings for more than 40 disabled people seeking employment.



**Employee engagement**

In many sites, ST organizes family days to spread awareness of the industry jobs and working conditions.



**Employee initiatives for others**

ST Kirkop (Malta) employees organized a large number of events to collect funds for charities. One example was the Christmas cake competition, where ST employees brought in their home baked cakes to be judged on the taste and decoration. The cakes were then sold to colleagues and the proceeds given to charity.



**Environment**

The EHS week in ST Calamba (the Philippines) was an opportunity to plant trees on the site, continuing the sites longstanding commitment to environmental protection.



In November, 260 employees from our Shenzhen (China) site attended a 10km walk organized by the local community to promote environmental protection and health.



ST Ang Mo Kio (Singapore) employees participated in a local ‘Home aid project’ which helps disabled people with household repairs or building furniture.







# Awards

Each year we receive external recognition for our sustainability practices. Here is an overview for 2015.

## Business

### OSCAR MASI PRIZE FOR INDUSTRIAL INNOVATION

In May 2015, our STLUX™ digital lighting controller family received the 2014 Oscar Masi prize for Industrial Innovation from AIRI (Italian association for industrial research) in the innovation section. STLUX has brought internationally patented innovation to the market. It is able to intelligently manage the lighting conditions of the surrounding environment, thus reducing consumption and improving cost-efficiency.



### FORTUNE WORLD'S MOST ADMIRED COMPANIES

ST has been recognized by FORTUNE Magazine as being among the Most Admired companies globally.

FORTUNE asked thousands of companies across 59 industries to identify the businesses that enjoy the strongest positive reputations. Consolidating input from thousands of executives, and with input from competitors, customers, suppliers, and industry observers, FORTUNE rewarded ST with recognition for being among the Most Admired companies globally.

### STA311B RECEIVES 2015 CES INNOVATION AWARD

The STA311B single chip audio amplifier solution was honored with a CES Innovation Award in the Home Audio/Video Components and Accessories category at the 2015 International Consumer Electronics Show (CES) in Las Vegas, Nevada. The prestigious annual competition recognizes technology manufacturers' and developers' outstanding design and engineering efforts in consumer-electronics products.

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### PHILIPPINES PRESIDENT RECOGNIZES ST CALAMBA'S OUTSTANDING QUALITY AND BUSINESS EXCELLENCE



In September 2015, the President of the Philippines, Benigno Aquino III presented ST Calamba with the Philippines Quality Award (PQA) for Proficiency in Quality Management. This prestigious award recognizes organizations that are considered as benchmarks for having achieved the highest level of quality and business excellence. President Aquino praised ST for being: "an example of an institution that places the highest importance on their workforce – utilizing a learning development system to enhance the skills of their employees".

### CHINA'S AUTOMOTIVE ELECTRONICS INDUSTRY LEADER RECOGNIZES ST AS AN EXCELLENT SUPPLIER



Desay SV gave ST an Excellent Supplier Award for our outstanding contribution in 2014. ST passed Desay SV's rigorous

Vendor Rating System on quality, delivery, service, technical support, and cost.

### ST EXECUTIVE VICE-PRESIDENT BENEDETTO VIGNA AWARDED IEEE FREDERIK PHILIPS AWARD

In March 2015, Benedetto Vigna, Executive Vice President Analog, MEMS, and Sensors Group, was awarded the Frederik Philips Award, presented by the Institute of Electrical and Electronics Engineers (IEEE) for leadership in conceiving, developing, and commercializing micro-electro-mechanical systems. To date, ST has shipped more than 9 billion MEMS, sensors, and actuators to customers for consumer, automotive, and industrial applications.



### ST WINS BEST PARTNER AWARD FROM HITACHI AUTOMOTIVE SYSTEMS IN JAPAN



In April, at the Hitachi Automotive Systems partner day in Tokyo, ST received the 2014 Best Partner Award.

Hitachi, a major Japanese Automotive Parts manufacturer, gave this award in recognition of remarkable service.

# People

## TOP EMPLOYER RECOGNITION

The French magazine Capital has ranked ST number six Best Employer in the High-Tech sector. Capital surveyed 10,000 people working in more than 1,600 mid- and large-sized companies (with more than 500 employees) to establish the 400 best employers in France. Positive employee responses and a solid reputation for employee relations earned ST a number six position after Amadeus, Orange, Google France, Microsoft and EMC2-France in the high-tech category.

## APPRENTICESHIP TROPHY FOR DISABLED



In recognition of our apprenticeship program for the disabled, ST received an 'F d'or Handicap'

award at the Handicap Trophies ceremony in Paris organized by OPCALIA in partnership with l'Agefiph. This trophy recognizes years of collaborative work between many engaged partners including managers, doctors, temporary labor agencies, employees, and Human Resources.

# Environment & Operations

## ST CALAMBA RECEIVED PEZA ENVIRONMENTAL PERFORMANCE AWARD FROM THE PRESIDENT



In April 2015, ST Calamba received the 2014 Outstanding Environmental Performance

Award during the Philippine Economic Zone Authority's (PEZA) award ceremony. After rigid screening and a tough validation audit by PEZA, ST Calamba realized its long-time dream of receiving this prestigious award after receiving many others from other environmental and safety government institutions in the past.

## 1<sup>ST</sup> PRIZE AS SUSTAINABLE ENTERPRISE



ST Kirkop (Malta) was awarded 1<sup>st</sup> Prize in the first edition of the Sustainable Enterprise Award organized by the Ministry for the Economy, Investment and Small Businesses (MEIB) in conjunction with the Cleaner Technology Centre, University of Malta. The aim of this award is to recognize, promote and reward local business organisations that have made a significant contribution to the different aspects of sustainable development, namely economic, environmental and social sustainability. ST Malta was assessed on its formalization of commitment towards sustainable development, the results achieved in performance improvement, organizational effort, long-term viability and the replication potential.

## EMAS CEREMONY IN GERMANY



On the occasion of the 20<sup>th</sup> anniversary of the European Eco-Management and Audit Scheme (EMAS), the

EU's environmental management instrument, an international conference was held at the new European Central Bank (ECB) premises in Frankfurt in November 2015. At the end of the conference, EMAS honored organizations that were among the first to register with the scheme and for the frontrunner companies of each member state. All our EMAS certified sites were honored and ST Malta was honored as the frontrunner organization from the country of Malta.

## ST HONG KONG RECOGNIZED FOR ITS COMMITMENT TO ENVIRONMENTAL PROTECTION



ST's Hong Kong office received the Wastewi\$e Label Class of Excellence Award for commitment to environmental protection and waste reduction.

## ENVIRONMENTAL PROTECTION AWARD IN SHENZHEN (CHINA)



As Vice President Company of Futian District Shenzhen Environmental Protection Industry

Association, STS Shenzhen received an award for the achievements in energy-saving and pollution prevention & control and actively participating in all kinds of environmental activities.

# Local Communities

## FRENCH INDUSTRY PRIZE FOR THE 'CONNECT PME' PROGRAM



ST Crolles and Grenoble (France) won the 2015 Industry prize for organizing 'Connect PME' events to bring together small and medium enterprises, ST trainees and PhDs students and recruitment agencies.

## VALUED PARTNER OF CARE CORNER FAMILY SERVICE CENTRE



ST Toa Payoh and Ang Mo Kio (Singapore) received the award of Valued Partner from the Care Corner

Family Services charity for the donation of time and gifts to the charity's program for needy families.

## RED CROSS AWARD

For the 16<sup>th</sup> consecutive year, ST Calamba (Philippines) received an award from the Red Cross for 'Outstanding support and contribution to the Safety programs and activities'.



# GRI Content Index

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General Standard Disclosures	Page - Location	External Assurance
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<b>Organizational profile</b>		
G4-3	Reader's Guide (page 2)	yes, p 97
G4-4	Where you find us (page 4) Company information at <a href="http://www.st.com">www.st.com</a>	yes, p 97
G4-5	Reader's Guide (page 2)	yes, p 97
G4-6	ST at a glance (page 4)	yes, p 97
G4-7	Governance (page 10)	yes, p 97
G4-8	Where you find us (page 4) Financial Performance (page 24) Business indicators (page 34)	yes, p 97
G4-9	ST at a glance (page 4) Financial Performance (page 24) Business indicators (page 34) 2015 Annual Report (20F) at <a href="http://investors.st.com">http://investors.st.com</a> , pages 4, 21, 22, 39, 45, 51, 52, 56, 57, 70, 73	yes, p 97
G4-10	People indicators (page 49)	yes, p 97
G4-11	People indicators (page 51)	yes, p 97
G4-12	Value Chain (page 6) Supply Chain Responsibility (pages 76 and 78) Environment & Operations indicators (page 81)	yes, p 97
G4-13	Reader's Guide (page 2)	yes, p 97
G4-14	Chemicals (page 68) EHS decalogue in Sustainability Strategy section at <a href="http://www.st.com">www.st.com</a>	yes, p 97
G4-15	Reader's Guide (page 2) Governance (page 11) Local Communities (page 84)	yes, p 97
G4-16	Involvement in Industrial and International Organizations in Sustainability section at <a href="http://www.st.com/web/en/about_st/involvement/html">www.st.com/web/en/about_st/involvement/html</a> Governance (page 11)	yes, p 97
<b>Identified material aspects and boundaries</b>		
G4-17	2015 Annual Report (20F) at <a href="http://investors.st.com">http://investors.st.com</a> , pages 21, 22, 24 and 25	yes, p 97
G4-18	Reader's Guide (page 2) Material Aspects and Boundaries (page 95)	yes, p 97
G4-19	Reader's Guide (page 2) Sustainability Strategy (page 13) Material Aspects and Boundaries (page 95)	yes, p 97
G4-20	Material Aspects and Boundaries (page 95)	yes, p 97
G4-21	Material Aspects and Boundaries (page 95)	yes, p 97
G4-22	Reader's Guide (page 2)	yes, p 97
G4-23	Reader's Guide (page 2) Sustainability Strategy (page 12)	yes, p 97
<b>Stakeholder engagement</b>		
G4-24	Sustainability Strategy (page 13 and 14) Stakeholder Engagement in Sustainability section at <a href="http://www.st.com">www.st.com</a>	yes, p 97
G4-25	Sustainability Strategy (page 12) 2014 Sustainability Report (page 12) in Sustainability section at <a href="http://www.st.com/company-reports">www.st.com/company-reports</a>	yes, p 97
G4-26	Reader's Guide (page 2) Sustainability Strategy (page 14) Stakeholder Engagement in Sustainability section at <a href="http://www.st.com">www.st.com</a>	yes, p 97
G4-27	Sustainability Strategy (page 13 and 14)	yes, p 97
<b>Report profile</b>		
G4-28	Reader's Guide (page 2)	yes, p 97
G4-29	Reader's Guide (page 2)	yes, p 97
G4-30	Reader's Guide (page 2)	yes, p 97
G4-31	Reader's Guide (page 2)	yes, p 97
G4-32	Reader's Guide (page 2) GRI Content Index (pages 92, 93 and 94)	yes, p 97
G4-33	Reader's Guide (page 2) Assurance statement (page 97)	yes, p 97

General Standard Disclosures		
General Standard Disclosures	Page - Location	External Assurance
<b>Governance</b>		
G4-34	Governance (page 11)	yes, p 97
<b>Ethics and integrity</b>		
G4-56	Ethics and Compliance (page 17) Labor and Human Rights (page 45) ST's Code of Conduct at <a href="http://www.st.com">www.st.com</a>	yes, p 97

Specific Standard Disclosures					
DMA and Indicators	Page - Location	Identified omission(s)	Reason(s) for omission(s)	Explanation for omission(s)	External Assurance
<b>Category: Economic</b>					
<b>Material aspect: Economic performance</b>					
G4-DMA	Business (page 22) Financial Performance (page 23)				yes, p 97
G4-EC1	Financial Performance (page 24) Business indicators (page 34) People indicators (page 50) Local communities indicators (page 87) 2015 Statutory Annual Report on <a href="http://investors.st.com">http://investors.st.com</a> page 110	Payments to government by country	The information is subject to specific confidentiality constraints	Confidential information	yes, p 97
<b>Category: Environmental</b>					
<b>Material aspect: Energy</b>					
G4-DMA	Environment & Operations (page 54) Energy (page 55)				yes, p 97
G4-EN3	Energy (page 57) Environment & Operations indicators (page 79)				yes, p 97
G4-EN5	Energy (page 55) Environment & Operations indicators (page 79)				yes, p 97
G4-EN6	Energy (page 57) Environment & Operations indicators (page 79)				yes, p 97
<b>Material aspect: Water</b>					
G4-DMA	Environment & Operations (page 54) Water (page 58)				yes, p 97
G4-EN10	Water (page 59)				yes, p 97
<b>Material aspect: Emissions</b>					
G4-DMA	Environment & Operations (page 54) GHG, Air emissions (page 61)				yes, p 97
G4-EN15	GHG, Air emissions (page 62) Environment & Operations indicators (page 79)				yes, p 97
G4-EN16	GHG, Air emissions (page 62) Environment & Operations indicators (page 79)				yes, p 97
G4-EN17	GHG, Air emissions (page 62) Environment & Operations indicators (page 79)				yes, p 97
G4-EN18	GHG, Air emissions (page 62)				yes, p 97
<b>Material aspect: Effluents and waste</b>					
G4-DMA	Environment & Operations (page 54) Waste (page 65)				yes, p 97
G4-EN22	Environment & Operations indicators (page 79)				yes, p 97
G4-EN23	Waste (page 66) Environment & Operations indicators (page 80)				yes, p 97
G4-EN24	Environment & Operations indicators (page 80)				yes, p 97
G4-EN25	Environment & Operations indicators (page 80)				yes, p 97
<b>Material aspect: Products and services</b>					
G4-DMA	Sustainable Technology (page 71)				yes, p 97
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	yes, p 97
<b>Category: Social</b>					
<b>Sub-category: Labor practices and decent work</b>					
<b>Material aspect: Employment</b>					
G4-DMA	People (page 35) People Development and Engagement (page 37)				yes, p 97
G4-LA1	People indicators (pages 49 and 50)				yes, p 97
<b>Material aspect: Occupational health and safety</b>					
G4-DMA	People (page 35) Health and Safety (pages 40 and 42)				yes, p 97



Specific Standard Disclosures					
DMA and Indicators	Page - Location	Identified omission(s)	Reason(s) for omission(s)	Explanation for omission(s)	External Assurance
<b>Category: Social</b>					
<b>Sub-category: Labor practices and decent work</b>					
<b>Material aspect: Occupational health and safety</b>					
G4-LA6	Health and Safety (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 2016, we are collecting data for all subcontractors	yes, p 97
<b>Material aspect: Training and education</b>					
G4-DMA	People (page 35) People Development & Engagement (page 37)				yes, p 97
G4-LA9	People indicators (page 51)				yes, p 97
G4-LA11	People Development & Engagement (page 37) People indicators (page 50)				yes, p 97
<b>Material aspect: Diversity and equal opportunity</b>					
G4-DMA	Labor and Human Rights (page 48)				yes, p 97
G4-LA12	Labor and Human Rights (page 48) People indicators (pages 49 and 50) Corporate Governance at <a href="http://investors.st.com">http://investors.st.com</a>				yes, p 97
<b>Sub-category: Human rights</b>					
<b>Material aspect: Assessment</b>					
G4-DMA	People (page 35) Labor and Human Rights (page 46)				yes, p 97
G4-HR9	Labor and Human Rights (page 47) People indicators (page 52)				yes, p 97
<b>Material aspect: Supplier human rights assessment</b>					
G4-DMA	Supply Chain Responsibility (page 75)				yes, p 97
G4-HR11	Environment & Operations indicators (page 81)				
<b>Sub-category: Society</b>					
<b>Material aspect: Local communities</b>					
G4-DMA	Local Communities (page 84)				yes, p 97
G4-S01	Local Communities indicators (page 87)				yes, p 97
<b>Material aspect: Anti-corruption</b>					
G4-DMA	Ethics and Compliance (page 17)				yes, p 97
G4-S05	Ethics and Compliance (page 18)				yes, p 97
<b>Sub-category: Product responsibility</b>					
<b>Material aspect: Product and service labeling</b>					
G4-DMA	Sustainable Technology (page 72)				yes, p 97
G4-PR3	Sustainable Technology (pages 72 and 74) Material declaration in Quality and Reliability section at <a href="http://www.st.com">www.st.com</a>				yes, p 97
G4-PR5	Customer satisfaction page 30 of 2013 Sustainability report at <a href="http://www.st.com/company-reports">www.st.com/company-reports</a> Customer Relations (page 31)				yes, p 97



# International Standards Index

The following table shows the correlation between the STMicroelectronics Sustainability Report/priorities and

- ISO 26000:2010 standards
- United Nations Global Compact 10 principles
- GRI G4 material aspects
- Related boundaries.



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.

[I G4-18](#) | [I G4-19](#) | [I G4-20](#) | [I G4-21](#) |

ST Sustainability priorities	ISO 26000:2010 clauses	Global Compact 10 Principles	Corresponding GRI G4 material aspect	Boundaries Inside ST	Boundaries Outside ST
Governance	6.2, 7.4.3		General Standard Disclosure	All sites and organizations	
Ethics and Compliance	4.4, 6.2, 6.6.3	Principle 10	Anti-corruption	All sites and organizations	Relations with suppliers Customers and business partners
Risk Management			General Standard Disclosure	All sites and organizations	
Financial Performance	6.2, 6.8		Economic performance	All sites and organizations	Shareholders Investors Communities where we operate
Innovation			No corresponding G4 material aspect	Product and manufacturing organizations	Local communities Customers
Customer Relations	6.7		Product and service labelling	Product organizations Sales & Marketing Central functions	Customers
Development and Engagement	6.4, 6.4.3, 6.4.4, 6.4.5, 6.4.7	Principle 6	Employment Training and education	All sites and organizations	
Labor and Human Rights	4.8, 6.2, 6.3.3, 6.3.4, 6.3.7, 6.3.10, 6.6.6	Principles 1, 2, 3, 4, 5, 6	Human rights assessment Diversity and equal opportunity	All sites and organizations	
Health and Safety	6.4.6, 6.8.8		Occupational health and safety	All sites	On-site suppliers and sub-contractors
Environmental Efficiency (GHG, Water, Energy, Waste, Chemicals)	6.5.3, 6.5.4, 6.5.5	Principles 7, 8, 9	Water Emissions Effluents and waste Energy Product and service labelling Local Communities	Manufacturing sites	Local environment
Supply Chain Responsibility	4.8, 6.3.3, 6.3.4, 6.6.4, 6.6.6	Principles 2, 3	Product and service labelling Supplier human rights assessment	Purchasing organizations	Suppliers and sub-contractors
Sustainable Technology			Products and services Product and service labelling	Product and manufacturing organizations	Customers
Local Communities	6.3.9, 6.5.2, 6.5.3, 6.8	Principle 1	Local communities	All sites	Local communities and partners
Reader's Guide	6.2, 7.5.3				
CEO Foreword	6.2, 7.2				
Sustainability Strategy	4.5, 5.2, 5.3, 6.2.3, 7.3.2, 7.3.4				
Awards	6.2				
GRI Content Index	7.6.2				
External Assurance Statement	7.6.2				

■ Company 
 ■ People 
 ■ Business 
 ■ Environment & Operations 
 ■ Local Communities



# Glossary

20-F	Annual report filed with the Securities and Exchange Commission
3TG	Tantalum, tin, tungsten and gold
ADAS-equipped cars	Advanced Driver Assistance System
AGM	Annual General Meeting of Shareholders
APG	Automotive Product Group
ASICs	Application-Specific Integrated Circuit
Back-end (BE)	Second phase of manufacturing during which the silicon chip is mounted in a package
Bi-CMOS	Bipolar-CMOS
CDP	Carbon Disclosure Project
CEO	Chief Executive Officer
CFS	Conflict-Free Smelter
CMOS	Complementary MOS (Metal Oxide Semiconductor)
CMRT	Conflict Minerals Reporting Template
DEHP	Di(2-ethylhexyl) phthalate
DJSI	Dow Jones Sustainability Indices
ECOPACK®	ECOPACK® Lead-free labelling for RoHS-compliance
EHS	Environmental, Health & Safety
EICC	Electronics Industry Citizenship Coalition
ELV	End of Life Vehicles
EMAS	Eco-Management and Audit Scheme
EMEA	Europe, Middle East & Africa
ERM	Enterprise Risk Management
ESG	Environmental, Social and Corporate Governance
ESIA	European Semiconductor Industry Association
EWS	Electrical Wafer Sorting
Fab	Semiconductor fabrication plant
FD-SOI	Fully Depleted Silicon-On-Insulator
Front-end (FE)	First phase of the production cycle involving the manufacturing of circuits on a silicon wafer
GHG	Greenhouse Gases
GPO	Global Purchasing Organization
GRI	Global Reporting Initiative
GWP	Global warming potential

HSPM	Hazardous Substance Program Management
IC	Integrated Circuit
IECQ	International Electrotechnical Commission Quality
IoT	Internet of Things
IP	Intellectual Property
IPC	Association connecting electronics industries
IPD	Industrial Power Discrete
KPI	Key Performance Indicator
LBG	London Benchmark Group
LEC	Local Ethics Committee
LWDC	Lost Workdays Cases Incidence
MEMS	Micro-Electro-Mechanical Systems
MMS	Microcontrollers, Memories & Secure MCU
MTCE	Metric Tons of Carbon Equivalent
OECD	Organization for Economic Cooperation and Development
OEM	Original Equipment Manufacturer
OHSAS	Occupational Health & Safety Assessment Series (OHSAS 18001)
PFCs	Perfluorinated Compounds
PFOA	Perfluorooctanic acid
PMS	Project Management System
R&D	Research & Development
REACH	Registration, Evaluation and Authorization of Chemicals
RMIS	Risk Management Information System
RoHS	Restriction of Hazardous Substances
SAQ	Self-Assessment Questionnaires
SCC	Site Chemical Committee
SE	Sustainable Excellence
SRI	Socially Responsible Investment
SVHC	Substances of Very High Concern
UNGC	United Nations Global Compact
WEEE	Waste Electrical and Electronic Equipment
WSC	World Semiconductor Council

## MODERATE ASSURANCE STATEMENT

Independent Assurance Statement issued by DNV GL – Business Assurance France  
Financial year ended 31 December 2015

### Scope and approach

STMicroelectronics NV commissioned Det Norske Veritas Germanischer Lloyd Business Assurance France ("DNV GL") to undertake independent assurance of the "Sustainability Report 2015" for the year ended 31 December 2015. We performed our work using DNV GL's assurance methodology VeriSustain<sup>TM1</sup>.

We evaluated the performance data using the reliability principle together with STMicroelectronics NV data protocols for how the data are measured, recorded and reported. The performance data in scope was:

- Key Performance Indicators;
- Our verification was carried out from March to April 2016. As part of this engagement we visited selected sites on the basis of their contribution which represents 23% of the Group's consolidated environmental data and 24 % of consolidated social data;
- The review of 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 Securities and Exchange Commission 20-F's for the fiscal year ended December 31, 2015.

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 fifth 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. 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: Crolles (France), Muar (Malaysia), Bouskoura (Morocco). We undertook the following activities:

- 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, an excess of 40 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 Grenoble (France), Crolles (France), Muar (Malaysia), Bouskoura (Morocco) 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: Ethics, Innovation at a Corporate level; Labour and Human rights, Health and

Safety, Environmental Efficiency: GHG Air Emissions, water management (front-end site), Waste management; Supply Chain Responsibility;

- Review of supporting evidence for key claims and data in the report in its draft electronic format "CSR\_REPORT2015\_12.1". Our checking processes were prioritised according to materiality 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 Sustainability Report 2015. This included in particular: Certification against ISO 14001, EMAS, OHSAS 18001, ISO 50001, EICC audits results;
- An independent assessment of STMicroelectronics NV's reporting against the Global Reporting Initiative (GRI) G4 Guidelines, in accordance with Core Level.
- Interviews with external stakeholders were not included.
- ST Foundation information were not included in our scope of work.

### Opinion

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. In terms of reliability of the performance data, 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

Without affecting our assurance opinion we also provide the following observations:

**Materiality:** we consider that the Report includes the major material aspects concerning the Company's performance and stakeholders' concerns. In 2015, STMicroelectronics NV following the CSR strategy implementation is engaged in local governance sustainability committees' deployment. The effect should be a significant increase in efficiency and capacity of these structures to give consistency to CSR corporate and local programs.

**Completeness:** we believe that, overall, the topics and indicators contained in the Report cover STMicroelectronics NV material impacts sufficiently to enable stakeholders' assessment of the STMicroelectronics NV's sustainability performance in 2015. Even if we consider that the views and concerns of stakeholders have been taken into consideration and that dialogue was effective, a broader sample of external stakeholders' views should be considered for the coming years in the Report.

**Accuracy and Reliability:** the information contained in the report is accurate and detailed enough to allow stakeholders to understand STMicroelectronics NV's performance on material issues. We found that the information and processes are sufficiently collated, recorded, compiled, analysed and disclosed in a manner that allowed us to examine and assess the reliability of the information. Formalisation of control applied through procedures is the main opportunity for improvement.

For and on behalf of DNV GL Business Assurance France  
18<sup>th</sup>, May 2016



Marc-Antoine HORENFELD  
Lead Verifier  
DNV GL – Business Assurance



Zeno BELTRAMI  
Reviewer  
DNV GL – Business Assurance

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<sup>1</sup> The VeriSustain protocol is available on [dnvgl.com](http://dnvgl.com)



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