



# Sustainability Report 2011

# Reader's Guide

## Report scope and profile

This is a report to ST's stakeholders of how responsibly we have performed as a company in the calendar year 2011. It covers all STMicroelectronics' activities and sites, unless otherwise stated. You can find details of ST's structure and countries of operation in the chart on page 1. For other information you can access reports from previous years at [www.st.com/sustainability](http://www.st.com/sustainability)

## Change in scope and materiality

In 2011, following an extensive materiality exercise launched in 2010 and finalized in 2011, ST has refreshed its Sustainability strategy to link it to its business priorities, take into account its stakeholders' interests and expectations and better address its most material issues. ST has come out with 22 top sustainability issues that will determine our way forward and contribution to Sustainable Development at worldwide level. This is why from this year, we have decided to review the format of this annual Sustainability report to align it with this new strategy and to report ST's performance adequately.

In 2011, based on this exercise we precisely defined for each top issue, not only company objectives but also the relevant roles and responsibilities to ensure effective deployment of this strategy. In order to conduct this strategy review exercise, we closely worked with top management 'contributors' to define qualitative and quantitative sustainability objectives for each identified domain and we have reviewed all objectives with ST's Vice Presidents in order to get their validation.

This new sustainability strategy has been officially validated by ST's President and CEO, Carlo Bozotti.

### On top of this exercise:

- we took into account spontaneous feedback (email, web requests);
- we have conducted high-level benchmarking;
- we have kept track of, and tried to anticipate, the rules and regulations being put in place at worldwide level.

Please note that you will find ST's detailed Disclosure on Management Approach for each section on the web. [See more on www.st.com/stonline/company/sd/index.htm](http://www.st.com/stonline/company/sd/index.htm)

## Accessibility

This Sustainability report presents STMicroelectronics' Sustainability performance, describing our company strategy and illustrating it with concrete examples to highlight our performance and to share the challenges we may face at ST's group-wide level but also while implementing sustainability into our daily activities.

The report is published in English and it is accessible on the web in PDF format at [www.st.com/sustainability](http://www.st.com/sustainability) along with past reports. Printed copies are also available on request.

## Assurance

In 2011 as we were in a transition year while officially launching ST's new Sustainability strategy, our priority was to ensure the relevancy and robustness of the defined objectives.

Based on the launch of this new strategy, we are currently reviewing all company indicators in order to ensure the highest levels of accuracy and relevancy in order to more accurately describe ST's performance and follow it over the next years. This exercise requires us to review hundreds of indicators in all fields, to identify the ones to be kept, the ones to be improved and the ones to be discontinued.

This is why for the year 2011 we have decided not to conduct an official process of review and validation of data reporting. Even during this transition year, we have tried to ensure continuity and published indicators where possible.

Instead, we have taken the decision to launch the evaluations of three of our major sites versus the ISO 26000 standard guide customized to align with ST's new sustainability strategy and reflect the situation at its launch of it.

We opted for the Det Norske Veritas methodology that allowed us go beyond normal evaluation based evidence checking. Here we decided to launch evaluations based on employees' perception of ST's sustainability engagement and effective deployment. These evaluations were conducted at three of our major manufacturing sites through employees' interviews (with the participation of around 50 employees overall).

We will communicate more deeply on these evaluations in next years' report.

This process is described by DNV with an official statement [on page 68 of this report](#).



WE SUPPORT

## Adherence to GRI and the UN Global Compact

This report is prepared and presented in accordance with the 2006 Global Reporting

(GRI) G3 Guidelines.

We have self-declared an A application level which has been confirmed by GRI. If G3 indicators are not applicable or relevant to us we explain why in the text or in the indicator index available online.

ST has been a signatory of the United Nations Global Compact (UNGC) since 2000, which commits it to fulfilling the ten principles of the UNGC. This report describes actions we have taken to implement these principles, and serves as our Communication on Progress.

[On page 67](#), there is an index that references GRI indicators, Global Compact Principles and ISO 26000 core subjects that can be found in this report.

## Indicators and use of symbols

In previous years, we used symbols to disclose a complete and accurate picture of our performance and identified a number of Key Performance Indicators (KPIs) that were published on a dedicated page.

For 2011, following what has been described in the Assurance section above, we have decided not to present the level of achievement of ST's objectives on top sustainability issues as we were in a transition period, officially launching these objectives in the company and starting to follow our performance versus these objectives.

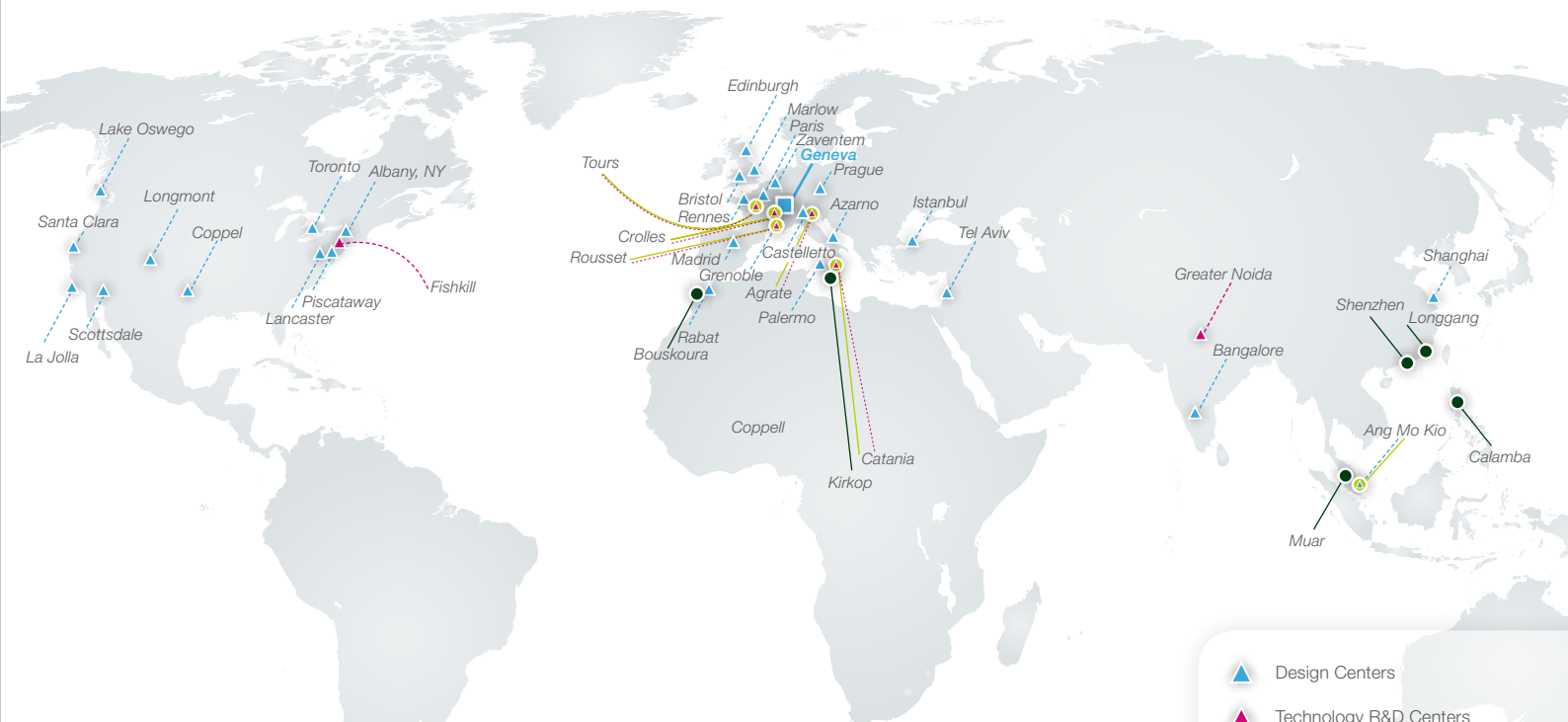
From next year, we will communicate the level of achievement for each defined objective.

## Give us your feedback

We are committed to improving both our sustainability performance and the ways we communicate with our stakeholders. We encourage contributions and debate from all stakeholders and welcome feedback on the content and presentation of this report – as well as suggestions for next year. In order to get your feedback, we have developed an online form, available at <http://www.st.com/stonline/company/sd/contact.htm>. Please do not hesitate to use this for any comments.

**You can also contact us directly at [sustainable.development@st.com](mailto:sustainable.development@st.com) or contact:**  
Corporate Sustainable Development Group  
STMicroelectronics International N.V.  
Corporate Headquarters  
39, Chemin du Champ-des-Filles - C.P. 21  
CH-1228 Geneva – Plan-Les-Ouates  
Switzerland

# ST at a glance



- A global semiconductor leader
- The largest European semiconductor company
- 2011 revenues of **US\$ 9.73bn<sup>(1)</sup>**
- Approx. **50,000** employees worldwide<sup>(1)</sup>
- Listed on New York Stock Exchange, Euronext Paris and Borsa Italiana, Milano
- **12** manufacturing sites

<sup>(1)</sup> Including ST-Ericsson, a 50:50 joint venture with Ericsson

- **Partners of our Customers Worldwide** with 78 sales offices in 36 countries
- An Unwavering Commitment to R&D
  - 7 main technology R&D centers
  - 39 design centers
  - 20,000 patents<sup>(1)</sup>
  - 12,000 people in technology, design, product and system R&D

- ▲ Design Centers
- ▲ Technology R&D Centers
- Front-end Manufacturing sites
- Back-end Manufacturing sites
- Headquarters

1

## Focus 2011\*

### Zoom on ST Bouskoura (Morocco)...



#### HEADCOUNT:

**2,537**

employees  
(ST + temporary employees)

#### PROFILE:

Men (31%) / Women (69%)

**Average age : 40 years**

#### Split by job category:

engineers (4%), technicians

(31%), operators (65%)

#### Domains of expertise :

electronics, chemists, physicists, mechanics, packaging operators, and many others

#### MAIN ACTIVITIES:

assembly, testing and finishing

#### MANUFACTURING AREA:

32,000 m<sup>2</sup>, including  
a 21,000 m<sup>2</sup> clean room

#### PRODUCTION:

total installed capacity  
of 12.9 million units per day

#### SITE CERTIFICATIONS:

EMAS, ISO 14001, OHSAS 18001,  
ISOTS 16949, Sony Green Partner

#### CAPITAL INVESTMENT OVER

**RECENT YEARS: US\$ 249m**  
of investments since 1998

\* Each year we focus on a different site to present their profile and local activity in a more detailed way.

Although reasonable efforts have been made to ensure the consistency of the summary financial information for the year 2011 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, 2011, as filed with the SEC on March 5, 2012, 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, 2011. We do not intend, and do not assume any obligation, to update any information or forward-looking statements set forth in this report to reflect subsequent events or circumstances.



# Content

## 2011

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**We also would like to thank everyone who kindly agreed to be quoted in this report and to provide testimony of their collaboration with ST.**

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### Company

Materiality and Sustainability Strategy

Governance

Financial and Extra-financial Performance

### Our People

Recruitment, Learning & Development

Employee Engagement

Global Diversity & Equal Opportunities

Employee Safety

Employee Health and Well-being

Labor Rights & Social Issues

### Our Products

Customer Satisfaction

Conflict-free Minerals

Eco-design

Responsible Products

Intellectual Property & Innovation

### The Environment

Water Management

Energy Management

Transport & Logistics

Waste Management

Management of Chemicals

GHG Emissions from Operations

### The Community

Local Sustainability Impacts

Public Affairs & Industry Networking

Partnerships in R&D & Education

Management of Sustainability in Supply Chain

Bribery & Corruption

### Sustainability Awards

### Additional Indicators and GRI Statement

### Indicators Index

### Evaluating our Practices Against ISO 26000

4

5

6

8

10

12

14

16

18

20

22

24

26

28

30

32

34

36

38

40

42

44

46

48

50

52

54

56

58

60

62

64

67

68



# Foreword by Carlo Bozotti,

President and Chief Executive Officer

In a year characterized by volatile economic, social and market environments, compounded by the unfortunate natural disasters in Japan and Thailand, sustainability continued to be a priority at ST. Indeed, our resilience and ability to overcome the difficult and unpredictable conditions resulted, in part, from the foundation we've built through our long-standing dedication to Sustainable Excellence and, in particular, our strong focus on People and Innovation. We truly believe that sustainability delivers a great return and makes a vital contribution to our performance.



At ST, we have always recognized that our people are the foundation of our company. During 2011 we continued to make excellent progress in the field of Environment, Health and Safety (EHS). In fact, recordable cases and severity rates have declined by 69% and 84% respectively since 2002, further consolidating our position among the industry leaders. In addition, the Company Health Plan continued to expand towards our aim that 100% of employees will have benefitted from it by the end of 2013: in 2011 a total of 86,500 exams and tests were performed at all our sites, covering 83% of our employees.

In addition to health and safety, we enhanced key programs to further strengthen our ST management culture, develop future leaders, and identify and reward the innovation and creativity that keeps us at the forefront of our industry in technologies and products.

These products, especially "Responsible Products<sup>(1)</sup>", are at the heart of our business. To sharpen our focus in 2011, we started our internal STAR initiative, classifying all new products into relevant environmental and social categories such as energy saving and healthcare. The resulting "STAR" rating enables us to identify and track more effectively those products that contribute to a more sustainable world. We also aim to have 100% of our new devices eco-designed by 2015. We have made significant progress in developing in-house eco-design tools well-suited to the complexity of our products. To this end, three working groups are now focused on the integration of environmental parameters in technology and product design, greener material selection and greener packaging.

With its keen awareness of environmental and ethical issues, ST has long paid special attention to managing chemicals and minerals.

1/ For more information on Responsible Products, see pages 32-33

In 2011, through our participation in the Electronic Industry Citizenship Coalition and Global e-Sustainability Initiative, we reinforced our efforts to ensure that no conflict minerals enter our supply chain by deploying the newly created Due Diligence Tool for 100% of our material suppliers and Front-end and Back-end subcontractors. This topic now represents almost half of our customers' social and ethical requirements and, because of our proactive approach, we've maintained very strong customer satisfaction levels in this area.

In the wider environmental field, we continued to progress on many fronts. For example, in 2011, we recycled more than 40% of water used, and one of our sites in Italy received an Outstanding Achievement Award from the Sustainable Electronics Manufacturing Working Group. Moreover, more than 90% of waste generated at our facilities was recycled and reused, while less than 3% was sent to landfill.

In addition to these environmental efforts, we also strengthened our broader community involvement. We continued efforts to bridge the digital divide through our ST Foundation with our Digital Unify program. By the end of 2011, ST volunteers had trained over 148,000 people throughout the world since the program's inception. We also enlarged the scope of our educational activities by joining the Global Enterprise Project, a new three-year initiative led by the European Round Table of Industrialists (ERT) which gives young people the opportunity to develop greater understanding about doing business globally while acquiring the skills required to succeed in today's knowledge-based economy.

Since our company's creation in 1987, the semiconductor industry has undergone significant changes. In fact, due to its ever-growing pervasiveness, electronics today

is more and more an important answer to people's growing awareness of, and need for, richer experiences and social improvement. The semiconductor industry is increasingly driven by the way people live and what they expect technology to bring to their lives, both in enhancing the quality of the way they work, learn, interact and relax and in helping to address major societal challenges in energy saving, healthcare and security. In other words, the pursuit of what we at ST call "life, augmented". In our 25th year of operation, we are especially proud of the contributions our innovative solutions make to all of these areas and we continue in our determination to lead by example in the pursuit of enriching sustainable business.

**Carlo Bozotti**  
President and CEO

A handwritten signature in blue ink, appearing to read 'Carlo Bozotti'.

This report has been prepared following the GRI G3 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.

A handwritten signature in blue ink, appearing to read 'Carlo Bozotti'.



# Materiality and Sustainability Strategy

In 2011, following an extensive materiality exercise launched in 2010 and finalized in 2011, ST has refreshed its Sustainability strategy to link it with business priorities, take into account stakeholders' interests and expectations and to focus on managing our most material issues. This exercise has identified 22 top sustainability issues that are related to our industry sector and that reflect our own sustainability performance. This Sustainability strategy will determine our way forward and our contribution to worldwide Sustainable Development over the next three years.

In 2011, we worked closely with senior management and executives on each top sustainability issue to define:

- the global context i.e. trends and regulation etc., behind each issue
- identified risks and opportunities
- qualitative and quantitative sustainability objectives
- roles and responsibilities of owners and contributors for each top issue

4

For each identified area, we validated all objectives with ST's Vice Presidents. The strategy was then officially approved by ST's President and CEO, Carlo Bozotti.



Interview with  
**Tjerk Hooghiemstra,**  
Executive Vice  
President, Chief  
Administrative  
Officer

## 2011 has been a challenging year from an economic point of view, did this impact on your commitments towards sustainability?

The commitment of ST to sustainability is deeply rooted in our ways of working. We have recognized the value of sustainability since the early years of the existence of the company and have remained committed during multiple business cycles which are characteristic for our industry. So it is clear that the economic challenges do not affect our commitment.

## According to you, what are ST's main strengths in terms of sustainability?

Our Decalogue is the compass for our ongoing progress towards ever higher levels of performance on the way we

sustainably run our business and despite a challenging 2011 year, we have made solid progress as this report describes. With the launch of new products which have been specifically developed to support the environment through for instance lower energy consumption in cars, we take our commitment to sustainability to a totally new level. Indeed semiconductor technology has a crucial role to play in global sustainability challenges. Considering global warming, if state-of-the-art semiconductor technologies and electronics topologies were universally adopted, the world could reduce energy consumption in traditional applications by around 27%! For example, in 2011, we have extended our Power MOSFET Family to bring energy-saving advantages to solar, telecom and consumer applications and also developed new software tools for STM32 microcontrollers to simplify design and speed up development of energy-saving intelligent motor drives for applications such as white goods, air conditioners, industrial automation, power tools and fitness equipment.

With these new products, sustainability becomes the very objective of our offering to the market. This excites many people in ST and I am also very proud of it.

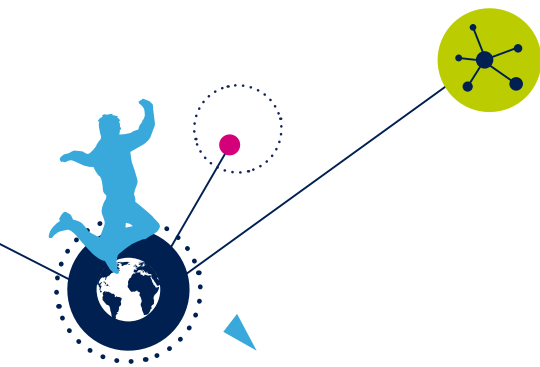
It's a true proof point of life.augmented, our new brand promise.

## Do you think sustainability can be seen as a competitive advantage for ST?

Yes, certainly. I am convinced that for all stakeholder groups: employees (and potential ones), customers, investors, analysts, suppliers, academic community, etc., it is clear that the long-standing commitment of ST to all aspects of sustainability are true and deep-rooted values of the company. We were one of the first multinational companies embracing sustainability and thus are the pioneers in this field.

## And what are the next challenges to maintain this competitive advantage?

As with all aspects of competitiveness, it is a matter of comparative performance versus other companies. By now, most international companies have launched and deployed comprehensive sustainability programs. I believe this competition is healthy. It keeps everybody on their toes and pulls us all up which can only be good for society and our planet at large!



Interview with  
**Alain Denielle,**  
**Corporate**  
**Sustainable**  
**Development Group**  
**Vice President**

### 2011 has been an eventful year in terms of sustainability, what were your highlights?

The main event is certainly the launch of our refreshed Sustainability strategy that has involved more than 30 experts throughout the company to define SMART<sup>(1)</sup> objectives and appropriate levels of deployment. We have taken this opportunity to reinforce the governance of our sustainability management with the description of clear roles and responsibilities for key strategic players to confirm we reach our targets. We put particular emphasis on the role of our Sustainable Excellence Coordinators to confirm that their management is fully supportive of their mission and will dedicate enough time and resources to their sustainability activities. We now have a robust Sustainable Excellence community with coordinators at local, regional and organizational levels. We will also maintain our expert network that provides guidance and advice, follows results, helps overcome challenges, reviews objectives etc.

We also made good progress in our commitment to the Electronic Industry Citizenship Coalition program. As part of our strategy, we have proactively defined a comprehensive internal and third party audit road map for our Asian and Back-end manufacturing sites. After one year, we have already seen concrete positive outcomes from this program, as detailed in the Labor Rights and Social Issues pages of this report. Our objective is also to capitalize on our strong expertise in management systems for quality, environment, health and safety domains and to strengthen our social and ethics management. We are doing the same across other domains like chemicals,

greenhouse gases emissions and energy management. I am pleased that ST is moving ahead on this with ongoing deployment of several standards; ISO 50001, ISO 14064 and QC 080000..

### Where do you think ST still has potential for improvement?

Actually in 2011 ST has not been included in the Dow Jones Sustainability Index (DJSI), for the first time after 12 continuous years of inclusion. This news has really been a warning to ST. We did not expect that we would fall out of the DJSI, one of the main Socially Responsible Investment indices. However, I do believe that it is important to accept such challenges from the external world to question ourselves and react accordingly. So we turned this event into a great opportunity to strongly reaffirm our commitment to sustainability. A multi-disciplinary task force has been formed to address our main areas for improvement: risk & crisis management, innovation management, product stewardship, water related risks, climate strategy, human capital development and corporate citizenship & philanthropy.

With the support of ST's top management, we have launched several projects and initiatives that will be deployed in 2012 to make progress on these identified domains. On Product Stewardship we will keep on deploying our eco-design road map and new Responsible Product program not only to further progress on environmental aspects but also to build a major competitive advantage for ST.

I am also convinced that we need to maintain our efforts and a key commitment in other domains where we have positive results. A good example here is safety; despite our strong and long-term expertise, we need to keep on investing, conducting audits and engaging ST managers to maintain our excellence because we cannot make any compromises on this subject.

### And how are you ensuring that these commitments match our stakeholders' expectations?

Indeed, I feel it is vital to be able to collect our stakeholders' feedback, and engage with them. It was also identified as one path for improvement in ST and we have initiated several actions to address this. Our 2011 Sustainability report in its new format is one example with several contributions from stakeholders who provide their views on our engagement and results.

I do want that we, Corporate Sustainable Development group, and other organizations in ST, become more in touch with our stakeholders through participation in multi-stakeholder events because it is essential to sound out sustainability trends and be able to project ST into the future. In 2012, we will also launch formal stakeholder engagement processes at corporate and local levels, and use this feedback to adjust our sustainability objectives and programs.

On top of this, we are of course continually in contact with our main stakeholders. For example, we are increasingly partnering with our customers and suppliers on subjects not directly related to mainstream business such as conflict minerals, product life-cycle assessment, labor rights etc.

And most importantly, we have taken the opportunity of our refreshed sustainability strategy deployment to evaluate our employees' perception of ST's engagement towards sustainability, using the ISO 26000 guidelines<sup>(2)</sup>. The results of this analysis will help us better respond to the expectations of this primary stakeholder group.

### And what about your expectations for ST in terms of sustainability?

ST has a real and long-term commitment to sustainability. It is really part of our DNA and we owe this strong engagement to several formal networks of experts that ensure sites' involvement in this sustainability journey but most importantly to all our employees. So my expectation is that ST continues to be, and to be recognized as, a worldwide leader in sustainability.

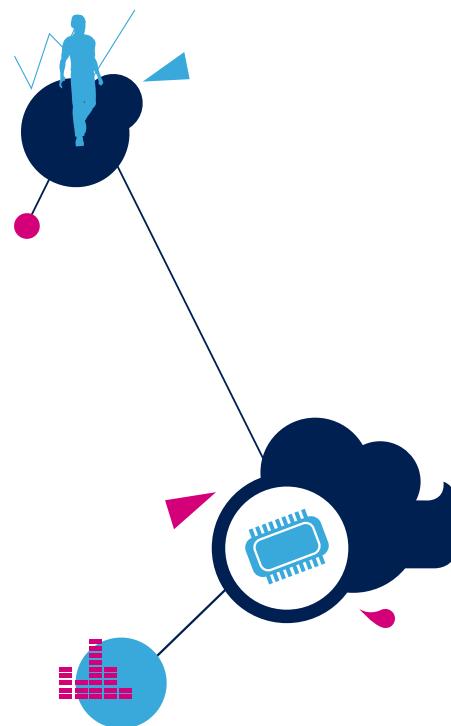
1 / Specific , Measurable, Achievable, Realistic, Timely  
2 / For more information, see page 68





# Governance

STMicroelectronics is registered in the Netherlands and subject to the Dutch Corporate Governance Code. We are listed on the New York Stock Exchange (NYSE), Euronext Paris and the Borsa Italiana in Milan. Our policies and practices are designed not only to meet all our statutory requirements but also to incorporate international best practices. The company was formed in 1987 as a result of a decision by Thomson-CSF (now Thales) and STET (now Telecom Italia S.p.a) to combine their semiconductor businesses and enter into a shareholder agreement<sup>(1)</sup>.



6



## Our Corporate Governance Structure

In accordance with Dutch law, our management is entrusted to the Managing Board under the supervision of our Supervisory Board. Carlo Bozotti is currently the sole member of our Managing Board with the function of President and Chief Executive Officer. In 2011, the Supervisory Board was chaired by an independent, non-executive chairperson, Didier Lombard. Prior to May 3, 2011, the Chairman of the Supervisory Board was Antonino Turicchi, who had previously served on the ST Supervisory Board as a member. Members of our Managing Board and Supervisory Board are appointed and dismissed by our shareholders. [1.4.1 | 4.2 |](#)

On March 30, 2011, the French Fonds Stratégique d'Investissement (FSI) acquired Areva's indirect interest in STMicroelectronics N.V., representing 10.9% of STMicroelectronics N.V.'s share capital, and signed a deed of adherence to the shareholders' agreement relating to ST Holding N.V.

Our corporate governance policies and practices are outlined in our Corporate Governance Charter. This is available on our website, along with our Supervisory Board Charter, in the Corporate Governance section at <http://investors.st.com>. Full details about the composition of the Committees, individual remuneration and meeting frequency of our Supervisory Board are provided in the report of our Supervisory Board on pages 85 and 99 of our Annual Report, which can be downloaded at <http://investors.st.com>.

Sustainability is managed within ST as a fully integrated element of our governance and operations. As such, it is not a separate agenda item for either the Supervisory Board or Managing Board. Instead, specific aspects of sustainability are addressed where required. No specific social, environmental or ethical topics were formally raised by ST's shareholders during 2011. [1.4.4 |](#)

## Supervisory Board

Our Supervisory Board advises our Managing Board and is responsible for supervising the policies pursued by our Managing Board and the general course of our affairs and business. Our Supervisory Board has adopted criteria to assess the independence of its members in accordance with corporate governance listing standards of the New York Stock Exchange and is responsible for managing potential or reported conflicts of interest between the company and its Board members. [1.4.6 |](#)

Our Supervisory Board is carefully selected based upon the combined experience and expertise of its members. The number and identity of our Supervisory Board members are approved at ST's General Shareholders' Meeting, based on a majority vote. Our Supervisory Board is assisted by a Secretariat whose responsibilities include ensuring the continuing education and training of Supervisory Board members.

[1.4.4 | 4.10 |](#)

<sup>1/</sup> Details of the agreement and major shareholders can be found on page 106 of ST's Annual Report (Form-20F).



The Supervisory Board has determined the following independence criteria for its members, based on the evaluations by an ad-hoc committee: Supervisory Board members must not have any material relationship with STMicroelectronics N.V., or any of our consolidated subsidiaries, or our management. A «material relationship» can include commercial, industrial, banking, consulting, legal, accounting, charitable or familial relationships, among others, but does not include a relationship with direct or indirect shareholders.

Certain of our Supervisory Board members, as disclosed in their biographies in our various communication documents, have

existing relationships or past relationships with FSI, CEA and the Italian Ministry of the Economy and Finance, who are currently parties to the ST Holding Shareholders' Agreement as well as with ST Holding or ST Holding II, our major shareholder or with other parties that are among our suppliers, customers or technology partners.

The Supervisory Board met 14 times in 2011. It is advised by four Non-Executive Committees, comprising members of our Supervisory Board and attended, when deemed necessary by the Committees, by members of the management team and/or by our auditors, PWC, and outside legal counsel.

## Zoom on Internal Audit

As of December 2010, the Head of Internal Audit has reported directly to the (non-executive) Chairman of the Audit Committee. The Head of Internal Audit attends all Audit Committee meetings and has direct interactions with the Chairman of the Audit Committee throughout the year. In addition, the Head of Internal Audit attends quarterly meetings of the executive management.

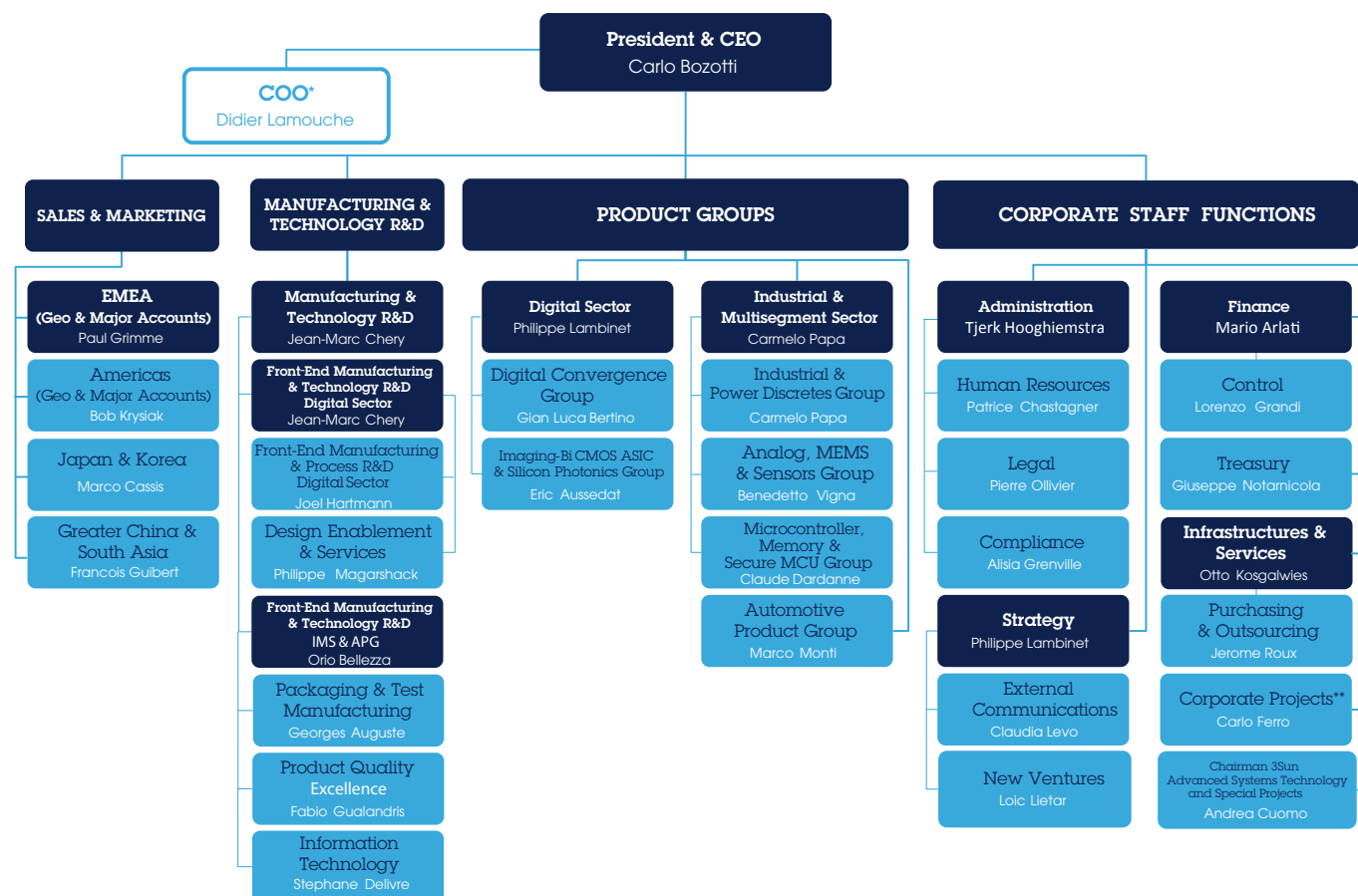
The current functional reporting line and the practices now in place ensure the Head of Internal Audit the appropriate level of organizational independence and unrestricted access to executive management and the Board.

This reporting approach is in line with standards defined by leading international organizations e.g. The Institute of Internal Auditors.



## Executive Officers

Our executive officers support our Managing Board in its management of the company, without prejudice to our Managing Board's ultimate responsibility. As of March 2012, our organizational chart is as follows:



Corporate Strategic Committee

\* Operational role in ST suspended during assignment as CEO of ST-Ericsson

\*\* COO of ST-Ericsson



**As a company committed to good governance, we hold regular corporate meetings. These meetings, which involve the participation of several of our executive officers include:**

- **Corporate Operations Review**, which meets once per month to review monthly results and short-term forecasts and involves the following executive officers/groups: CEO; CFO; CAO; CTO; Infrastructures and Services; Product Quality Excellence; Manufacturing (Front-end and Back-end); Regions; Product Groups. As of March 1, 2012, Didier Lamouche (Chief Operating Officer) and Carlo Ferro (Executive Vice President) do not participate according to their current assignments at ST-Ericsson.
- **Corporate Staff Meetings** are held every quarter to review the current business to plan and forecast for the next quarter and beyond. The Corporate Staff Meeting includes all Executive Officers.

- **Corporate Strategic Committee** which meets six times per year, sets corporate policy, coordinates strategies of our various functions and drives major cross-functional programs. The Corporate Strategic Committee meetings are attended by the CEO, and the following executive officers: Mario Arlati, Orio Bellezza, Jean Marc Chery, Paul Grimme, Tjerk Hooghiemstra, Otto Kosgalwies, Philippe Lambinet and Carmelo Papa.

### New Nomination at Board Level

The nomination of Martine Verluyten to the company's Supervisory Board, means that, for the first time in the history of the company, the Board has a female member. Martine Verluyten's accredited financial background will be of great benefit as she is poised to replace the Chairman of the Audit Committee, Tom de Waard. The company looks forward to having her on board, which was confirmed at the Annual General Meeting of shareholders on May 30, 2012, in Amsterdam.

### ST-Ericsson

The success of the ST-Ericsson joint venture is an important element in order for ST to achieve its leadership in the multimedia convergence market. To strengthen our support of ST-Ericsson, from December 1, 2011, Didier Lamouche, has been nominated President and Chief Executive Officer of ST-Ericsson. Carlo Ferro, Chief Financial Officer of ST, has been temporarily assigned to ST-Ericsson as its Chief Operating Officer from February 20, 2012, working closely with Didier Lamouche and the ST-Ericsson team to achieve excellence in execution, leadership and sustainable profitability.



# Financial and Extra-financial Performance

## ST's financial performance

In 2011, the semiconductor industry was characterized by a solid first half, while there was a significant slowdown in the later part of the year; as a result the total market grew only marginally in 2011 after the rebound registered in 2010.

This same year, our wholly owned businesses delivered a solid performance throughout the year. They delivered revenues of US\$ 8.2bn and an operating margin of above 11.4%.

In 2010, the revenues for our wholly-owned businesses were US\$ 8.1bn with an operating margin of slightly above 13%.

Moreover, we expected to see strong growth during 2011 in two of our key strategic product areas and we are particularly proud of our achievements there. Our MEMS sales nearly doubled to over US\$ 600m. Our automotive business reported record revenues, with sales up 18% during 2011, on top of sales growth of over 40% during 2010. In both areas, revenue growth was also accompanied by a significant expansion of the operating profitability of these product groups.

We also continued to maintain a strong financial position and sharp focus on capital management. Exiting the year,

our financial resources totaled US\$ 2.3bn and our net financial position was about US\$ 1.17bn, as adjusted, excluding the US\$ 400m loan provided by our partner to fund ST-Ericsson SA. As anticipated, we saw an improvement in the fourth quarter in inventory levels and inventory turns and capital expenditures returned to much lower levels as planned.

## 2011 results

### ST key figures / EC1

	2007	2008	2009	2010	2011
Net revenues / ST Sales (US\$m)	10,001	9,842	8,510	10,346	<b>9,735</b>
Gross profit (US\$m)	3,536	3,560	2,626	4,015	<b>3,574</b>
Gross profit as a percentage of sales (%)	35.40	36.20	30.90	38.80	<b>36.70</b>
Net earnings (US\$m)	(477)	(786)	(1,131)	830	<b>650</b>
Earnings per share (US\$m)	(0.53)	(0.88)	(1.29)	0.92	<b>0.72</b>
Market share versus TAM (Total Available Market)	3.91	3.96	3.76	3.47	<b>3.25</b>

### Operating income and cash flow / EC1

US\$m

	2007	2008	2009	2010	2011
Operating income	(545)	(198)	(1,023)	476	46
Net operating cash flow	840	648*	227**	972**	<b>(278)**</b>

\* Excluding payments for mergers & acquisitions (Genesis and NXP) which totalled US\$1,694m

\*\* Excluding net proceeds received in business combination which totalled US\$1,137m (Ericsson Mobile Platform) in 2009, net payment for business acquisitions which totalled US\$11m in 2010 and US\$10m in 2011.

### Dividends paid / EC1

US\$m

	2007	2008	2009	2010	2011
Dividends	269	240	158	212	<b>327</b>

### All taxes of the year / EC1

US\$m

	2007	2008	2009	2010	2011
Tax expense for the year	64	49	(34)	183	<b>205</b>

### ST sales by market segment / EC1 / 2.7

%

	2007	2008	2009	2010	2011
Automotive	14.4	13.8	12.2	14.0	<b>17.2</b>
Computer	12.4	12.0	12.9	13.0	<b>13.7</b>
Consumer	14.0	13.6	11.5	12.2	<b>10.2</b>
Distribution	18.2	18.3	15.8	20.9	<b>22.7</b>
Industrial & Others	7.5	9.0	7.7	8.1	<b>9.3</b>
Telecom	33.5	33.3	39.9	31.8	<b>26.9</b>

### Net revenues by location of order shipment\* / EC1 / 2.7

%

	2007	2008	2009	2010	2011
EMEA	33.4	30.7	28.4	25.0	<b>23.9</b>
Americas	13.4	13.6	11.9	12.9	<b>13.8</b>
Greater China	41.5	39.9	40.6	44.1	<b>44.8</b>
Japan	11.7	15.8	19.1	18.0	<b>17.5</b>

(\*) Net revenues by location of order shipment are classified by location of customer invoiced. 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 order shipment from one location to another, as requested by our customers.

## ST's extra-financial performance

ST pursues a strategy of open disclosure of its sustainability management, risks and performance. Our annual Sustainability Report is our major means of reporting the company's sustainability achievements and challenges to our stakeholders, including the investment and Socially Responsible Investment (SRI) communities. We also respond directly to requests from rating agencies and extra-financial analysts.

In 2011, ST was included in nine of the major sustainability indexes ([See table](#)) but fell out of the Dow Jones

Sustainability Indices, World and STOXX (Europe). In response to this, we have closely analyzed our performance and have identified opportunities to further strengthen a number of key sustainability areas. Many of these have already been identified in our new Sustainability strategy where we have defined some precise objectives. The format of this annual Sustainability Report is aligned to this new strategy.

ST's Sustainability Mission is "to be recognized as world leader in innovation for sustainable development through excellence in our people, our products, the environment and the community."

In order to remain a world leader we need to proactively focus on our most material issues, listen and respond to our stakeholders' expectations and so it is important that we respond to the evolving requirements of the external world.

We have maintained a strong position in the remaining sustainability indices and were included in the Global 100 Most Sustainable Companies in the World (ranked 83/100 in 2011). ST was also classified as B Prime by the OEKOM rating agency which places us amongst the world's best companies in the sector.

## 2011 results

### ST inclusion in the main sustainability indices

ASPI (EU)	DJSI (USA) DJSI (Germany)		Ethibel Sustainability Index (Belgium)	ECPI (Italy)			FTSE ECPI Index (Italy)		FTSE4GOOD (United-Kingdom)		TOTAL	
	DJSI World	DJSI STOXX	DJSI EURO STOXX	ESI Excellence Europe	Ethical Index Emu	Ethical Index Euro	Ethical Index Global	FTSE ECPI Italia SRI Benchmark Index	FTSE ECPI Italia SRI Leaders Index	FTSE- 4GOOD Europe Index	FTSE- 4GOOD Global Index	
X				X	X	X	X	X	X	X	X	9

More performance indicators are available on pages 64 to 66





# Our People



# Recruitment, Learning & Development

Many specific skill-sets are needed to support ST's strategic objectives and technical requirements. ST carefully anticipates skill requirements and plans the matching of skills with the needs of the business. We provide our employees with opportunities to experience life-long learning through professional development and career evolution.



## Why are recruitment, learning and development key for ST?

High technology companies operate in very competitive environments at the leading-edge of innovation. The ability to attract, develop and retain talents is a key success factor and so one objective of ST People Development and Learning Organizations is to ensure the company's skills profiles are anticipated and fulfilled. This is achieved through sophisticated recruitment, integration and personal development. Another objective is to support the company in increasing its profitability and productivity through programs and initiatives that enhance people performance.

## Meeting both employee and company needs

ST is constantly strengthening aspects of its People management in order to achieve its long-term vision; attracting and integrating new talent into the business, developing and engaging employees, building competitive advantage and attaining high performance:

- ST has recently launched a new brand that, under "life.augmented" reinforces its positioning as an innovative company that is committed and contributes to enhanced social and environmental capital.
- To further improve employee performance, annual appraisals assess individual objectives, professional competencies and behaviors and also how the employee fulfills the accountabilities of the job. They provide the opportunity for employees and managers to discuss career direction and develop corresponding personal development plans.
- In complement, the people review process is deployed to exempts population in order to assess employee potential, identify talent pools and key resources and then define their professional development plans (new skills, potential career direction, internal mobility, succession) in respect to the future organization needs. This is a key component of our strategic staffing program and has a strong influence on the company's mid- and long-term success.

- To facilitate personal development, ST has developed programs that are dedicated to specific populations and needs. These include ST leadership model for managers (See page 15), development boosters for high performers in phase of career growth, coaching, mentoring, 360° assessments and tutoring for experts.

Expertise management has been a key focus in 2011. We have built a strong technical career path and created local, regional and corporate Technical Advisory Committees to identify, recognize and assist experts who have the key skills and experience necessary to meet ST's business needs.

ST's Learning Organization supports these programs by addressing the needs of:

- Organizations and sites, to achieve annual objectives and deploy their strategy;
- Managers and employees, to improve their competences and performance, and to develop their long-term employability.

ST's approach to learning has been reinforced to more automatically assess these needs and then turn them into appropriate learning offer and deployment. Learning is a key tool to enhance individual and organizational performance, so a key corporate objective is to ensure that every year, more than 50% of employees have developed and engaged in a development plan. It is also important that we measure the success and impact of these people development and learning programs on quality, employees and company performance.

### ST objectives

- Increase the percentage of open positions for exempts<sup>(1)</sup> filled by internal candidates by 5% per year (compared with a 2010 baseline), with a long term-target of 60%
- Ensure that more than 50% of employees have a development plan, linked to their annual performance
- Increase employee retention - percentage of employees with more than two years service
- Further align ST's learning with its business strategy to contribute to company transformation, employee productivity and being an 'employer of choice'

## Focus on ST Japan and Korea's deployment of Sales and Marketing Learning Program

From 2009, ST deployed FutureReady, a comprehensive learning program, to enhance the way we sell and market our products. ST Japan and Korea (J&K) Region has been exemplary in the deployment of this program, considering learning as a sales and marketing process with:

- Managers and employees as **Customers** who define their needs in terms of skills
- Training courses as **Products** that respond to the above needs
- Corporate Learning organization as **Marketers** who designs the products
- Human Resources (HR) as **Sales** who compile the customers' needs for the marketers and promote the products to the customers.



**Adriano Basile PhD**  
Application Engineer, specialist in Human System Interaction, Robotics and Healthcare, Catania (Italy)

"I have been a member of the Technical Staff community for three years. This has represented a great opportunity for me, offering the possibility to put my experience and know-how into practice within the company. To be part of highly skilled community is helping me continue to improve my know-how; for example I represented the company at Micro Machine Summit in Taiwan and, following Total Quality and Corporate Social Responsibility I'm carrying out an educational program on Robotics in Italian high schools."

ST J&K began with an address by the region's Executive Vice President, Marco Cassis, who personally explained the importance of the program to employees and asked them to participate. Subsequent to this launch, local HR played a key role, interacting with managers to assess their needs and to define a FutureReady three-year roadmap.

Since the launch, HR have remained in contact with the managers and employees involved in the program and also with Corporate Learning in order to collect feedback, fine tune the program and review the implementation roadmap.

ST J&K Region is therefore benefiting from a learning plan that is always consistent with the needs of the company, its managers and its employees. Corporate Learning ensures that company expectations and needs are taken into account when building and updating these learning programs.

Employees' feedback on the effectiveness of the FutureReady course is obtained after each learning session. Then the overall impact of the course is later assessed through managers' feedback. Employees' development needs are further defined during Annual Employee Performance Appraisals.

*See page 12.*

This feedback provides the opportunity to check the roadmap in terms of the employee population covered and the type of deployment modes used.

This continuous improvement virtuous cycle is the best way to make learning a key performance tool and is in line with ST's Corporate Learning approach.

*1/ Employees who hold positions normally requiring graduate or post-graduate education and who are not eligible for overtime compensation*

**Chao XIANG**  
Engineer, Molding Process and Engineering, Shenzhen (China)



"With eight years of molding maintenance experience, I was nominated to be a tutor and attended the Technical Tutoring training to acquire a new set of skills to transfer my expertise to others. I'm convinced that the Tutoring Program will help us to transfer expertise more quickly, systematically and efficiently. The advantage for ST is to have a larger pool of experts to rely on. As for me, I was glad to be entrusted with the responsibility to share my expertise."

### 2011 results

#### Internal mobility %

	2006	2007	2008	2009	2010	2011
Jobs for exempt* filled internally	61	78	84	48	41	41.5

ST wants to set up a competitive and attractive internal market to provide employees with internal perspective, thus engaging and retaining them; and manager with broader opportunities for recruiting people with ST adequate experience and competences. In order to reach our objective, ST Internal Mobility policy and related practices will be reviewed in 2012.

#### Employees having a formal individual development plan / LA12 %

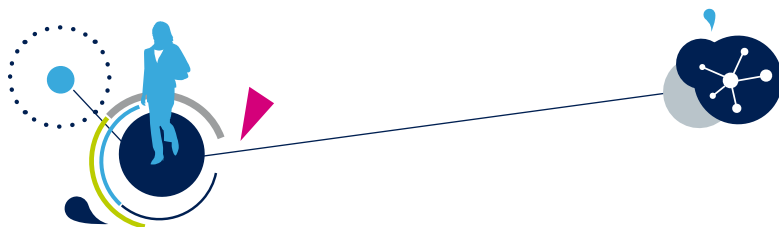
	2009	2010	2011
For exempts*	51.5	69.4	44.5
For others			19.0

In 2011, we have upgraded our ePA process, including our way to collect information on development plans and their associated standards. With its new Leadership Model, ST is raising managers' awareness on the importance of people development through specific communication and training.

*\* It refers to employees who hold positions normally requiring graduate or post-graduate education and who are not eligible for overtime compensation.*

 More performance indicators are available on pages 64 to 66

# Employee Engagement



ST is committed to employee engagement to help them understand ST's strategy and future direction as a business, how they can contribute to the company's success, and to motivate them to make this contribution.



## Why is employee engagement key for ST?

The semiconductor industry faces several employment challenges<sup>(1)</sup>:

- it requires highly qualified and experienced employees;
- high pace of innovation;
- it is a cyclical business;
- there is a significant employee turnover in some Asian countries.

Engaged employees can help overcome these challenges. According to research, *"employees who are committed perform 20% better and are 87% less likely to leave the organization"*<sup>(2)</sup>.

ST's aim is to actively engage with all its employees to help them develop their potential. Since its inception, ST has been monitoring employees' morale through regular opinion and engagement surveys. The feedback provides a unique insight that enables constant improvement of the working environment and management effectiveness.

### ST objectives

- Annually increase the percentage of employees who demonstrate the highest level of discretionary effort
- Company-wide action planning in response to engagement surveys to address key issues
- Increase ST employee engagement relative to the benchmark

## Continued commitment to increasing employee engagement

In a recent communication, ST Executive Vice President and Chief Administrative Officer, Tjerk Hooghiemstra, remarked that *"Employee engagement is everybody's business"*. For employees it is about helping and supporting your colleagues, being a good team player and being proud of their work. For managers, engagement means being constantly supportive to their team and encouraging professional growth.

For the past four years, ST has been using an employee engagement model that evaluates four aspects:

- **Discretionary Effort:** employees' willingness to exceed expectations or their objectives;
- **Intent to Stay:** employees' commitment to further their career with ST;
- **Emotional Commitment:** the extent to which employees value, enjoy and believe in their jobs, colleagues, managers, and organizations;
- **Rational Commitment:** the extent to which employees feel that their managers, teams, departments or the company itself provide financial, developmental or professional rewards.

In 2011, 86% of our employees participated in the survey; ST's overall engagement scores decreased by 1%, but still outperformed the benchmark, an aggregate of companies with similar

industry profiles and geographies, which declined by 5% during the same period.

In a very difficult economic climate, two key areas where ST improved are manager performance and the link between employees' daily jobs and ST's strategy. Our managers were better evaluated for their leadership skills and their ability to manage their teams and people performance; they were able to describe how individual employee objectives are tied to the company priorities and they were supported in their action by increasingly dynamic and relevant internal communications.

As a consequence, the Discretionary Effort score improved by 2% compared to last year. The number of employees willing to deliver the highest levels of discretionary effort has progressively increased from 3.8% in 2008, to 6.6% in 2010 and to 10.8% in 2011.

In 2011, all organizations prepared and communicated action plans. Human Resources professionals at every level of the organization facilitated the process, providing managers with the necessary support to communicate results and implement initiatives. In 2012, the company will maintain its progress in this direction, incorporating two new areas: career development and customer focus.

<sup>1/</sup> A change of pace for the semiconductor industry, PwC (November 2009)

<sup>2/</sup> Driving Performance and Retention through Employee Engagement, Corporate Leadership Council (2004)



## ST's leadership model unites leaders under a common leadership 'banner'

### A new program launched by People Development & Learning in 2011

To support managers in their role, in 2011 ST developed a leadership model that describes the qualities needed at ST to be recognized as a leader with the ability to provide solutions to increasingly complex challenges, to develop a sense of belonging and to stimulate engagement amongst their team members.

This model is also beneficial for the company because it unites leaders across ST around a common managerial language and culture, creating the basis for better organizational performance.

ST's leadership model is founded on 15 behavioral competencies, arranged into five dimensions, each defined through three drivers. This model has become part of our performance appraisal system to support leadership development in relation with a complete set of tools such as a dedicated leadership course roadmap as well as a specific 360° assessment.



#### Articulate and communicate a compelling vision

- Develop a vision that fits with the company direction;
- Enthuse people by making them feel part of the vision;
- Plan for both the long- as well as the short-term.



#### Align actions to ST's strategy and deliver results

- Act as an ambassador for ST's values and goals;
- Implement solid processes for deployment and execution;
- Demonstrate personal responsibility and commitment to deliver results.



#### Foster a climate of entrepreneurship

- Foster thoughtful risk-taking;
- Empower people and ensure accountability;
- Promote excellence, agility and a can-do spirit to win.



#### Drive innovation with a forward-sensing mindset

- Anticipate markets and technological opportunities;
- Encourage a positive, open-minded and challenging attitude;
- Focus to gain speed.



#### Care for people growth and engagement

- Build engaged and diverse teams;
- Assess people accurately and take action accordingly;
- Advance professional depth.

## 2011 results

### Employees survey - engagement rate

	2008	2009	2010	2011
Overall participation rate (%)	80	N/A	86	<b>86</b>
Rational Commitment Index	0.16	N/A	0.20	<b>0.20</b>
Emotional Commitment Index	0.35	N/A	0.40	<b>0.39</b>
Discretionary Effort Index	0.43	N/A	0.44	<b>0.45</b>
Intent to Stay Index	0.34	N/A	0.32	<b>0.30</b>



**Mario Ronchi**  
Manufacturing Technician, Agrate (Italy)

"I knew about the latest survey results in the quarterly Management Communication Meeting and in a talk with my boss. One action launched after the previous survey that comes to my mind is the "Programma 2%", a campaign that encourages workers to make suggestions to reduce waste and increase quality. This campaign is a way to hear the opinions of the workers who are the ones that deal on-site with production problems. I think another action that contributes to employee engagement, is the recognition of employees' suggestions during our Management Communication Meetings, in the presence of the entire site organization."



**Calvin Goh Chin Boon**  
Section Manager, Production Control and Industrial Engineering, Ang Mo Kio (Singapore)

"The overall results of the 2011 Engagement Survey were shared during the Production Control Quarterly Forum. My manager and the HR manager then organized a sharing session, dedicated to the presentation of my team results. This session was also the opportunity for us to ask questions and get clarification. In response to these last two years' surveys, I feel that there has been more effort to communicate with the people at our site. After the 2010 survey, within my department, one-on-one sessions were initiated by my manager to provide dedicated time to address important work-related issues."

# Global Diversity & Equal Opportunities

ST is committed to ensuring equal opportunities and appropriate representation at all levels of the organization, including dimensions such as gender, age, race, disability and nationality.

## Why is ST committed to global diversity and equal opportunity?

Companies are increasingly witnessing the added-value of diversity in many ways:

- *"People with disabilities are productive, reliable employees who bring benefits to the workplace"*<sup>(1)</sup>
- *"Senior employees have key technical competences and offer long-term experience to young employees and to the company at large."*<sup>(2)</sup>

*"Greater diversity in organizations, including more women, leads to higher performing teams and better business results"* stated Carlo Bozotti, ST's Chief Executive Officer, for the European Round Table's Advancement of women in business initiative (as Chairman of the ERT Societal Changes Working Group).

At ST, we are convinced that diversity is a competitive advantage allowing us to provide innovative responses to global issues through multi-angled approach (cultural, gender, generation, etc.). Across our sites we have developed many programs to benefit more from our large cultural diversity.

With our new sustainability strategy, we made commitments in three areas: gender, seniority and disability. Furthermore, ST Principles for Sustainable Excellence, our top-level reference for guiding our behavior and decision-making, state our commitment to a culture free of discrimination; ensuring respect for human rights and fair treatment in recruitment, remuneration, career development and promotion.

## A progressive approach to diversity

Because countries' legislation and cultural norms can vary, ST mainly provides general guidelines that enable ST's sites to respond according to their local context. Our manufacturing sites in France and Italy have demonstrated a proactive and solid approach over many years, utilizing dedicated committees and/or departments to address these issues.

### Gender equality

Very recently, ST's CEO, Carlo Bozotti, made a public commitment to increase the percentage of women in leadership positions (JG 17 and above) to 15% by 2015. In 2012, several corporate HR processes will be reviewed to boost the development of high potential women. The initiative will be cascaded to sites for local implementation.

To maintain this initiative in the longer-term, many ST sites already partner with schools to promote technical jobs to young women, encouraging more girls to enroll in engineering schools and universities. ST's objective is now to ensure that, at all locations, the female hiring ratio is equivalent to the graduate gender ratio in partner schools and universities.

Many sites already exceed legal requirements regarding maternity and paternity programs. In the Czech Republic for instance, our ST site offers fathers the same rights as mothers, i.e. eight weeks of parental leave on 80% of salary, along with part-time and home office working where possible. Italian sites have also developed many initiatives in this area, such as a Maternity at Work manual, adoption guide, tutoring for mothers who want to remain informed during their maternity leave, coaching after return from maternity leave etc.

### Seniority

It is important for ST to ensure that key competencies and expertise are not lost when people leave the company. ST considers that it is essential to maintain senior people's employability, taking into account their expectations in terms of career evolution, competency development and possible adjustment in their role. It is ST's aim for all sites to define a seniority plan, adapted to their local contexts that responds to these commitments.

### Disability

We have observed various existing situations at our ST sites on this subject, mainly because of differences in legislation. Our objective is to share best practices, ensure sites offer fair employment to disabled people and progressively increase the percentage of disabled people employed by ST. Our French and Italian sites have the most advanced programs in this area which include partnerships with recruitment agencies to hire disabled people, programs to train disabled people in technical jobs, quantitative employment objectives etc.

## ST objectives

- Ensure that the hiring ratio of women to men is equivalent to the gender ratio of graduated students in partner schools and universities
- Increase the proportion of women in leadership positions worldwide from 9.8% to 15% by 2015
- Ensure that all sites have a seniority plan to maintain employability in the second part of people's careers
- Ensure that all ST sites have disability plans to keep increasing the percentage of disabled employees in ST

## Focus on ST France's progress towards gender equality

In 2006, ST France signed its first collective agreement on gender equality, making commitments in terms of recruitment, remuneration, maternity and adoption leave, training and development<sup>(3)</sup>.

In 2011, two task forces worked on remuneration and career inequality to analyze ST France's situation and address any inequalities. The task force on remuneration analyzed the salary at each job grade, correlating it with the annual performance appraisal score, seniority in ST and seniority in the job grade. A global average has been calculated for each of these variables to define a reference profile. Each case was then compared against this profile. At the end of 2011, 120 cases have been corrected and specific actions established to avoid any further unfair discrepancies. These include new rules to define objectives for part-time employees and to set a fair pay rise for women on maternity leave.

The second task force was launched at the end of 2011 to identify potential career inequities and to analyze their underlying causes. At the end of the year, the conclusions showed that on a job grade scale from 9 to 18 and above, both men's and women's average job grade is 14 but there are many more women at 14 and below. Several potential causes were researched such as the choice of career path (expert, project management, people management), the proportion of women working part-time, the influence of maternity, and the female labor market over the past 20 years.

Based on this analysis, three main causes were identified:

- **structural causes:** considering seniority, the current percentage of women in job grades 15 to 18 is equivalent to the female recruitment rates from 10 to 20 years ago;
- **societal causes:** very few men are working part-time compared to women and very few men take parental leave, even if French legislation allows them to;

- **choice of career path:** during their annual performance appraisal, women mostly choose expert or project management career paths, while ST has more needs of senior positions from managerial career paths.

However several positive aspects have been highlighted: in France, the percentage of women in executive positions has doubled in the past 20 years and more women are moving from non-executive to executive positions through internal mobility. This task force will be maintained in 2012 to propose appropriate action plans.

1/ *Disability in the Workplace: Company Practices*, ILO (2010)

2/ *Senior Employment : companies are becoming aware of the advantages?*, Novethic (2008)

3/ For more information, see ST Sustainability report 2010, page 24

### 2011 results

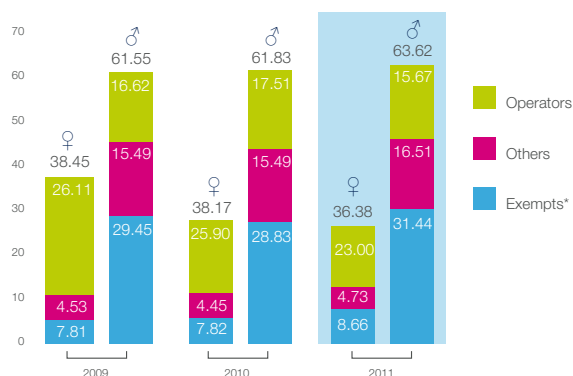
Women in management / LA13

%

	2005	2006	2007	2008	2009	2010	2011
Women in senior management (JG17 and above)	6.60	7.04	7.89	8.02	8.90	9.91	<b>9.86</b>
Women in executive management (JG19 and above)	4.10	5.65	5.92	6.78	7.60	9.71	<b>10.03</b>
Women in middle management (JG 15 and 16)	-	-	-	-	-	-	<b>22.87</b>

Gender split by category in 2011 / LA13

%



(\*) It refers to employees who hold positions normally requiring graduate or post-graduate education and who are not eligible for overtime compensation.

Disabled employees / LA13

	2005	2006	2007	2008	2009	2010	2011
Disabled people employed as % of total workforce	0.48	0.62	0.61	0.89	0.95	1.01	<b>1.05</b>
Budget spent on disability programs (US\$K)	-	-	-	-	3,489	2,321	<b>3,567</b>

More performance indicators are available on pages 64 to 66

Dr. Romina Bartolo,  
Executive Director  
of Maltese National  
Commission for the  
Promotion of Equality  
(NCPE)



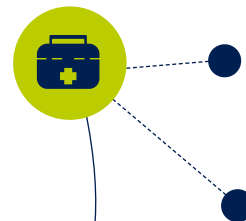
The NCPE, with the support of the European Social Fund is identifying and awarding organizations that demonstrate commitment toward gender equality.

"In several surveys around the world, organizations that promote gender equality in their practices have shown a marked competitive advantage over businesses in their sector.

This has been attributed to several factors such as accessing the most creative and skilled individuals, more innovative approach based on the different skills and experience of both genders, or reduced costs due to higher retention of employees. One should praise ST Malta for their initiatives in enhancing their workplace thanks to family friendly environment, where employees with caring responsibilities can benefit from telework, reduced and flexible hours."

For more information, read the report *Gender equality, economic growth and employment*, Asa Lofstrom (<http://ec.europa.eu/social/BlobServlet?docId=3988&langId=en>)

# Employee Safety



ST is committed to ensuring the health, safety and well-being of its employees, including achievement of work-life balance, safe working conditions, the mitigation of risk and danger and access to healthcare.

## Why is safety key for ST?

Three factors are mainly responsible for the ever-increasing focus of companies on their health and safety performance:

- stronger international guidance and national policies<sup>(1)</sup>;
- escalating direct and indirect costs of work-related accidents and illnesses;
- increased scrutiny from external stakeholders e.g. customers' requirements, investment and financial questionnaires, attention from the press etc.

ST cares about its employees and wants to ensure they are protected, so safety has been a key part of its culture for over ten years, with a firm commitment to strive for zero accidents in the workplace. Today, ST's 22 sites (including all its manufacturing sites and its largest non-manufacturing sites) are certified to OHSAS 18001 and 100% of our sites are engaged in the reporting of safety performance. ST is now adopting a more granular approach, adapting its programs to local context, focusing on specific groups, such as contractors, and empowering employees and managers through training and awareness.

### ST objectives

- Continuously reduce work-related injuries, illnesses rate (recordable case rate) and severity rate by 5% per year
- Ensure that, by 2012, ST employees have an average of four hours of training and awareness per year on environment, health and safety (EHS)

## Maintaining our focus on safety

Safety management is robust companywide, both at corporate and local levels with decreases of 69% in recordable cases and 84% in severity rates since 2002. These results have also resulted in savings estimated at US\$ 43m since 2002.

As anticipated, the 2011 results were similar to 2010 because once a certain level of performance has been reached, further reductions become increasingly difficult to sustain. After ten years of annual 10% reductions, the annual reduction target has been reduced to 5% this year.

To continue striving for zero accidents, ST is focusing on two main initiatives: continuously raising employees' and managers' awareness; and the deployment of programs adapted to sites' specific requirements.

In 2011, ST provided 167,000 hours of EHS training and awareness to employees, exceeding its 2011 corporate target with an average of 3.8 hours per employee. All ST manufacturing sites have also completed a self-assessment through a dedicated tool that helps identify opportunities for improvement in sites' EHS management systems. 15 topics, such as leadership, communications and promotion, human resources and risk monitoring were evaluated allowing sites to obtain a detailed analysis of their performance in order to help them define and develop tailored programs.

*See Crolles Sustainable Safety approach on page 19.*

In addition to this self-evaluation, the Corporate Safety organization conducts manufacturing site visits to review the implementation of company rules and procedures. In 2011, six visits were conducted and a further eight are planned for 2012. These inspections provide an opportunity for cross-fertilization through external benchmarking and the sharing of good practices between sites. Some sites are also involved in national or local initiatives where they share their successes and challenges, and benefit from other companies' experiences. Extending a strong safety culture to wider audiences is important and ST is contributing to this by involving its on-site contractors in its safety programs. Since 2007, ST has successfully tracked contractors' lost work day case rate and is pleased to observe that it is continuously reducing.

Despite its ongoing strong performance, ST will continue to strive for improvement, taking into account the feedback from external stakeholders such as the International Labour Organization<sup>(1)</sup>, that are helping companies to raise international standards. We are also mindful of the potential risks to safety arising from the current economic crisis and want to reassure all stakeholders that no compromises have been or will be made regarding ST's commitment.

1/ XIX World Congress on Safety and Health at Work – ILO introduction report : Global Trends and Challenges on Occupational Safety and Health, September 2011





## Focus on ST Crolles for a Sustainable Safety

In 2010, ST Crolles (France) initiated a new approach to safety, aiming at modifying safety-related behaviors. They realized that past safety programs brought positive results but that these were not always sustained, also that 90% of the causes of accidents were more the result of human and organizational factors than technical reasons.

To ensure permanent low levels of recordable cases, ST Crolles has vested managers of operational teams with clearly defined safety responsibilities: conducting safety visits twice a month to observe safe and unsafe behaviors; developing safety dialog with their teams; and piloting detailed analysis of accidents. 320 managers have been trained on safety fundamentals and on how to implement these new aspects of their responsibilities, with a focus on safety visits.

During these visits, the manager observes one person, who has been informed beforehand. Following this observation, they analyze together the positive and negative behaviors that have been seen and jointly develop corrective actions. This is an ideal opportunity for the manager to: discuss the findings with the team, recognize positive aspects and raise awareness of any unsafe acts or dangerous conditions that have been observed. It also provides a catalyst for adjustments in safety standards and policies.

The site safety department also organized a communication campaign to raise every employee's awareness throughout the year with a four-week focus on one safety theme e.g. behaviors and habits, housekeeping, movement



and posture, work at height, safety reflex, shared vigilance, etc. A 'conclusion' safety card is then sent to each employee's home.

In 2011, more than 1,600 safety visits were completed. At one manufacturing plant that adopted this new approach particularly thoroughly, the rate of all accidents decreased by 39%. The 2012 objective for the two ST Crolles plants is to halve the accident rate, compared to 2010.

The benefits of the Sustainable Safety approach are manifold: reinforcing a positive safety culture; demonstrating managers' safety excellence, commitment and leadership; increasing employees' motivation and team spirit; reducing the number of accidents through the analysis and correction of unsafe behaviors; and saving costs for the company (equivalent to € 360,000 in 2011). In addition to this, many managers and operators have noticed positive impacts that go beyond this, with improvements in quality, maintenance, productivity or manufacturing processes.



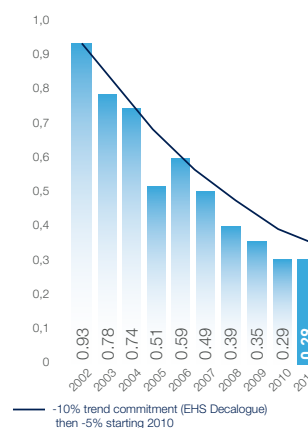
**Sherlyn Lactao**  
Warehouse Shift Leader, Global Logistics and Warehousing Organization, Calamba (Philippines)

"At our site, we have the Hazard Hunting program that is about awareness. It results in a non-audit findings workplace. It seems to be the step-by-step closure to simple issues that we encountered in our daily lives. Because of this, we now maintain and sustain safety in our workplace.

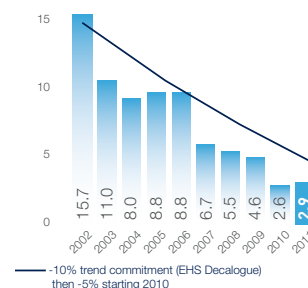
We have also applied what we've learned here in our company to our home to ensure safety of everybody. One good example is the proper segregation and labeling on even simple chemicals, this is significant to us".

### 2011 results

Recordable Cases rate / LA7 / 9.1

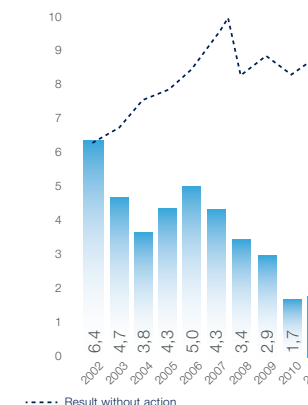


Severity rate / LA7 / 9.3

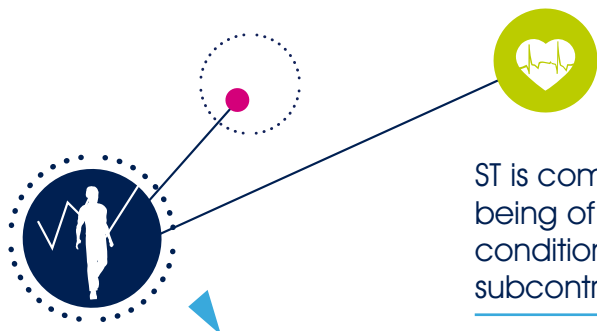


Injuries / illness cost / LA7

US\$m



# Employee Health and Well-being



ST is committed to ensure the health, safety and well-being of its employees, including work-life balance, working conditions, mitigation of risk and danger to employees and subcontractors, employee access to healthcare.

## Why is ST committed to enhance employees' health and well-being?

Attention to working conditions has been extended over recent years to encompass not only physical risks but also employees' health and well-being. New legislation, notably on smoking and stress, combined with studies conducted by governments (European Working Conditions survey for instance<sup>(1)</sup>) has also prompted increased attention from extra-financial analysts and the media.

For ST, employees' health is very important, both within and beyond the workplace. It is therefore part of our Corporate Health Policy to provide voluntary health promotion programs designed to enhance employees' well-being. ST's Health Plan sets an ambitious target to provide the same level of medical care to all ST employees, wherever they are located.

## A global framework for local actions

In terms of health and well-being, legislation and cultural aspects differ significantly from one country to another. ST's approach is to provide guidance at corporate level, enabling countries and sites to design programs that are well-adapted to their local needs and requirements.

Since 2006 ST has operated a company-wide Health Plan with a dedicated group budget to support sites' programs. The company objective is for all ST employees to receive at least one medical check-up every 18 months.

These check-ups are conducted either on-site with external professionals or externally where the site has partnered with qualified health centers. In addition to this, sites are offering a variety of other medical tests and examinations, depending on their employees' needs and preferences, such as blood analysis, mammography, chest X-rays or colorectal cancer tests. For employees working on some specific maintenance operations in manufacturing areas, bio-monitoring tests are also provided to measure potential exposure to hazardous substances.

In 2011, 86,500 medical examinations were performed, including more than 35,000 check-ups covering 83% of employees. Through this Health Plan, ST also tracks six health and well-being indicators: physical inactivity, smoking, blood pressure, cholesterol, overweight and obesity. Based on these results, sites are conducting specific awareness campaigns. For instance, ST Ang Mo Kio (Singapore) is organizing Lunch Talks, at least once per month on diverse subjects such as 'chiropractic and ergonomics', 'stress management' and 'allergies and sinusitis'. Another example at ST Agrate (Italy) is a nutrition campaign at the site canteen to help employees eat a balanced diet. This was developed in partnership with local health institutions.

Across all sites, the main subjects addressed are sports exercise and smoking, with programs helping smokers to quit. To support employees in balancing their work and personal lives, some sites are also providing concierge services such as; nursery, banking, cleaning or shipping and postal facilities. Several of our major sites also have sport facilities, allowing

employees to easily practice sport during lunch time or after their working days.

In 2011, ST Agrate (Italy) was the first major site to test a 'mobile work' program, which offers certain groups of employees the opportunity to carry out elements of their work at home. The scheme is voluntary and requires the agreement of line management. The program was piloted by 28 employees in 2011 with positive results. Some of the benefits that were fed back included improved focus and time management, reduced distractions, greater efficiency, elimination of commuting and associated stress. In 2012, ST Italy Human Resources will involve national unions to reach a common understanding before officially launching the mobile work program to all Italian sites.

These initiatives to promote employee well-being illustrate ST's dedication to share best practices and offer increased site-based support.

## ST objectives

- Ensure all employees have benefited from the Health Plan by the end of 2013
- Promote employees' health and well-being through local initiatives and campaigns on the following aspects: sport practices, tobacco, overweight & obesity, blood pressure, cholesterol
- Expand and promote the well-being services offered to employees at ST sites to facilitate day-to-day life

## 2011 results

Kind of exam	Exam	2007	2008	2009	2010	2011	Total
Medical examination Total		62,500	36,022	50,295	69,180	70,480	288,477
	Check up with a physician	23,700	14,057	20,687	32,472	35,689	126,605
	Blood analyses	17,000	9,287	12,287	17,344	15,954	71,872
	Chest X rays	8,500	3,788	7,205	9,763	8,881	38,137
	Colorectal cancer immuno-occult testing	1,400	754	851	523	966	4,494
	ECG / EKG	6,300	5,019	5,257	5,728	5,497	27,801
	Mammography	1,700	1,160	1,138	1,080	1,094	6,172
	Pap smear tests	2,800	1,487	2,084	1,691	1,586	9,648
	Prostate cancer screening PSA	1,100	470	786	579	813	3,748
Screening test Total		0	9,028	11,923	10,978	13,097	45,026
Immunizations Total		1,041	3,121	4,347	3,505	3,019	15,033
Total services provided		63,541	48,171	66,565	83,663	86,596	348,536

## Health and employee wellness services at ST Calamba

ST Calamba (Philippines) has developed 'Comprehensive Health and Employees' Wellness Services' (CHEWS) with the objective to change employees' mindset about health and to encourage them to adopt a preventive approach under the slogan "CHEWS to be fit, because wellness is a choice!". By the end of 2011, the sick leave rate has been reduced by 49%. The program is based around three service pillars: Patient Care, Occupational Health, Employee Wellness. It offers several services, including:

### Wellness Helpline

This helpline allows employees to ask specific medical questions to healthcare professionals in cases of illness.

### ST Health Index

This index is composed of eight indicators such as smoking, body mass index or triglycerides, with three levels of risks: bad, borderline, good. After their annual medical examination, employees receive their health scorecard with recommendations on how to improve their lowest-scoring indicators.

### Happy Hearts Club

This club is open to all employees who aim to improve the health of their heart. A wellness guidebook was created and distributed to the members to monitor their blood pressure and body mass index. It has been extended to family members who become the employee's 'home partner' in the use of the guidebook to monitor their health condition outside work.

### Pregnancy information

'Mama Conferences' are held quarterly and a mini-library for mothers has been set-up. A study was conducted on the health conditions of pregnant employees and policies were written in order to ensure a safe and healthy workplace.

## France and Italy address stress at work

Stress is increasingly a global phenomenon affecting a growing number of people across the world in all aspects of modern life, including at work, mainly because of fast-paced context<sup>(2)</sup>. ST's French and Italian sites have initiated campaigns with external independent partners to evaluate employees' levels of stress, identify the nature and intensity of stress factors and develop a map of stress by gender, age, organization and job role through anonymous questionnaires and interviews. Thereafter the objective is to define appropriate individual and collective initiatives to prevent and address this important health issue.

In France, stress evaluation is done during medical visits which offer employees an opportunity to better understand how to measure and detect stress and to speak about their problems with an external professional. In 2012, French sites will launch quarterly psychosocial risk committees to work on collective solutions and address the most important cases.

ST Italy has asked a Milan University Department that specializes in workplace-related illness to propose solutions for managing conflicting situations at work, and supporting affected managers and employees. An expert from the University is available to analyze situations with several participants such as HR, doctors and managers. They can then intervene either as an advisor or mediator to develop and offer solutions.

## Focus on health plan in the US

ST US sites participate in the company Health Plan but do not disclose any information about their activities because of the US Federal Health Care Laws that prohibit the sharing of medical information with employers.

As part of this Health Plan, US sites offer a full complement of employer health, dental, life, vision and disability programs and also cover full preventative care such as routine physical and dental checkups.

This medical program extends beyond physical health to emotional health and provides services such as the Employee Assistance Program (EAP) in which employees can access outside services to help better manage their work-life balance. This includes support on several issues like marriage, family and relationship issues, stress and anxiety, depression, grief and loss, etc.

This service also provides assistance for: childcare and elderly care assistance, financial and legal services, identity theft recovery assistance and daily living support.

The US Medical Program incorporates a proactive disease management program that offers services such as annual flu vaccinations.

Some sites propose additional services to employees such as fitness rooms and yoga or other sport classes, which enable employees to practice activities during lunch or break time.

1/ [www.eurofound.europa.eu/surveys/ewcs/index.htm](http://www.eurofound.europa.eu/surveys/ewcs/index.htm)  
2/ ILO, The cost of violence/stress at work and the benefits of a violence/stress-free working environment report

# Labor Rights & Social Issues



As a signatory of the UN Global Compact and a full member of the EICC, ST is committed to respect its workers' rights and continuously improve labor conditions in its operations.

## Linking policy to practice

Over recent years, a number of key international standards and guidelines covering labor rights and social issues, have been released. The electronic industry has experienced increased attention from civil society organizations, investors and media on these issues. At ST, these trends have resulted in a significant increase in our customer requirements on related topics, which have more than doubled over the last five years.

ST is committed to ensure it aligns with key international standards and guidance, including the UN Global Compact, the UN Guiding Principles on Business and Human Rights, the OECD Guidelines for Multinational Enterprises and ISO 26000. ST sites at all locations must meet national labor and social regulations and go beyond legislation by adhering to the provisions of the Electronic Industry Citizenship Coalition (EICC) Code of Conduct and ST's own Principles for Sustainable Excellence.

ST's internal program focuses on the practical activities that will ensure we meet this goal of all ST operations, respecting; the basic rights of workers to freedom of association and collective bargaining, the elimination of all forms of forced and compulsory labor, the effective abolition of child labor, fair wages, fair treatment, fair working and living conditions, and the elimination of discrimination.

## Continuing implementation of the EICC Approach

Since 2007, when ST formally adopted the Electronic Industry Citizenship Coalition Code of Conduct as applicable to its own operations, the company has been driving a continuous improvement process with two main axes:

- Identify our major risks relating to labor rights and working conditions in our operations and activities; and
- Strengthen formal labor management systems for our operations within a clear framework of policies and procedures.

In response to international trends and our customer requirements, including a 100% increase in requests for audits (from six in 2010 to 12 in 2011), in 2011 we focused on meeting and exceeding the requirements of the new EICC Membership Compliance Program. All ST sites successfully completed the EICC Self-Assessment Questionnaire (SAQ) and all results were transferred to the new EICC-ON electronic platform. Even though our sites maintained their 'low risk' SAQ status, we chose to audit all ST sites in Asia and other developing countries every two years on a rolling basis to reflect the expectations of our customers and other stakeholders with regard to perceived higher risk in these countries. Our Shenzhen site in China had already undergone an EICC third party 'Validated Audit' (VAP) in April 2010, so in 2011, further EICC VAPs were conducted at ST Muar (Malaysia) and ST Calamba (Philippines). VAPs are planned for 2012 at ST Shenzhen (China), ST Longgang (China), ST Ang

Mo Kio (Singapore) and ST Bouskoura (Morocco). The results of EICC audits have been summarized in the graphs shown opposite. In addition, non-EICC customer audits were held in 2011 at ST Ang Mo Kio (Singapore) and ST Shenzhen (China).

With an average of four major non-conformances and four minor non-conformances per audit, we have been able to identify and follow relevant paths for improvement through both local corrective action plans and corporate-level action plans aimed at reinforcing our company-wide management systems (See focus on page 23). The top three major non-conformances from a combination of VAPs and customer audits were on freely chosen employment, food, sanitation and housing, and working hours.

*For information on our management of labor rights and social issues in our supply chain, see pages 58-59*

## ST objectives

- Ensure 100% of ST manufacturing sites update their EICC Self-Assessment Questionnaire (SAQ) on an annual basis
- Ensure 100% of ST Asian and Back-end sites are audited every two years versus the EICC Code of Conduct and that the other sites are proactively engaged in the EICC approach
- Ensure that all ST organizations have a continuous improvement plan versus ST's Human Resources Policy to reinforce their management of social issues



## Addressing labor rights and social issues outside developing countries

In the second half of 2011, measures were undertaken at ST's sites in Italy and in France to minimize the impact of the economic crisis on employees.

In Italy, in order to cope with a reduced loading of our production facilities in the last quarter, negotiations were held with unions representing ST employees to find solutions that would avoid or minimize 'cassa integrazione' (short-term unemployment subsidized by the government), which has an impact on the income of affected employees.

At ST Agrate (Italy), unions agreed to the measure of 'forced' use of remaining days of vacation. At ST Catania (Italy), unions opted for the measure of 'cassa integrazione' (with related reduced income) to maintain ST employees' right to their remaining days of vacation.

In France, a 'chomage partiel' (short-term unemployment) scheme was agreed with the government to increase the legal compensated salary from 60% to 75% for employees during periods in which production ceased due to the economic crisis. As part of this agreement, ST France offered employees the possibility to participate in training courses for their professional development during the period of site closures, thus benefiting also from an additional salary compensation. This activity was highly successful with 2,300 trainees and 47,000 training hours recorded, accompanied by excellent feedback on the quality of the training and a satisfaction score of 90%. All French sites (Crolles, EWS Grenoble, Rousset and Tours) adopted this program in the second half of 2011.



## Focus on updates to policies and procedures

In 2011, ST launched the process to update its Human Resources Policy, including human rights, as a first step in the process of aligning with the new UN Guiding Principles on Human Rights and Business. Our audit activities described opposite have also contributed significantly to the decision to update this policy. The new HR Policy will be more detailed and specific on those labor rights and social issues that are most relevant to the company and its employees. The policy will be finalized in 2012 and a cycle of stakeholder engagement will be launched to further evaluate the policy's alignment with the UN Guiding Principles.

As a specific result of the audit activities in 2010-2011, ST created a new procedure or 'specification' on dormitories to address the non-conformances that were identified in several ST sites in Asia. The new ST Dormitory Specification is based on the most stringent requirements of our customers, on the EICC standard and on best practice within ST sites. The process to develop the specification was extensive, involving interviews of the Human Resources and Safety managers involved in the management of dormitories and the review and comments of HR departments at the concerned sites. The specification will be formalized in early 2012.

23

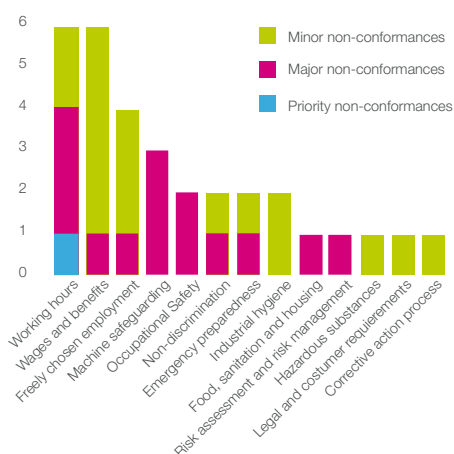
**NATIXIS**  
ASSET MANAGEMENT

Ladislav Smia  
SRI Analyst, Natixis AM



## 2011 results

### EICC audit results



"Natixis AM offers socially responsible investment (SRI) funds that focus on companies we believe adequately address their sustainability challenges. Our internal research team assesses Environmental, Social and Corporate Governance (ESG) issues in order to identify sustainable business models for these funds. "Labour right and social issues" is part of our analysis. An interesting trend we see on this matter is increased transparency by companies, even on controversial issues such as working conditions in countries with weak labour standards. We consider that ST has a high level of disclosure and an advanced approach to mitigate these risks on its most sensitive sites and at its suppliers: audit policy, specific work on dormitories... However, for ST as for other industrial companies with manufacturing sites or suppliers in "high risk" countries, there is still room for improvements (audits, trainings, negotiations...) in order to avoid major non-compliance, especially regarding working hours, wages and housing."



# Our Products



# Customer Satisfaction



ST is committed to ensuring its products meet customer expectations in all respects, including service, timely delivery and appropriate management of quality.

## What are ST's strengths and weaknesses in terms of customer satisfaction?

ST regularly evaluates customer satisfaction through different means such as score cards, customer meetings and ST site audits. We have identified five areas of excellence that contribute to customer satisfaction; technology (innovation, technical support, etc.), business (competitiveness, change management, etc.), supply chain (delivery performance, flexibility, etc.), quality (robust products, preventing quality issues, etc.) and sustainability (vision & strategy, stakeholder engagement, etc.). In 2011, ST launched a customer perception survey, collecting more than 1,300 responses that were fed into our continuous improvement initiatives. Responses indicated that 84% of our clients were satisfied to work with ST, our main strengths being business relations and our product offering. We identified two main improvement opportunities: our supply chain delivery performance and the quality of our products and processes. Customers have remarked on the improvements we have made to date in terms of quality, but we know that continual improvement must be sustained.

### ST objectives

- Maintain performance improvements for Just in Time on Committed Date and Just in Time on Requested Date (see graph)
- Reduce customer complaints per million units by 5% by Q4 2012 compared with a 2011 baseline

## Everyone involved in enhancing customer satisfaction

***"Quality is not negotiable"***  
CEO, Carlo Bozotti

In 2011, ST reviewed its quality strategy and formed a cross-functional quality organization consisting of quality groups that are able to network more effectively across the company. The groups have a single common mission *"to provide ST's customers with the highest level of quality excellence in our industry"*. Fabio Gualandris, Executive Vice President, Product Quality Excellence, said that *"the major change in this new structure is that it is very operational, closely linked to the day-by-day activities of ST and our customers."*

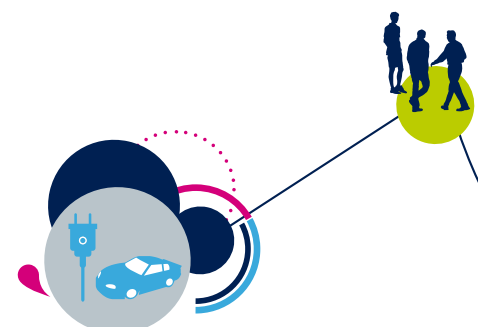
ST's new quality strategy engages everyone at ST in continuous improvement, aiming towards flawless implementation of business processes, zero failures and zero excursions<sup>(1)</sup>. 2012 will be the year of execution but several programs have already been launched during 2011 which have provided promising results. Excursions were one of ST's main focus areas in 2011, reinforcing both proactive and reactive interventions. We initially analyzed details of previous excursions and categorized root causes, identifying commonalities and solutions that would create the long-term eradication of excursions. A senior cross-functional team was then formed to implement effective, systematic and permanent solutions, and to become the main point of contact when an excursion occurs. By the end of 2011, the number of excursions had already been reduced by 70%.

During 2011, ST faced several unpredictable events that had the potential to impact our customer service; the nuclear disaster in Japan, flooding in Thailand and Morocco, and typhoons in Hong-Kong. Due to the quality of our business continuity plan, we were able to avoid any interruption in our customer services despite these unpredictable global events. In several situations we also successfully deployed our emergency logistics services to our customers and suppliers.

To build resilience to the cyclical nature of our business, ST has worked with Front-end subcontractors to increase flexibility and maintain levels of response to customer demand, including strategic partnerships with selected companies.

Another key objective that has been closely monitored by ST top management in 2011 was the reduction of cycle time at our Front-end sites. Due to the high complexity of this manufacturing phase, Front-end processes account for between 50% and 85% of the total cycle time. In response to customers' needs, Cycle-time Champions led dedicated working groups to deliver a reduction of 25% by the end of the year. ST is committed to a further 15% reduction in 2012.

<sup>1/</sup> A sudden and unexpected event generating abnormally high customer-related failure





## ST quality strategy

In February 2011, Fabio Gualandris joined ST as Executive Vice President of the Product Quality Excellence organization. Within one year, he has introduced and put into execution a new company quality strategy and roadmap to strengthen ST leadership in this domain and help us provide our customers with the highest level of quality excellence in the industry. We have three strategic objectives for reaching these goals:

- We must achieve the lowest levels of defective parts per million for each industrial domain with the ultimate goal of zero failures.
- We must prevent any impact to our customers due to excursions through zero-excursion management.
- We must flawlessly execute business processes to prevent problems and continually improve the way we work.

The ST quality strategy is built on seven fundamental pillars with global targets and a roadmap for execution.

PILLARS	ST GOALS
Customers	Delight our customers by providing best-in-class quality support, communication and management of customer requirements.
People	Engage employees in the pursuit of quality excellence by ensuring people are empowered, connected, competent and dedicated to quality.
Change management	Guarantee product quality excellence to our customers for any product, for any process, in any factory through full visibility and traceability of all changes and robust risk-assessment and mitigation processes.
Manufacturing & supply chain	Achieve zero excursions for our customers through a proactive approach and active containment and correction of excursions.
Product & technology development	Achieve built-in quality through integrated prevention at every step of product and technology development.
Business processes, tools & indicators	Provide the quality framework for the company business model through a metrics-driven approach and integrated quality management.
Economics	Consider quality as an investment by using an economics approach that measures the value of quality to our bottom line.



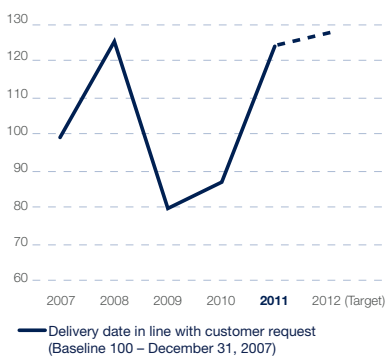
**Continental**  
Guido Bovensmann  
Supply Chain  
Management  
Automotive (SCMA),  
Customer and Supplier  
Process Harmonization,  
Continental



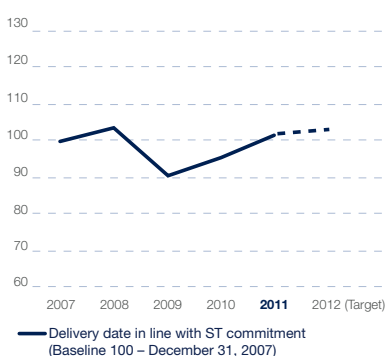
**Continental**  
Christelle Turcek  
Supplier Quality  
Management Plant  
Toulouse, Continental

## 2011 results

### On-time delivery to customer request



### On-time delivery to ST commitment



"The ultimate goal of the SCMA is to make Continental the most reliable partner for our customers through optimal fulfillment of their supply demands. For that, we need highly flexible partners with leading-edge supply chain processes. For a central logistics function working with ST, like our SCMA, it is highly appreciated to have one competent contact who is involved in several logistics programs, e.g. Logistics Improvement Program (LIP). Besides this, ST offers many proactive solutions like its world-wide-model or the running of IT modifications. ST is always on board at an early stage with a high level of engagement to support us in our goal to drive continuous improvement and to react even more rapidly to sudden market changes, which have increased frequently over the past few years. Thanks to open and honest communication, many issues are resolved successfully."

"In the challenging semiconductor market, quality is playing a key role within the business context. Conti's expectation is to avoid or limit any potential customer impact due to quality issues. A preventive strategy and fast response are the two main characteristics Conti is expecting from its suppliers. Standardization of reliability qualifications, manufacturing processes and continuous quality improvement plans are the basis for preventive processes while rapid and precise communication via comprehensive 8D methodology ensures a fast response. What we particularly appreciate with ST is the opportunity to set a common quality strategy. Thanks to ST's product portfolio, strong technical know-how and worldwide support, we are able to develop and deploy new solutions that meet high-quality market demand. Several joint Conti/ST quality programs are in place with clear objectives and targets. We work well with ST thanks to communication flows established both at regional level, via ST's local quality contacts and at management level. Although the main drivers are located within the Quality Department, deployment and execution involves the whole of ST."

# Conflict-free Minerals



ST is committed to ensuring compliance with legislation and alignment with customer requirements relating to conflict minerals, avoiding procurement of 3TG metals (tantalum, tin, tungsten and gold) that are directly or indirectly associated with serious human rights violations or environmental damage in the Democratic Republic of Congo and its neighboring countries.

## Why is the conflict minerals issue key for ST?

In the Democratic Republic of Congo (DRC) and neighboring countries, tantalum, tin, tungsten and gold (collectively called 3TG) are often produced by artisans and small-scale miners. The mines and their associated trading routes are frequently controlled by illegal local military forces<sup>(1)</sup>. Mining revenues are a major source of funding for armed groups who are responsible for violence and other serious human rights abuses in the region, as well as environmental issues such as deforestation<sup>(2)</sup>.

On July 21, 2010, the US President signed into law the Dodd-Frank Act, drafted by the Securities and Exchange Commission (SEC), which requires manufacturers of electronics devices to undertake due diligence on their 3TG supply chains, to publicly disclose their conflict minerals policy and to enforce conflict-free measures in their procurement processes.

The electronic industry is one of the most impacted by this issue because of the need for 3TG metals in electronic components<sup>(3)</sup>. ST products contain many metals, including 3TG. Since 2007, ST has led actions to prevent conflict minerals entering its supply chain and has significantly increased its efforts over recent years to obtain a more complete and reliable map of our minerals supply chain, tracing it back to the mine of origin.

## An industry-wide approach

ST began to address the conflict minerals issue in 2007 by requiring its tantalum suppliers to confirm they were not providing metals from conflict areas. Since then we have participated in the Electronic Industry Citizenship Coalition (EICC) and Global e-Sustainability Initiative (GeSI) programs and are now requiring all our suppliers and subcontractors to provide evidence that they are not sourcing 3TG metals that contribute to the funding of armed groups.

Since 2008, EICC-GeSI has been working jointly to develop a common approach for a conflict-free mineral supply chain within the electronic industry. In 2010, EICC-GeSI launched its Conflict-Free Smelter (CFS) Program, in conformance with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. The program consists of the independent validation of the effectiveness of supply chain due diligence programs and processes through third party audits of smelters and refiners. Through this program, EICC-GeSI also provides guidance to smelters to support in-region sourcing schemes that enable legitimate and safe trade from DRC.

In July 2011, EICC-GeSI issued a Due Diligence reporting template, in line with the US Securities and Exchange Commission requirements, to create a single reporting format that will enable

electronics companies to consolidate the analysis and reporting of data throughout the sector's supply chain and beyond. As a result, ST was able to improve the visibility of its minerals supply chain in 2011 by deploying the Due Diligence template to all its materials suppliers, replacing the previously-used manual tracking process. We have also required our subcontractors to deploy the template for their own downstream suppliers.

Completing this template is now mandatory for our suppliers and subcontractors and is part of their annual evaluation, the maximum appraisal score being given when they provide full traceability back to the mine of origin. Around 170 templates have so far been collected and aggregated. Due to the complexity of our supply chain, a single feedback can contain information originating from as many as eight separate tiers of the supply chain.

With this complete view of our supply chain, we are now able to validate every smelter's name and identity against the EICC-GeSI list. Carrying out a reasonable level of inquiry that delivers accurate information is complex due to the number of companies involved. The ultimate objective is to engage all smelters in the CFS program and we contribute to this goal by encouraging our smelters to participate, contacting them both directly and through our first-tier suppliers. By the end of 2011, the CFS program had focused on tantalum smelters with 11 smelters certified.

ST identified six tantalum smelters in its materials supply chain, and four have already passed the CFS certification.

Like ST, many of our customers are also listed on the New York Stock Exchange and therefore fall within the Dodd Franck-Act. As a consequence, customer requirements received by ST relating to conflict minerals quadrupled in 2011. This topic now represents almost half of our customers' social and ethical requirements. There was also increased customer focus on our supply chain coverage and data reliability. Our customer satisfaction levels in this area have been very good, and we have benefited from working closely with some customers to conduct more in-depth analyses.

ST remains well-informed on conflict minerals through its membership of the

EICC and participation in its working groups. In September 2011, we attended the GeSI-EICC workshop in Brussels and participated in a dialogue that included stakeholders from civil society, companies at every level of the supply chain and government institutions. These meetings are vital to maintain a global perspective of the issue; they also offer opportunities to share experience, create connections with the different participants and continue collective industry progress. Through our membership in the EICC, we are also supporting the ITRI<sup>4</sup>'s Tin Supply Chain Initiative (ITSCI), aimed at developing the responsible supply of tin from DRC and adjoining countries.

1/ USGS 2009 Minerals Yearbook – The Mineral Industry of Congo

2/ Conflict Minerals and the EICC-GeSI approach, May 2011

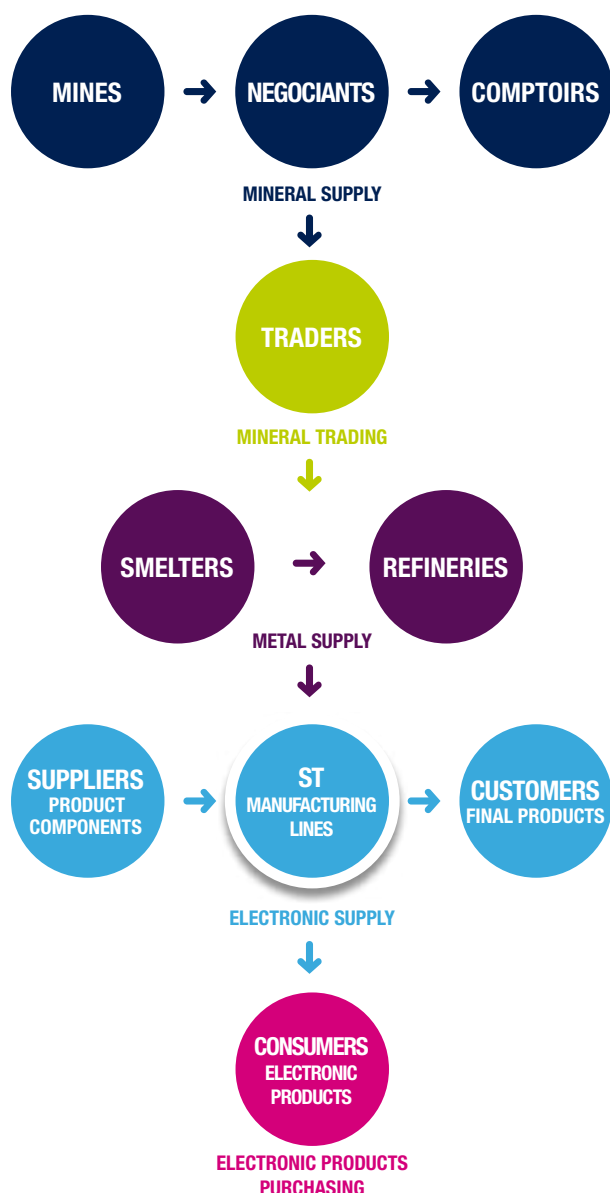
3/ United Nations report on the Democratic Republic of the Congo, December 2011

4/ International Tin Research Institute

## ST objectives

- Define and deploy systems and processes to provide trustworthy evidence that our products are conflict-free. In 2012 we will:
  - maintain the EICC-GeSI Due Diligence Tool update for 100% of our material suppliers, Front-end and Back-end subcontractors
  - engage all the smelters identified in our supply chain to join the EICC-GeSI Conflict-Free Smelter Program

## Mineral sourcing in ST's supply chain Adapted from EICC-GeSI Extractive Work Group



## PHILIPS

Jan-Willem Scheijgrond

Senior Director Environment, Health & Safety,  
Philips Corporate Sustainability Office



"Philips is concerned about the situation in Eastern Congo, and believes that an industry-wide approach is crucial to effectively address the conflict minerals issue. We need our suppliers' cooperation to avoid that minerals that directly or indirectly finance the Congolese conflict enter our supply chain. Philips welcomes the increasingly open and collaborative stance of ST concerning supply chain investigations and transparency. We encourage ST to continue this important effort and take the next steps in engaging all identified smelters in the EICC-GeSI Conflict Free Smelter program."

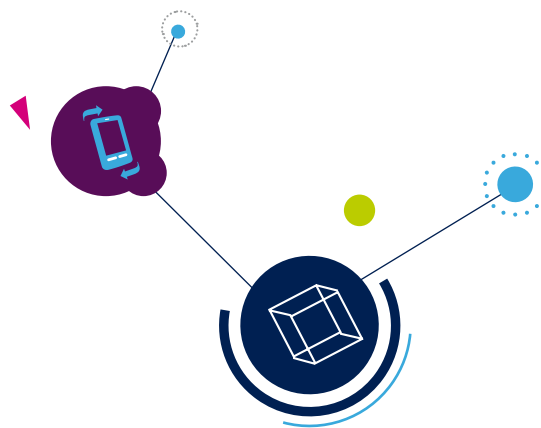
## 2011 results

### Conflict Minerals

	2011
Number of materials suppliers and subcontractors involved in the EICC-GeSI Due Diligence survey	171
Number of suppliers and subcontractors that are associated with at least one 3TG metal (involved suppliers)	84
% (number) of involved suppliers and subcontractors that have completed the EICC-GeSI Due Diligence survey	100% (84)
Number of smelters identified in ST's raw materials supply chain	61
Number of smelters identified in ST subcontractors' supply chains	111
% of ST Tantalum suppliers that use conflict-free smelters	66%

# Eco-design

ST is committed to designing its products systematically, taking into consideration the environmental impact of the device during its whole life cycle, including raw materials, transportation, manufacturing, usage, end of life.



to identify the main contributions to impacts, minimize the environmental impacts of both technologies and packages and compare the evolutions between product generations. ST Crolles (France) has been able to map the 45 nanometer technology through an in-depth study of chemical flows and is currently working on a model to eco-design the next generation of technologies.

A responsible product<sup>(1)</sup> working group is looking into a communication plan dedicated to eco-designed products, including the creation of eco-profiles and labels.

We are also working on removing polluting and hazardous substances from our products via our ECOPACK® program which was launched in 2000, based on ST's hazardous substances list. From 2012, our systems will track products eligible for ECOPACK® 3 and align packing materials with ECOPACK® levels.

<sup>1/</sup> For more information, see responsible products pages 32-33

## Why is eco-design key for ST?

As the development of electronic goods continues to increase, it is imperative to understand the increasingly stringent environment, health and safety product requirements along with opportunities for sustainable production and consumption.

Since 1993 and the first stages of its environmental strategy, ST has been fully committed to reducing any negative effects of its activities and its products on humans and the planet as a whole. Innovation is a key element in eco-design and ST is implementing an eco-design strategy based on a life-cycle approach that will better-inform customers of the environmental footprint of its products.

## ST's approach to Life Cycle Assessment and eco-design

In 2010, ST published the fourth version of its EHS Decalogue with a target to achieve eco-design of 100% of its new products by 2015. Life Cycle Assessment (LCA) is a way of highlighting opportunities for ecological improvements in product design. Since 2008, ST has developed a bespoke methodology and carried out LCA on a range of products in accordance with

ISO 14040 and ISO 14044. In 2011, we continued to make good progresses on our path to successfully integrate this approach within the company.

Performing full LCA on a semiconductor device is a lengthy process due to the complexity of processes, materials and final applications. Based on complete LCA studies performed through the years at ST, we have developed a simplified LCA methodology that provides a clear product footprint within a shorter timeframe, enabling us to assess the main environmental impacts of 100% of ST's internally-manufactured products.

Our eco-design roadmap outlines key milestones to reach our 2015 objective. We launched three working groups on the integration of environmental parameters in technology and product design. As a result, three eco-design tools, using LCA, are being developed to integrate environmental criteria into each stage of chip design. The first output is a circuit design tool developed by ST Castelletto Research and Development (Italy) that compares design options for electrical circuitry and highlights greener options. ST Front-end technology (developed in Rousset - France) and Back-end package tools (developed in Grenoble - France) will enable designers

## ST objectives

- Ensure 100% of new ST products are eco-designed by 2015 through deployment of :
  - eco-design strategy
  - new eco-design tools
  - product eco-labeling
- ECOPACK®2 :
  - 90% of new packages implemented in ECOPACK®2 by the end of 2012
  - 80% of products in ECOPACK®2 by the end of 2012
- Start tracking products eligible for ECOPACK®3 (halogen-free and no RoHS exemption) in 2012
- Start alignment of ST packing materials to ECOPACK® levels 2 and 3 in 2012



## Focus on ST's partnerships with academic institutions

ST is convinced that its strategic research partnerships are contributing to its overall performance through the blending of different experiences and visions. This combines day-to-day industry practice, performance targets and theoretical studies with a long-term vision that is built through collaboration across several industries. Due to its very technical and innovative nature, eco-design in particular benefits from such partnerships, which inject the competencies and experiences needed to develop LCA and other complex technical aspects of eco-design.

Since 2009, the Research and Development departments of ST Rousset and Crolles (France) are working with two PhD students from Grenoble University. This is in partnership with the Grenoble laboratory G-SCOP specialized in design issues in industrial engineering. Through their meticulous work, they developed our eco-design methodology and strategy for products and processes. The

Crolles thesis is attached to the Nano 2012 Program, a strategic approach to increase semiconductor innovation, including environmental aspects. Following on from this success, several engineering students from the Politecnico di Milano (Italy) are also engaged in LCA. In 2011, two of them have worked to validate the methodology in improving the overall data quality and have also helped to develop the eco-design tools. Furthermore, ST Tours (France) is working with the University of Tours and Orleans, the National Center for Scientific Research (CNRS) and the Atomic and Alternative Energy Commissionship (CEA) for several years through a Scientific Interest Group called CERTeM Plus (Microelectronic technology research and study center) to develop new eco-design technologies.

Through this collaborative approach, ST aims to build long-term partnerships and contribute to research at a global level.



**Giovanni Dotelli**  
Associate Professor  
of Materials Science,  
Politecnico di Milano  
(Italy)

"The need to re-think products to reduce their environmental burden is spreading very rapidly, fuelled by an increase in environmental statements that assess the "greenness" of almost everything. Life Cycle Analysis is one of the most robust ways to answer stakeholders' requests for more comprehensive environmental evaluations of products and materials.

Thanks to its collaboration with ST, the Politecnico di Milano has broadened its experience in the specific field of semiconductor manufacturing and its associated cutting edge technologies. ST has also offered unique internship opportunities for Politecnico students who have been able to undertake thesis projects in collaboration with highly qualified ST personnel."



**Bodo Eilken**  
DA5 representative  
Infineon Technologies  
AG (Germany)



"The Die Attach 5 (DA5) Consortium was formed in 2009 by several semiconductor industry leaders: Bosch (semiconductor division), Freescale, Infineon Technologies AG, NXP and ST. The objective of the Consortium is to identify sustainable, enduring, standardized, reliable and dependable lead-free solders for attaching die to packages during manufacturing. The DA5 consortium aims to reduce the qualification time needed by its customers and provide lead-free and environmentally-friendly alternatives through:

- joint development among semiconductor manufacturers to develop lead-free die attach technology
- joint work programs between DA5 members and their material suppliers
- encouraging suppliers to develop and offer innovative solutions

The collaboration combines the technical expertise and experience of the five leading semiconductor companies with their main material suppliers to demonstrate to the European Commission and the consulting Öko Institute that the industry is committed to an early solution."

## 2011 results

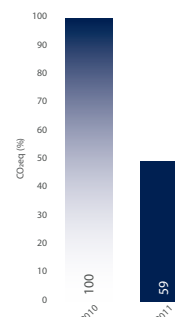
### ECOPACK® program / EN26

	% of ECOPACK® products in kunits*		
	2009	2010	2011
Non ECOPACK®	2.4	1.8	1.3
ECOPACK®1 Compliant with the Restriction of Hazardous Substances (RoHS) directive and 'lead free***	58.1	43.5	28.9
ECOPACK®2 ECOPACK®1 + free of brominated, chlorinated and antimony-oxide flame retardants	39.5	54.7	70.0

(\*) In 2011, we reviewed our methodology used to calculate the annual percentage of ECOPACK® products considering now the annual billing in volume, and no more the number of products proposed in our catalogue.

(\*\*) With adapted reliability for soldering at higher temperature, as some exemptions are necessary mainly for the automotive market with regard to RoHS regulation

### MEMS technology evolution



Between two generations of Micro-Electromechanical Systems (MEMS) devices from 2010 and 2011, ST has reduced the area of the device corresponding to a CO<sub>2</sub> equivalent decrease of about 40%

# Responsible Products



Advances in semiconductor technology offer exciting opportunities to address global sustainability issues with innovative products that respond to environmental and safety challenges, as well as the ageing population and more affordable and accessible healthcare.

## What are 'responsible products'?

We use the term 'responsible products' to refer to the design, development, sale and marketing of ST products that:

- Reduce energy consumption and enable customer applications to reduce their energy consumption and/or are intended to provide new environmental solutions (e.g. smart grid, start/stop systems, converters to manage solar cells and wind turbines, etc.);
- Are intended to provide new social solutions and improve end-user quality of life (e.g. all health-related products, safety applications, environmental and social solutions for developing countries etc.).

In ST, we have known for years that we have numerous products that fit this description but we didn't previously have a clear system to identify and classify them. Prompted by investors' questions relating to the percentage of products with energy-saving characteristics and their associated revenues, our aim on this subject is to translate the real societal value of these products into facts and figures that clearly demonstrate the contribution of our products to key societal challenges.

## ST's STAR Responsible Products Program

The STAR program is just one element of ST's overall approach to product stewardship, which includes compliance with legislation (e.g. ST's ECOPACK® label) and eco-design strategies to reduce the environmental impact of the technology used in production, measured in terms of the product's environmental footprint across the whole of its life cycle.

*See more on pages 28-29.*

Launched in 2011, the STAR program set out to chart new territory in ST, exploring the boundaries of eco-design and pushing them further in some respects. The goal of the program, within the context of ST's new Sustainability strategy and the key issue of 'Responsible Products', is to classify all new products into relevant environmental and social categories and give a 1, 2 or 3 STAR rating according to the level of innovation of the product in question.

A task force was formed including representatives from all ST Product Groups to define the approach and formalize it in relevant company processes (such as the Product Development Process) and IT systems. The focus in 2011 was to clarify the conceptual premise of the approach within the context of existing programs. What characterizes the STAR program, as the task force defined it, is its attempt to classify responsible characteristics of the product (the ST chip) in use in ST's customers' final applications. The rule the task force used to define the categories is: if the design functionalities of the chip enable an application or result that is evidently 'responsible' (i.e. bringing clear

social or environmental benefits) then it is eligible for a STAR rating.

In 2012, the task force will perform an initial classification of all eligible new products for the year 2012 and fine-tune the classification criteria and rules for assigning a STAR rating. They will then be able to formalize their 2012 target for the percentage of new products that have a STAR rating and review the associated percentage of sales for those products each quarter. 2012 will be our baseline and will enable us to measure any increase in demand/revenues for this category of product.

The ultimate goal is value creation for ST and benefits for society at large in line with our Sustainability strategy and ST's overall strategy of «life.augmented». In parallel, a focus on the formal communication processes and activities that accompany the STAR program will ensure that customers, investors and employees (and stakeholders in general) understand the value created and benefit from it accordingly.

## ST objectives

- In 2012, track the percentage of 'responsible products' in ST's overall Product Portfolio and associated revenues (following STAR environmental and social criteria) for the year
- Prepare a complete communications plan for responsible products in 2012





## Focus on STAR responsible product categories

The task force working on STAR Responsible Products created two macro categories for the classification of products with clear social and environmental benefits: energy-saving products and social products, which includes those products with environmental benefits not related to energy-saving. For each of these two macro categories there is a star rating from 1 to 3. The STAR rating for social products focuses on the innovation of an ST chip enabling a final application (that is owned by an ST customer) versus the offering of the market. For energy-saving products, the STAR rating combines an evaluation of ST technology versus the market offering and versus the previous generation of the product in question.

### Social Products

#### Health, Medical & Fitness

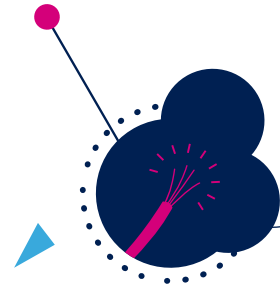
Examples of products that fall into this category:

- the Nanopump, which is a breakthrough concept that allows a tiny pump to be mounted on a disposable skin patch to provide continuous insulin infusion for diabetes treatment, using our microfluidic MEMS (Micro-Electro-Mechanical System) technology;
- a “smart” contact lens that uses a tiny embedded strain gauge to monitor the curvature of the eye over a period, typically 24 hours, providing valuable disease management data that is not currently obtainable using conventional ophthalmic equipment. This solution enables better management of glaucoma patients via earlier diagnosis and treatment that is optimally tailored to the individual patient.

### Energy Saving Products

ST chips contribute to energy savings in two fundamental ways, which are often connected: 1) the ST chip itself saves energy compared to the previous generation and 2) the design functionalities of the ST chip enable a significant energy saving within the final application (owned by the ST customer). In some cases, it is the energy saving of the ST chip itself that permits an energy saving in the final application. Our data-gathering sets out to capture the energy-saving characteristics of both categories so that we will be able to measure the growth in demand for these products and associated revenues separately, but as part of the same bigger picture. Energy saving products include products for smart grids which comprise interconnected equipment

such as appliances, energy meters and infrastructure monitors. These products are conceived to reduce peak loads, improve network stability, encourage lower consumption and better manage a wider variety of renewable energy sources such as wind and solar. Our power conversion devices - another category of energy saving products - deliver a dramatic reduction of energy consumption in homes and other buildings, enabling appliances that are less power hungry or lighting systems that exploit the most up-to-date technologies to deliver optimum lighting conditions with the lowest possible energy (e.g. chips for driving high-efficiency LED for lighting applications, which save as much as 40%, compared to older technologies).



Raimondo Rannisi

Sustainable Excellence Manager, IMS Systems  
Lab & Technical Marketing, Catania (Italy)



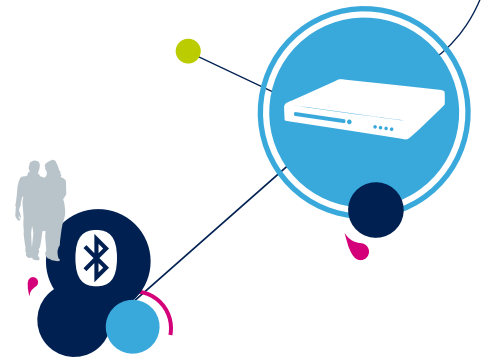
“Responsible products are an integral element of our approach to sustainable development: they are advanced devices with a high degree of innovation which may have a positive impact on the environment and on people’s lives.”

## Responsible products category and STAR classification criteria | EN6 | EN26 |

Social Products	Associated STAR rating	Energy Saving Products	Associated STAR rating
<ul style="list-style-type: none"><li>• <b>Health/Medical/Fitness</b> Embedded in applications dedicated to physical well-being</li><li>• <b>Safety/Security:</b> Contributes to transportation/ car safety or safety in general; or to personal security</li><li>• <b>Social (general):</b> Products supporting ageing population, disabilities; to improve quality of life in developing countries etc.</li></ul>	<ul style="list-style-type: none"><li><b>1 STAR:</b> incremental changes to a solution already on the market</li><li><b>2 STARS:</b> not just improve an existing solution, add to it in new ways</li><li><b>3 STARS:</b> solves a problem for which there is not yet a solution on the market</li></ul>	<ul style="list-style-type: none"><li>• <b>Energy saving</b> of the ST chip itself</li><li>• <b>Energy saving</b> of the application thanks to the ST chip</li></ul>	<ul style="list-style-type: none"><li><b>1 STAR:</b> incremental improvement versus previous generation (at least in line with standard market offering)</li><li><b>2 STARS:</b> significant improvement versus previous generation (above standard market offering)</li><li><b>3 STARS:</b> dramatic improvement vs previous generation OR providing a solution for energy saving that does not yet exist on the market</li></ul>

# Intellectual Property & Innovation

It is acknowledged that innovation in micro-electronics has the potential to offer people better, longer and more enjoyable lives through technology development in important areas such as energy efficiency, healthcare and the management of scarce resources.



## Innovation's contribution to business and society

The semiconductor industry is a key enabler for the electronics industry which creates growth in information technologies plus a wide range of manufacturing and service industries. It provides improved solutions for existing applications and also enables new applications and markets to develop. A significant proportion of the goods and services that will be available in the market in 10 years time have not yet been developed or even conceived, but microelectronics is bound to be a key enabling technology underlying most of them. Major progress is anticipated in fields such as communications, healthcare, energy conservation, digital content and entertainment, transportation and security. Digital multimedia convergence, sensing and power management are segments of microelectronics that are likely to have the deepest impact on the future of our society.

Multimedia convergence and Sense & Power applications are central to ST's vision, which drives product and technology development. Examples include advanced audio/video processing, multi-core architectures, low power technology, radio frequency, micro-electro-mechanical systems (MEMS) and 3D integration.

As the complexity of our products grows and their economic lifespan shortens, it becomes essential for ST to continuously assess how best to allocate its resources across ever increasing demands for research and development. The potential benefits of tapping into the rapidly emerging market for semiconductor

technology, intellectual property or ready-made circuitry needs to be carefully balanced against the risks e.g. dependency and product differentiation capability. Conversely, business opportunities may arise from the licensing of certain intellectual property or know-how to partners or 3rd parties.

Innovation is the critical link that converts our portfolio of IP and inventions, into products and ultimately into business opportunities.

This process is underpinned by rigorous IP portfolio management, which protects ST's interests.

## ST'S APPROACH TO INNOVATION

ST's approach to innovation focuses on three key areas:

- **R&D investment:** we devote an average of over 20% of our net revenues to R&D. In an industry where the speed of bringing new technology to market is critical, it is important that ST maintains momentum. An advanced System On Chip (SOC) such as an application processor or a multimedia consumer device can typically contain over 1 billion transistors and millions of lines of embedded software. The aggregate effort needed to bring such products to market is the equivalent of hundreds of man-years. A similar scale of input is required to develop a state-of-the-art technology platform for smart power devices or MEMS.
- **Intellectual Property sourcing and research alliances:** to complement internal R&D, ST also sources technology, IPs and IP blocks from strategic partners, customers and third parties. This process starts with top-

level technology intelligence and the identification of future business needs. We then evaluate the most efficient way to acquire the IP. One model involves the acquisition of IP through licensing transactions with a worldwide network of partners.

Alternatively, it may result from product development with key customers, technology development with other semiconductor manufacturers and alliances on Electronic Design Automation tool development with major suppliers. Alliances are supported by research programs conducted with leading institutions which contribute to several of Europe's advanced technology research programs such as CATRENE (Cluster for Application and Technology Research in Europe on NanoElectronics, a successor to MEDEA+), and industry initiatives such as ENIAC (European Nano-electronics Initiative Advisory Council).

## ST objectives

- **Increase creativity:**  
Number of patents for fundamental innovations filed per year
- **Increase efficiency of product development:**
  - Average age of development projects
  - Proportion of projects younger than 1 year
- **Increase R&D partnerships:**  
% of R&D spending incurred via partnerships or external IP sourcing



• **Intellectual Property portfolio management:** the thousands of patentable ideas that result every year from the research activities above are carefully protected against unauthorized third party use or infringement. ST's portfolio represents approximately 17,000 patents\* and pending patent applications. These assets, in turn, are used to develop further partnerships and alliances, or alternatively are incorporated into licensing programs.

• **Intellectual Property training:** ST uses intellectual property to protect and support everything we do. All ST employees have responsibility to protect our intangible assets, including their strategic and economic importance plus legal aspects. This covers the tools and processes that ST's IP and Licensing Department has put in place to help create a world-class patent portfolio.

Employee IP training is delivered by the IP & Licensing Department in cooperation with Corporate Learning. The IP & Licensing Department also invites several key representatives of ST's divisions for a full day of training, covering the major phases of ST's patent life cycle.

## Combining highly complex technology with the most innovative multimedia features

In 2011, ST unveiled details of Orly, its forthcoming high-performance broadband set-top box system-on-chip Integrated Circuit (IC) for extraordinary home entertainment that will deliver market-leading energy efficiency, high performance as well as best-in-class security features, along with support for a wide variety of open-source environments. The chip's superior processing power will support value-added services

such as state-of-the-art gaming, Over The Top (OTT) video playback via 3rd-parties over the Internet, the new generation of application stores and secure High-Definition streaming to tablets, smartphones, PCs and TVs throughout the home.

This is the first ST IC in the 32/28 nanometer technology family and, with over 1 billion transistors, is among the most complex conceived to date. On developing the chip, ST has responded to end users' demands for a fully-connected home.

## GreenNet: a smart Wireless Sensor Network

ST's Business Innovation Process has given birth to a highly innovative project from Grenoble (France), named GreenNet. GreenNet is a network of wireless sensors that can detect environmental parameters such as temperature, movement, self-motion, presence of pollutants in the atmosphere

etc. It is able to respond to sensory information by enabling an embedded switch which acts on the surrounding systems, e.g. by switching on a light, closing a gate, etc. Miniaturization of the device results in a stamp-sized product. A photovoltaic cell delivers energy to each network node, where it is stored in an embedded battery, allowing continuous operation. The application has the potential for use in a vast array of innovative applications and multiple domains, such as industrial applications, home automation and personal assistance. It helps to use energy more efficiently and will increase consumer safety through better monitoring of the environment, e.g. monitoring of carbon monoxide.

The data from GreenNet can be transmitted to a mobile device such as a smartphone or tablet to enable remote monitoring and control.

(\*) this figure relates to ST core businesses (ie excluding ST-Ericsson)



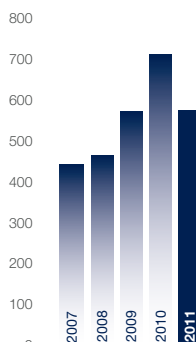
Jean-Marc Chéry,

Executive Vice President, Chief Manufacturing & Technology Officer

"Brilliant companies invent and protect their inventions, successful companies innovate and leverage their own and their partners' inventions to create products that make a difference..."

## 2011 results

### ST patents filed per year



### Innovation activity

	2010	2011
Median Age of Immature Projects*, in months	17	14
% of Immature Projects* younger than 1 year, in value	29%	43%
% of Projects* maturing withing Year, in value	29%	35%
% Open Innovation ** in R&D, in value	20%	21%

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

\*\* open innovation: aggregate spending towards external R&D technology licensing partners, in % of total R&D + licensing spending



# The Environment



# Water Management

ST is committed to reducing water use and ensuring high standards of effluent and waste water treatment. We are also committed to identifying and managing water-related risks and opportunities, including impacts on local communities.



## Why is water management key for ST?

Climate change is the major factor impacting world water resources, with direct effects on ecosystems, people and businesses<sup>(1)</sup>. 22% of the world's fresh water is used for industry<sup>(1)</sup>, making water management a priority issue for responsible companies. The semiconductor industry has an obligation to respond via:

- water governance and regulatory compliance
- the development of innovative initiatives to diminish water dependency and ensure business and supply chain continuity
- the mitigation of adverse impacts on water supply and communities

The sustainable management of this essential resource is of critical importance for ST and its stakeholders. Our water footprint has been reduced by 73% since 1994 through continuous improvement programs undertaken at all our manufacturing sites. ST is now taking a more comprehensive approach to water management, covering both our world-wide sites and their related communities.

## ST management of water

### Water management at operations

The semiconductor industry requires water with a very high level of purity for sensitive manufacturing processes, especially at our Front-end sites. ST identified water conservation as a key

issue for sustainable growth in the first release of its Environment Health and Safety Decalogue in 1995 and developed a strategy covering all stages of operations. Since then we have achieved our yearly reduction target of 5% for water draw-down, in cubic meters per production unit.

ST's conservation strategy is based on the 3R motto 'Reduce, Reuse, Recycle'. Water conservation features in the design of our facilities, and manufacturing processes are constantly upgraded to meet our more stringent water reduction targets. Each site measures and assesses its patterns of water usage to know which areas of the production process to focus on. We have developed innovative measures to further save water, and operating procedures are consequently reviewed to be aligned with the best equipment and processes. In 2011, ST recycled 40.5% of its water, re-using it for different purposes such as scrubbers, cooling towers or civil use such as lawn watering.

Waste water is treated in dedicated treatment plants, either located on-site or developed in collaboration with local authorities to remove polluting substances such as fluoride, which cannot be treated by municipal plants. Once it has obtained a sufficient level of purity, and when any risk of pollution is eliminated, it is discharged into the natural environment.

### Assessing impacts on resources and communities

ST is conscious that it has a significant impact on water resources. To oversee the related risks and harmonize ST's practices, we have started to monitor this aspect

centrally and have implemented guidelines to review the quality, availability and selection of the water sources we use.

To assess and map the water risks related to our operations, ST conducted a pilot evaluation using the Global Water Tool of the World Business Council for Sustainable Development. We firstly analyzed whether ST sites were located in water-scarce areas, and how this might impact ST's activities and communities in the future. In 2012, ST will perform a deep water risk assessment with Quantis at all manufacturing sites and will evaluate its overall water footprint from operations, supply-chain and the lifetime of product use.

ST has a historical engagement with its surrounding communities. Our sites have always worked with local stakeholders to reduce water extraction and consumption, and ensure a viable development of all actors of the areas. In 2011, ST Agrate received the Electronics Day Award for its responsible approach to reducing the consumption of the deep water aquifer, thus minimizing its impacts on communities in the Agrate basin<sup>(2)</sup>.

1/ Source : Unesco World Water Assessment Program (WWAP)  
2/ See article on Water management at ST Agrate, page 41 of ST Sustainability report 2010

## ST objectives

- Reduce water draw-down (cubic meters per production unit) by 5% per year
- Achieve an overall Company recycling rate of 45% by 2015
- Conduct a water risk and opportunity assessment for each manufacturing site by 2012



## Focus on in-depth water analysis at ST Tours (France)

In March 2011, a new local regulation required ST Tours<sup>3/</sup> to limit its water consumption and to submit a report of the site water use by October 2011. Tours decided to seize this opportunity to undertake an in-depth analysis to optimize its water consumption.

With the help of a specialized consulting agency, and supported by French governmental organizations, a group of ST experts from participating manufacturing departments began the study in April. It evaluated the current techniques used by the Tours site against the 33 technical guidelines of the EU Commission, referred to as Best Available Techniques Reference. Daily flow-meter readings across multiple areas provided a precise and complete inventory of ST Tours' water consumption and helped identify areas for further improvement and optimization.

Following on from this analysis, in November 2011 three working groups started to optimize the water consumption of equipment during both active and stand-by modes and also looked at ways of increasing the use of recycled water.

Initial results showed a significant decrease of 5m<sup>3</sup> of ultra-pure water per hour. These best practices will be shared with other ST sites and we hope some will be recognized for their innovative aspects and adopted by the French Ministry of Environment.



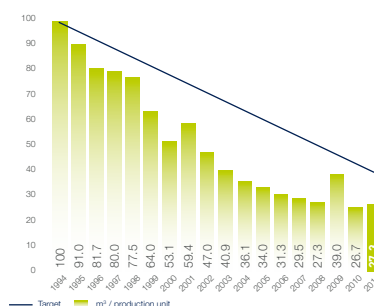
Hakim Taleb  
Industrial Program Manager, Water Agency,  
Brittany-Loire region (France)

"The Water Agency, part of the French Ministry of Environment, has adopted a renewed and ambitious water management strategy, stipulating that two thirds of water resources must regain a good environmental quality by 2015. Industries are required to take all necessary preventive measures to reduce their water withdrawal, consumption, and emissions. Optimum water management can be achieved if all local participants (municipalities, companies, individuals) collaborate and are part of the decision-making process. Teams at ST Tours are engaged and committed to making environmental improvements, as demonstrated by the innovative study they conducted in 2011 on the site water consumption and usage, with the financial support of the Water Agency."

## 2011 results

For more information on our environmental results, please refer to page 66

### Consumption of water (per unit of production): normalized values / EN8 / 2.2



### Recycled and reused total water / EN10 / 2.2

	2007	2008	2009	2010	2011
Total water used (1,000m³)	29.567	27.791	25.622	27.736	29.113
Water recycling and re-use rate (%)	26.51	34.53	36.20	37.29	40.53

## Focus on ST Kirkop (Malta) water recycling program

In Malta, as is the case on many islands, water is a scarce natural resource. To obtain freshwater, the country needs to desalinate increasingly more seawater to sustain the rising demand, while quality of groundwater is worsening due to intensive agricultural usage. This impacts water supply and results in an elevated price. Fully aware of this issue, Maltese people form elaborate plans to use water responsibly and not waste it.

ST Kirkop, as one of the largest industries of the country, treats the water situation very seriously. Facing these geographical and economical issues, ST Malta has developed an ambitious program to improve the efficiency of water management, including both consumption and recycling. Two

### Total water discharge / EN21

	2007	2008	2009	2010	2011
Water discharge (1,000m³)	17,934	14,931	12,867	14,000	13,650
Treated in ST waste water treatment plant (%)	54	76	75	73	74
Treated in external waste water treatment plant* (%)	59	51	43	57	55

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

More performance indicators are available on pages 64 to 66

microfiltration modules have been installed along with a kinetic plant to filter waste water from wafer and package refining operations.

Water then undergoes further purification, with removal of metals and neutralization of acidity, reverse osmosis to exclude impurities, and finally ion-exchange to achieve deionized water quality for reuse in factory operations.

Since 1997, ST Kirkop has reduced its water consumption per production unit by 87% and attained a notable water recycling rate of 76%. The water conservation program saves water equivalent to the domestic average use of 5,000 people, around 1.3% of Malta's population.

3/ Order from the French Prefecture of Indre et Loire of March 11, 2011

# Energy Management



ST is committed to reducing its energy consumption and carbon footprint from its operations through energy efficiency and conservation programs along with the purchase of CO<sub>2</sub>-free and renewable energies. To mitigate its business exposure to climate change, ST carefully monitors and anticipates changes in the energy market.

## Why is energy management key for ST?

In 2008, the EU adopted an integrated climate change policy including targets to reduce energy consumption by 20%, and to supply 20% of energy demand from renewable sources by 2020<sup>(1)</sup>. Since the 1990s, ST has been working to mitigate its indirect Greenhouse Gases (GHG) emissions under scope 2 of the GHG Protocol. These initiatives have already halved our energy consumption per production unit, and work is ongoing to make further improvements in manufacturing efficiency. ST is now broadening its scope by adopting a full Total Cost of Ownership (TCOO) approach in its facilities and energy purchasing processes, which includes the procurement of renewable energy.

## ST's approach to energy purchase, consumption and conservation

### Sourcing strategy

ST's main source of energy is electricity with only relatively low quantities of fuel and natural gas needed for air heating, abatement devices and general facilities. ST both generates and purchases green electricity. Our global energy sourcing department monitors and anticipates local regulations and the specific energy needs at each of our sites. When purchasing energy, we consider proposals that offer the optimum balance between cost and environmental impact. ST encourages sites to adopt

and install renewable energy sources wherever possible; for example, ST Catania (Sicily) has installed 10,300 m<sup>2</sup> of photovoltaic panels. In 2011, ST wind farm located in the south of France has contributed to 1.13% of our total energy requirements. To complement this approach, we selected a new energy provider in France able to provide 25% of the energy contract from renewable sources. We pursue our efforts to further increase the percentage of green energy we purchase, also dependent on us being able to negotiate a commercially acceptable price with other green energy suppliers.

Also, to mitigate its business risks relating to energy and climate change and to increase stability in a volatile market, ST pays particular attention to market price volatility and CO<sub>2</sub> emissions taxation regulations.

### Consumption, conservation and energy-efficiency

ST's EHS Decalogue target is to achieve a cumulative reduction of energy consumption of 5% per year (per unit of production). As a result of the economic downturn and the decrease production output during the year, we have been unable to meet this target in 2011. However, we have major programs in place to further improve energy-efficiency in our processes, including some opportunities at our non-manufacturing sites. For example, in 2011, ST Geneva headquarter (Switzerland) added a requirement into its boiler maintenance contract to reduce energy by a minimum of 10% per year. Results were above expectations, with a 19% reduction in

gas and a 6% reduction in electricity consumption, mainly due to better matching of consumption with need.

ST also developed a Total Cost of Ownership (TCOO) approach for all Front-end and Back-end facilities, linked to the Company's total costs across all projects and processes. All ST contracts are now assessed on the total costs of acquisition, maintenance and energy consumption over a ten-year period. ST Crolles (France) purchased two air compressors in 2011 based on the TCOO approach. Energy cost represents eight times the price of the equipment over a ten-year usage period. TCOO will save around US\$ 373k and 470 tons CO<sub>2</sub> per compressor over ten years.

ST also continues to focus on energy-saving in our manufacturing facilities and the construction of energy-efficient buildings in order to meet our Decalogue targets.

1/ European Commission, Climate action, Energy for a changing world

## ST objectives

- Reduce energy consumption by 5% per unit of production per year
- Achieve an increase of 7% in the purchase of green energy by 2012
- Formally include criteria on energy efficiency and use of CO<sub>2</sub> emission-free and/or renewable energy in the selection of energy and facilities contracts by 2012



Michel Curtil

Industrial sector Director, GDF-Suez (France)



"Europe advocates the move towards a low-carbon economy by 2050 with a decrease of between 80% and 95% in CO<sub>2</sub> emissions.

GDF-Suez has developed sustainable energy offers coming from guaranteed renewable sources aiming to answer both GDF-Suez and its stakeholders' expectations.

In taking up the offer AlpEnergie25, ST France chose a sustainable approach to reduce its greenhouse gas emissions. AlpEnergie25 provides energy generated from dams we operate along the Rhone river. Thanks to the proposal from GDF-Suez, ST demonstrates its engagement for a more responsible use of resources. One quarter of its electricity consumption comes thus from renewable sources whose origin is certified by the German organization, TÜV SÜD."



## ST Agrate (Italy) certified to ISO 50001

The energy management Standard ISO 50001<sup>(2)</sup>, details the requirements for establishing, implementing, maintaining and improving an energy management system to increase energy efficiency, reduce costs and improve energy performance. Since mid 1990s, ST Agrate has integrated energy performance targets into its environmental management practices and made strong efforts on energy consumption, conservation and management. In 2011, ST Agrate was certified to ISO 50001, only the third company in Italy to achieve certification.

ISO 50001 certification helped ST to meet several energy challenges through:

- the identification and management of electricity consumption; analyzing and planning our electrical consumption enables us to secure the energy provisioning with power suppliers
- the optimization of manufacturing equipment and the inclusion of energy efficiency parameters in the procurement of new equipment
- the optimization of indirect CO<sub>2</sub> emissions (Scope 2 and 3).

Agrate commissioned external ISO 50001 certification which included an assessment of the site's energy management tools and systems.

The site was commended for their very high level of performance, while identifying two areas of improvement; the need to improve the reliability of monitoring tools by putting in place systems to measure the loss of Freon gas from chillers, and the introduction of the latest electrical performance evaluation methodology in our new buildings.

Thanks to ISO 50001, ST now has an additional instrument to improve energy consumption and environmental performance. Catania (Italy) and Rousset (France) sites will undertake the certification in 2012, and the Standard will be further adopted by other ST sites in 2013.

2/ ISO 50001 replaced ISO 16001 from June 2011.  
ST Agrate was certified ISO 16001 in 2010

## 2011 results

For more information on our environmental results, please refer to page 66

Consumption of energy (per unit of production):  
normalized values / EN4 / 2.1



Electricity produced by ST-owned windfarm  
/ EN3 / 3.3

GWh

	2007	2008	2009	2010	2011
Electricity	30.0	21.7	22.7	23.8	25.1

Tenders that incorporate criteria on energy efficiency and the use of CO<sub>2</sub> emission-free and/or renewable energy

%

	2011
Call for tenders that include criteria on energy efficiency and use of CO <sub>2</sub> emission-free and/or renewable energy	100
Retained offers with best environmental proposal	50

More performance indicators are available on pages 64 to 66



# Transport & Logistics

ST is committed to managing the social, safety and environmental impacts resulting from transportation and logistics for products, materials and employees, considering overall efficiency and reduction of CO<sub>2</sub> emissions.



## Why are transport and logistics key for ST?

Transport accounts for 23% of global energy-related CO<sub>2</sub> emissions and trends project an increase of nearly 50% by 2030<sup>(1)</sup>. For global companies, the safe and efficient transport of products and people is a priority. Energy supply and price, natural or man-made events, pollution and congestion issues can all destabilize transport flows, which, in turn, can have a major impact upon a company's performance.

At ST, transport represents 7.4% of our total CO<sub>2</sub> emissions and we have a range of initiatives and programmes to minimize both our direct and indirect CO<sub>2</sub> emissions, as covered by Scope 3 of the Kyoto Protocol. We have implemented several company-wide programs to reduce our transport-related carbon footprint while maintaining the operational requirements of our internal and external stakeholders. We also offer a range of local initiatives to develop sustainable transport options for our employees.

### ST objectives

- Reduce the carbon footprint of ST product transportation by 15% by 2014
- Ensure that all sites have a formalized mobility plan to promote alternative and greener modes of transportation and evaluate the benefits

## Our approach to products and people transportation

### Product transportation and logistics

Product transportation incorporates the transportation of semi-finished and finished goods between ST sites and to customers, and the transfer of equipment during manufacturing processes. We optimize routes and regularly update these to align with business strategy, economic fluctuations and customer demand. ST has developed a comprehensive and accurate record of its CO<sub>2</sub> emissions by using a dedicated information sharing system defined with our logistics service providers. In 2011, we reduced the distance for each kilogram of product transported via the ST network by 11%.

### The ST transportation network is fine-tuned by:

- minimizing product weight and volume during packing and shipping to ensure that more products are shipped per cubic meter
- optimizing internal transport through efficient planning that considers freight footprint efficiency and frequency alignment with internal customers' needs
- ensuring that the selected mode of transport is the most appropriate for the requested routing, in terms of cost, speed, quality and environmental impact
- monitoring for changes in customer demand patterns or delivery points and engaging the sales organization in the optimization process

- introducing direct shipment routes and taking every opportunity to reduce the number of kilometers for each kilogram of product travelled.

In 2010, ST launched a Lean Packing Program to redefine packing guidelines, set new quality, safety and environmental criteria, and specified new rules for the use and reuse of boxes. One benefit is that it has delivered improvements in data reliability, enabling us to accurately monitor efficiency on a quarterly basis. In 2011, we reduced the shipped volume by 3.3% compared to 2010. This represents at least 30 containers.

In 2012, we will continue to restructure our routings and will switch the transfer of internal equipment from air-freight to sea-freight wherever the decommissioning or installation lead times permit.

### Employee commuting

At a local level, many of our sites deploy innovative employee mobility programs, developing greener transport options and offering alternative solutions to the use of individual cars. Green transport initiatives are frequently promoted through specific campaigns and awareness-raising events. Incentives are also offered to encourage employees to use public transport, coaches or car-pooling networks. Furthermore, some sites are testing electrical cars, motorcycles or bicycles. Some sites e.g. Grenoble (France), have gone further than this to encourage the deployment of green transport plans by their local catering, cleaning and security subcontractors.

<sup>1/</sup> According to the International Energy Agency



## Focus on ST Calamba (Philippines) finished goods

Flexibility and adaptation are key attributes for ST to ensure that its logistics models are adequate and aligned with business needs.

As a result of a 20% increase of outsourced Back-end operations in the Philippines, ST Global Logistics & Warehousing Organization (GLWO) completed the optimization of its logistics network. Taking advantage of existing ST infrastructures and competences in Calamba, its central location in Asia, and anticipating further site growth over the next five years, GLWO decided that Calamba would be the best location for the additional inventory storage and operational capacity required for the increased logistics and warehousing activities.

Several ST business units and organizations worked together during a six month period to find the best way to simplify shipping flow, utilize subcontractors' skills and experience and understand the constraints on the overall supply chain, in order to further improve efficiency while maintaining an effective delivery service to our customers.

The newly created hub has enabled savings of over US\$ 1.3m on freight costs and a two-day reduction in cycle time as a result of freight routing optimization, and a 55% reduction in CO<sub>2</sub> emissions, equivalent to 1,400 tons of CO<sub>2</sub> per year.

## Focus on package re-design

The 12 inch Front-Opening Shipping Box (FOSB) is the biggest outer box used by ST to pack its devices. ST Global Logistics & Warehousing Organization (GLWO) developed a Lean Packing Program to re-design and optimize its packing and increase the efficiency of its use and transportation.

The 12 inch FOSB packing was identified as a key contributor of waste due to material consumption, excessive freight costs and CO<sub>2</sub> emissions. To find an economic and environmentally friendly alternative, five models with

different sizes and materials were designed.

Tests were based on the following criteria: quality (drop tests results), environment (less polluting material), and cost of transportation (volume).

The volume of the re-designed FOSB packing has been reduced by 35%, while its robustness has been improved to avoid wafer breakage. This design is also lighter and makes manual handling easier and safer.

Through this program, ST generated savings per year of US\$ 450k in freight and material costs, a reduction of 725 m<sup>3</sup> in volume and 220 tons of CO<sub>2</sub> emission reduction.



Antonio Infosini  
Infrastructure Sector Director, Strategic Interventions and Mobility, Provincia di Monza e Brianza (Italy)



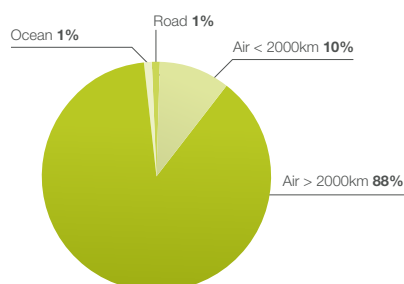
"To reduce the traffic and environmental impact generated by people transportation in the critical area of Milan and Monza e Brianza, we developed a sustainable mobility plan called Moving Better. This project created a collaborative network between municipalities and companies and as a result, more than 120,000 people are using public transportation and the innovative technologies, such as electric transportation.

More than 50% of ST Agrate employees have participated in answering a specific questionnaire about commuting, which has enabled us to build a precise picture of the local situation and define smart actions to improve local mobility."

## 2011 results

For more information on our environmental results, please refer to page 66

### Carbon footprint of ST's products per mode of transportation



### Packing density reduction

	2010	2011
Packing volume reduction (compared with a baseline of 100 in 2010)	100	96.7

### Carbon footprint of ST's product transportation\*

	2010	2011
Transport component of ST's total CO <sub>2</sub> emissions (%)	8.1	7.4
CO <sub>2</sub> emissions due to product transportation per year (ktCO <sub>2</sub> )	110	99.42

\* We reviewed our sequestered values in 2010 after a revision of our methodology used to estimate the annual carbon sequestration.

### Employee mobility plan

%

	2011
ST sites with an employee mobility plan	56
Employees covered by a mobility plan	43.2
Modes of transportation proposed to employees	Private and public buses, trains, bikes and electrical bikes, car-pooling networks, shuttles, taxi service for employees working late

More performance indicators are available on pages 64 to 66

# Waste Management

ST is committed to continuously reducing, re-using, recycling and managing waste streams from manufacturing sites including hazardous substances, metals, packing, plastics and other non-biodegradable materials.



## Why is waste management key for ST?

The advance of science and technology, along with the development of a mass market with an increasing demand for the latest advanced electronics and electrical devices, has generated a large range of Information and Communication Technology (ICT) products and this has led to an ever increasing quantity of electronic waste. Several pieces of legislation require companies to observe the strict management of hazardous waste, including treatment, transportation and elimination, as well as managing products at the end of their life.

Waste management is a key area for every ST site. Very strict controls are maintained over the whole process and the ST Environment Health and Safety (EHS) Decalogue contains ambitious targets to increase re-use and recycling ratios; also to identify the most appropriate solution for final disposal, thus avoiding sending waste to landfill.

### ST objectives

- Reduce the generation of waste by at least 5% per year (kg per production unit)
- Reduce the generation of hazardous waste by at least 5% per year (kg per production unit)
- Re-use and recycle at least 95 % of waste
- Reduce landfill waste to less than 2%

## Management on the overall waste chain

### Strategic management of waste

Since 1995 and its first EHS Decalogue, ST has set stringent targets to reduce waste generated from operations and to re-use or recycle materials. At ST, even though waste is managed according to country prerequisites and local specificities, our EHS Decalogue requires that all sites meet the most stringent of either their national/local regulations or the company procedures. In 2011, more than 90% of waste generated was recycled and re-used, while less than 3% was sent to landfill.

ST's waste strategy covers all waste streams, from operations, surrounding activities (offices, canteen, etc), and products<sup>1/</sup>. ST developed a Waste Ladder methodology to ensure an appropriate end-of-life treatment for each waste stream, based on its economic value and ecological impacts. Significant results have been achieved on: waste prevention; recycling and re-use; final disposal, monitoring, and auditing.

### Operational waste management

Waste from operations is our more critical issue, as it may contain hazardous materials. We established an integrated process for the environmental management of waste covering compliance, monitoring of the quantity of waste produced each year, data collection and reporting. This was accompanied by the detailed assessment of the potential environmental impacts of operational waste generation. Dedicated

areas have been built into all our manufacturing sites for waste collection, segregation and disposal. Each site ensures that waste is segregated and then managed as a distinct waste stream. These processes are aligned with national and local laws and regulations.

ST pays particular attention to hazardous waste resulting from the production process which includes, for example, chemical substances, contaminated plastics and light-bulbs. Most hazardous waste is recycled or re-used and the remaining waste is safely disposed of by specially-authorized companies. Wherever it is possible, our hazardous waste is treated in the country where it was produced. In 2011, in accordance with the Basel Convention, none of our sites exported hazardous waste.

ST sites seek and share best practices in a number of areas, for example the environmentally responsible transformation of waste, partnerships with local recycling companies, minimization of transportation, increased traceability, and the use of technological innovation.

ST goes beyond EHS Decalogue targets through initiatives to revalorize office and canteen waste. We worked closely with several of our partners to improve their practices, and have especially worked with our canteen subcontractors to increase organic waste composting and the recycling of cardboard, bottles and cans. We also regularly raise employee awareness on their individual contribution to recycling.

1/ Product-related waste is detailed in the eco-design pages 30-31

## Focus on 96% achieved recycled waste at ST Muar (Malaysia)

ST carries out recycling programs to comply with, and sometimes exceed, the waste disposal and recycling regulations in countries where we operate. In 2011, ST Muar identified new opportunities to minimize waste and recycle or re-use materials and attained a recycling rate of 96%, the best performance across ST Back-end sites.

One of Muar's main achievements relates to electronic waste, representing 21% of the total site waste. To recycle the 35 tons of scraps and frames generated per month and ensure that the entire waste life-cycle is taken into account, ST Muar appointed a dedicated scrap metal recycling company. Electronic wastes follow several recycling process stages from scrap reception, burning, crushing and segregation, until the final step where the metals (gold, palladium, silver and copper) are recovered in ingots or bars and then sold. In 2011, to check the efficiency of waste processing, the EHS team at Muar conducted an audit of the recycling company's management system and practices against regulations and ST standards.

In order to recover the 4% remaining, Muar continues the search for improvement actions and potential cooperation with new partners.

## Focus on hazardous waste recycling at ST Agrate (Italy)

Solvents are mainly used in the semiconductor industry for the cleaning of wafer surface and of manufacturing equipment. The resulting used solvent is considered as hazardous waste. At ST Agrate, around 1,500 tons of solvents have been consumed in the past five years. The recycling of these solvents has been the main area of focus for the site's waste management activities.

During the manufacturing phase, the portion of solvents that evaporate is collected and treated by specific abatement systems. The remaining liquid part, approximately 70% of the initial consumption, is segregated, collected through dedicated pipelines and disposed of in specific steel tanks designed to collect solvents safely. Solvents are then collected by a specialized company and transported to the final chemical plant where they are treated and recovered without the need for incineration. Spent solvents are re-used after undergoing a process of fractional distillation that purifies them without using additional materials. The products can be re-used in other industries e.g. the wood or plastics industries.

100% of the solvents used and not evaporated are recycled and this initiative generates other positive environmental impacts with less pollutants and less CO<sub>2</sub> discharged. The site estimates these measures alone have saved the equivalent of 400,000 kg of CO<sub>2</sub>.



Frank Hsu  
CEO Falun International  
(Taiwan)



"Falun has partnered with ST and other semiconductor industries for several years.

Wafers are collected and recycled to make solar cells which are re-used in the photovoltaic market. Falun re-processes silicon using techniques which do not generate any harmful by-products or waste.

Firstly, we erase all information from used wafers using sandblasting. Secondly, we mix the used wafers with new silicon to produce ingots which are cut to make solar wafers for solar cells. This initiative is an example of how industries can work together to reduce cost and environmental impact. The amount of energy saved through this recycling is the equivalent of approximately 12.6 million liters of diesel fuel per year."



## 2011 results

For more information on our environmental results, please refer to page 66

### Landfill waste / EN22



\*Our 4th Decalogue, launched in 2010 contains a tightened waste target

### Waste / EN22

	2007	2008	2009	2010	2011
Total hazardous waste	13,205	12,756	9,391	11,365	10,415
Total waste	43,628	46,367	33,439	40,775	38,595

### Recycled waste / EN22 / 6.1

	2007	2008	2009	2010	2011
Waste recycling & reuse	83	89	87	89	92

### Waste under Basel Convention / EN24

	2007	2008	2009	2010	2011
Hazardous waste transported (as a % of total hazardous waste)	0.09	0.02	0.003	0.000	0.000

More performance indicators are available on pages 64 to 66

# Management of Chemicals



## Why is management of chemicals key for ST?

The Registration, Evaluation, and Authorization of Chemicals (REACH)<sup>(1)</sup> regulation imposes a 2018 registration date for all substances produced or imported in Europe, according to specific timeframes that relate to the hazardous nature and quantity of each substance. Legislation on hazardous substance management is becoming more and more stringent, which is also reflected in ST's customers' requirements. Companies have to go beyond technical requirements to reduce consumption, substitute chemicals and ensure employee and environmental safety.

Semiconductor manufacturing processes use several chemicals, especially in Front-end activities, which are classified as Substances of Very High Concern (SVHC).

### ST objectives

- Reduce total consumption of chemicals by 5% per year (weight per production unit)
- Strive towards continuous reduction and elimination of Substances of Very High Concern in our processes
- Ensure 100% of key suppliers and subcontractors fully commit to ST specifications and procedures (through ST Banned and Exempted Substances specification)
- Strengthen our management of materials of concern in our manufacturing processes through Chemical Risk Assessments

ST is committed to reducing and managing its environmental, health and safety risks, and to achieving legislative compliance and alignment with customer requirements. We base the selection, use and substitution of materials on the precautionary principle along with our relevant specifications and procedures. We also aim for suppliers and subcontractors to be compliant with ST's specifications and procedures.

These are defined as carcinogenic, mutagenic or toxic for reproduction (CMR), bio-accumulative, persistent, or ozone-depleting substance (ODS). ST has an integrated and proactive strategy to manage chemicals throughout its manufacturing activities and supply-chain to reduce the consumption of SVHCs and to substitute them whenever possible. We consider this as a key issue, and have worked successfully so far to anticipate legislation and develop a comprehensive policy that involves many ST departments.

## ST approach to hazardous material management

REACH regulation addresses the production, importation and use of more than 30,000 chemical substances into Europe. As a downstream user and producer of articles (our devices), ST must notify customers of the presence of SVHC in its products. In its path of compliance to REACH, ST has developed a substances substitution strategy. During recent years, we have been working on integrating the precautionary principles into the early stages of the selection of new chemicals. Substituting chemicals is very complex because we need to find viable alternatives which can take several years. Compliance with material standards has been coordinated by a dedicated working group since 2007. To meet REACH requirements, we replaced four SVHC substances that were included in the 2008 and 2011 lists and plan to replace a further two substances. ST is also working alongside the European Chemical Agency (ECHA) and several industry bodies to ensure the alignment of the semiconductor industry sector to REACH regulation.

ST has historically continually sought to reduce chemical usage and has developed corporate and local reduction plans, which include waste treatment<sup>(2)</sup> shared across all ST sites. Since 2000, the trend for chemicals usage reduction has been maintained with an overall percentage decrease of more than 5% per year. Initiatives include the substitution of the most hazardous substances, chemical recycling, process optimization and hardware modification to dilute chemicals and reduce the quantity needed. To eliminate Perfluorooctyl Sulfonate (PFOS) which is used for photolithography applications in semiconductor manufacturing, ST is working with the World Semiconductor Council (WSC) to eliminate them across the industry. In the meantime, and going beyond current legal European exemptions, ST Crolles (France) is already in the final stages of eliminating PFOS from its processes.

ST requires that chemical risk assessments are performed at all ST sites before introducing any new substance. In 2011, this procedure was strengthened to align it with recent changes in substance classification introduced under European regulation. Chemicals are screened and evaluated based on strict engineering controls, hazard identification, along with an assessment of any collective and personal protective equipment needed to prevent any risk to Environment, Health or Safety. Further coverage of chemical components in ST's products is detailed in the eco-design pages.

<sup>1/</sup> EU REACH was implemented in 2007.

<sup>2/</sup> For more details on hazardous waste and recycling, see articles on waste management page 44-45



## Focus on management of chemicals in ST's supply chain

In 2011, ST published its seventeenth list of banned, exempted and declarable substances which now includes over 1,600 substances. This list is reviewed annually to incorporate the most stringent worldwide regulations and standards, along with our customers' requirements. Its deployment over ST's supply-chain is coordinated by a dedicated team of internal experts.

ST has implemented a robust process assessing the compliance of key materials suppliers and Back-end subcontractors' partners against this list. The list is thus communicated to all relevant ST suppliers and subcontractors, who are required to provide ST with legal statements and evidence that supports compliance. Examples of evidence include certificates of analysis, legal registrations and permits, material safety data sheets and due diligence surveys. Responses are reviewed and validated. The finalized list is issued to relevant experts for integration into chemical management processes throughout our supply-chain. In 2011, we received the best satisfaction rate so far in the response provided from our business partners, despite the increasing complexity of compliance. The management of chemicals is also integrated into the Supplier Performance Evaluation (SPE) performed at least annually, with improvement plans systematically requested if the evaluation indicates that the supplier does not meet ST standards.

## Focus on substance substitution at Back-end sites

The European Chemicals Agency included Boric Acid in the candidate list of substances of very high concern, effective from 18 June 2010, in relation to the EU REACH regulation.

Anticipating legislation, ST included Boric Acid in its banned, exempted and declarable substances list from 2009. One of our suppliers, Atotech, declared that Boric Acid was present in a chemical substance used for the cleaning process performed on some manufacturing machines, so we engaged the collaboration to develop a greener substitute. ST Longgang (China) followed by ST Shenzhen (China), the two only ST sites using Boric Acid, have made progress to phase this substance from their manufacturing processes. In early 2010, they conducted several tests with the substitute proposed by Atotech to ensure that it was not affecting process reliability. Several months were necessary to reach a final qualification. From June 2010, ST ensured its compliance towards applicable legal REACH requirements specified in Annex XVII, and went beyond this by completely phasing out Boric Acid in 2011.

To encourage cross-fertilization among sites, the phase-out process, including technical details and process amendments, has now been shared across ST, to assist other sites that may face a similar situation. ST is currently working on other chemical substitution projects with its supplier Atotech in a collaborative approach.



Dr. Juergen Barthelmes  
Worldwide Business  
Manager, Functional  
Electronic Coatings,  
Atotech (Germany)



"To anticipate and build regulatory requirements into new substances and products, Atotech closely monitors EHS legislation that impacts upon its business. It constantly assesses the new products needs from local entities and initiates corresponding research and development projects. Also, to generate new ideas and find alternative substances, we closely cooperate with suppliers, original equipment manufacturers and external institutes/universities. Collaboration is also proposed with our customers to test new products and technologies using pilot sites. The main advantage with ST is that it independently drives change and is willing to test new, greener materials and technologies with Atotech. In the spirit of cooperation, customer satisfaction is imperative for our success."

## 2011 results

For more information on our environmental results, please refer to page 66

### Elimination of Substances of Very High Concern (SVHC)

	2011
Total number of action plans for elimination and reduction of Substances of Very High Concern (SVHC)	15
Action plans completed on-time (%)	100

### Deployment of ST substances specification to key suppliers and subcontractors

	2007	2008	2009	2010	2011
Response rate from key partners	100	100	100	100	100
Full commitment from key partners to ST substances specification	82	92.5	93	91	98.5

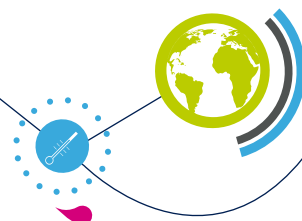
### Consumption of chemicals (per unit of production):

normalized values / EN1 / 2.3



More performance indicators are available on pages 64 to 66

# GHG Emissions from Operations



ST is committed to managing and reducing its direct and indirect greenhouse gas emissions, including PFCs, from its manufacturing and other business operations, in accordance with scopes 1 to 3 of the Kyoto Protocol.



## Why is the reduction of GHG emissions important for ST?

48

Climate change is considered as the greatest environmental challenge that we face as a human family<sup>(1)</sup>. The Information, Communication and Technology (ICT) sector is responsible for about 2.5% of global carbon emissions, resulting from the production and use of ICT products and services<sup>(2)</sup>. Our actions to reduce our carbon footprint cover both product and service areas, as detailed in the environment and products sections of this report.

Even though the semiconductor industry is a relatively minor contributor to overall GHG emissions, it emits high Global Warming Potential (GWP) substances. ICT industry associations have set themselves ambitious targets to reduce perfluorinated compounds (PFCs) in their manufacturing processes, in anticipation of further expansion of both national and international regulations and emissions targets.

Since the early 1990s, ST has integrated climate change as a key element of its environmental policy and has consistently delivered annual reductions in the level of greenhouse gases (GHGs) emitted from its manufacturing activities. This has been achieved through a multi-faceted strategy that takes all aspects of the value chain into consideration and seeks to gain results through collaboration with our stakeholders.

## Our approach to mitigating direct emissions

Reducing environmental impacts at operational level has been a major focus since our first Decalogue in 1995. We measure, manage and report our direct and indirect emissions in accordance with the GHG Protocol and the Global Reporting Initiative (GRI).

For Scope 1 of the Kyoto Protocol (all direct GHG emissions), we developed a carbon roadmap, setting a target of carbon neutrality of our direct emissions by 2015. ST's largest direct emissions result from the use of PFCs in our manufacturing processes. The reduction of these emissions can be achieved through the installation of PFC abatement systems for both new and existing equipment. To achieve our 2015 target and roadmap, we defined the priorities for each site that factored-in ST's growth rate. In 2011, we invested approximately US\$ 6.3million in additional abatement devices for newly acquired equipment to meet ST's standards. PFC reductions have also been achieved through the development of greener manufacturing techniques, the optimization of process recipes, and the replacement of high GWP gases with lower or GWP-free alternatives. We compensate the remaining emissions through reforestation programs in Texas (USA), Australia and Morocco.

ST is also an active member of the European Semiconductor Industry Association (ESIA) and signed a voluntary agreement in 1999 with the World Semiconductor Council (WSC) to reduce PFCs. After ten years of very positive progress, the WSC released a joint statement in May 2011 on the post-2010 agreement on PFC emissions reduction, with new targets set for the next decade. ST has committed to these targets.

For 2012, ST will undergo third party validation of its entire GHG emissions and will continue to install further abatement devices on its Ang Mo Kio (Singapore) and Crolles (France) mature factories.

ST's programs on Scope 2 and Scope 3 of the Kyoto Protocol are detailed in the Energy Management, and Transport and Logistics pages of this report.

1/ Ban-Ki Moon at 39th plenary assembly of the World Federation of United Nations Associations (August 2009)  
2/ According to the International Telecommunications Union (ITU)

## ST objectives

- Reduce absolute PFC emissions by 30% in 2020 from 1995 baseline
- Offset the remaining direct CO<sub>2</sub> emissions through reforestation or other sequestration methods, to reach carbon-neutrality of direct CO<sub>2</sub> emissions by 2015

## Focus on the Carbon Disclosure Project (CDP)

The Carbon Disclosure Project (CDP) is a UK-based initiative to monitor the greenhouse gas emissions performance of major corporations. Since 2006, ST has participated in the CDP Europe 300 Index that appraises the 300 largest European companies on their carbon emissions, energy use, reduction and risk management related to climate change.

ST values the CDP's analysis and feedback as a driver to further embed carbon management in our corporate strategy, manufacturing processes, and product development. In 2011, we refreshed our approach to better evaluate our risks and opportunities. We strengthened the communication of our data and programs and improved the accuracy and quality of information. In 2011, the CDP Investor was a top priority for ST, and we substantially improved

the CDP Investor score to REACH an "above average" rating of 73/100. We are conscious that we still have room for improvement and one of our main actions for 2012 will be to conduct an in-depth climate change risk and opportunity assessment. To broaden our commitment, we also commenced participation in the CDP Supply Chain (in 2010) and CDP Water (in 2011) programs on a voluntary basis.

## Focus on ST Rousset (France) installation of 11 PFC abatement systems

One of ST's initiatives to reduce its GHG emissions is to install PFC abatement systems. Despite the economic crisis, ST Rousset installed 11 Thermal Process Unit abatement systems on its new machines between 2010 and 2011. The Rousset eight-inch wafer factory

was originally designed to incorporate environmental point-of-use systems. Since then, the site has consistently endeavored to improve the treatment of its atmospheric emissions.

In ST's Front-end sites, PFCs are mainly used in small quantities at two specific stages of the manufacturing process. At these stages, dedicated abatement systems are implemented to divert a large part of the gases through a network of aqueous scrubbers, which capture them into a state where they can be treated appropriately. To avoid the risk of accidental pollution, ST has built in safeguards that automatically halt production processes if any scrubber is malfunctioning or not operating.

The capital investment in these solutions has been US\$ 2m. Had the equipment not been installed, our PFC emissions would have been double their current value. Rousset is now ST's best performing site in terms of PFC emissions.



Claude Morant  
Front-end Manufacturing Group Vice President,  
Operations and Site Director of ST Rousset  
(France)

"The Rousset 8-inch wafer plant was designed from the start to be a 'green semiconductor plant'. We selected the best available technology for PFC elimination to achieve and maintain full PFC abatement. Any new investment in manufacturing equipment includes the installation of a Thermal Processing Unit, along with facilities for ultra-pure water reclamation and fluoride waste water treatment. To pursue this ambitious goal, we have put in place improvement programs that involve all parties to target the source of pollution as far as possible by developing alternative chemicals and processes (with lower or zero Global Warming Potential gases) and by increasing the efficiency of PFC extraction."

## 2011 results

For more information on our environmental results, please refer to page 66

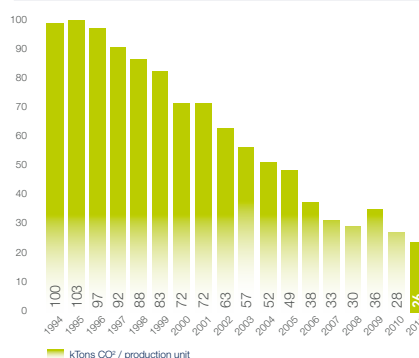
### Summary of net CO<sub>2</sub> emissions

/ EN16 / EN17 / EN18 / EN29 / 3.1 / 3.2 / 3.4

kTons

	2007	2008	2009	2010	2011
Direct emissions*	532	482	337	485	493
Direct emissions due to PFCs	481	439	296	453	462
Direct emissions due to boilers	51	43	41	32	31
Indirect emissions (purchased electricity)	1,029	882	876	907	903
Other indirect emissions (transportation**)	107	89	104	126	116
Total emissions***	1,668	1,453	1,317	1,518	1,574
Sequestration due to the implementation of reforestation projects****	133	176	215	249	277
Total direct net emissions	399	306	122	236	216

### CO<sub>2</sub> emissions: normalized values / EN16 / 3.0



\* In 2011, we incurred a marginal 1.73% increase in our direct emissions. This was mainly due to emissions from existing equipment that we are in the process of fitting with abatement devices. For newly installed equipment, we have invested US\$ 6.3million in additional abatement devices so that it can meet ST's requirements. Without this significant investment, we estimate that our direct emissions would have been much higher (see Rousset example).

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

\*\*\* Transportation emissions are integrated in the total emissions.

\*\*\*\* Our sequestered values since 2002 have been reviewed in 2010 after a revision of our methodology used to estimate the annual carbon sequestration and justifying the parameters used as input to the model.



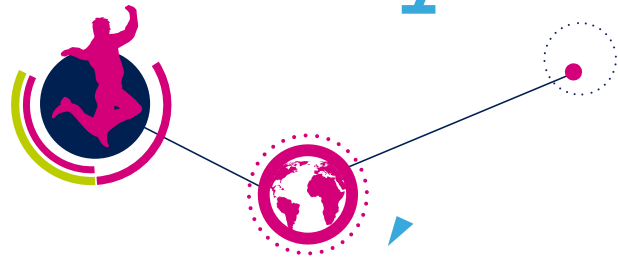




# The Community



# Local Sustainability Impacts



In today's world, engagement between companies and their local communities is multi-faceted, taking into account many diverse views and interests. Effective engagement has the potential to benefit many stakeholders, including the local community population, government and general civil society. Within ST, community engagement forms a central pillar of our culture with many site-based initiatives and activities providing social and environmental support. The ST Foundation is also one of the ways in which STMicroelectronics contributes to communities.



## How does ST engage at local level?

Currently, ST's engagement with communities consists of two main threads; local initiatives directly managed by sites and initiatives that are managed through the ST Foundation.

ST's worldwide presence is highly diverse and multicultural, ranging from small sales offices to R&D and design centers or major manufacturing sites located across a range of countries and continents. It is our aim to generate positive local community impacts in a variety of ways; economic (e.g. through investments in infrastructure, local purchasing), social (e.g. employment, education and charitable activities), and environmental (e.g. reforestation, environmental protection).

ST's local community engagement and volunteering encompasses raising awareness on environmental protection, disability, science and education to young generations, fund raising and charitable activities, to name a few.

Our objective is to professionalize our approach so we have decided to draw on the available expertise and will therefore use the example of the London Benchmarking Group's methodology to help us better evaluate our community investments, improve and simplify our reporting and help share good practices.

## The ST Foundation

Since 2003, the ST Foundation has helped reduce the digital divide (the gap between those who have access to modern digital technologies, and those who do not) in both developing and developed countries through a worldwide computer literacy program, Digital Unify (DU).

The ST Foundation's governing body, its Board of Directors, takes decisions on areas such as financial management and approval of projects. The Board meets three times a year and its agenda includes the review of past activity and plans for future work.

The Board is chaired by Pietro Fox, President, and is composed of both ST and non-ST members: Mario Arlati (Treasurer), Mauro Decca, Alain Duthiel, Tjerk Hooghiemstra, Otto Kosgalwies, Guy-Philippe Rubeli. Pasquale Pistorio, ST's former CEO, is Honorary Chairman. A Geneva-based team takes care of project management and day-to-day administration, with local support in India and Morocco to ensure a close overseeing

of the many initiatives taking place in those two countries. Significant support is provided by a network of ST volunteers who work on several aspects of the Digital Unify (DU) program.

Digital Unify has offered free computer access and training to over 148,000 beneficiaries since its inception. In 2011, the ST Foundation's Board of Directors validated a new roadmap for Digital Unify, based on two themes:

- the development of a Local Community program, based on a network of ST volunteers at each major ST site. This was successfully launched with the support of ST's top management
- the development of Digital Unify in Sub-Saharan Africa, starting with strengthening the existing projects in Burundi and the Democratic Republic of Congo.

In addition, all ST site managers give priority to the ST Foundation when disposing of computers from the ST pool. The recovered computers and associated hardware are used to equip laboratories set up in partnership with ST Foundation as part of the Digital Unify program.

## ST objectives

- Support ST Foundation's initiatives
- Formalize a company community engagement strategy and evaluate its impact

## Focus on ST Calamba's 'We Believe' program

ST Calamba (Philippines) has a strong record of community engagement over many years; providing short-term livelihood programs to communities in need. Recently, Calamba's management team has launched a new initiative to broaden and reinforce its community engagement.

### Four strategic objectives have been set:

- to build more beneficial and sustainable community programs
- initiate close partnerships with communities neighboring the site
- promote simple acts of goodwill
- provide exciting opportunities to promote employee volunteering

### This program, called 'We Believe', is built around three pillars:

- **Environmental recovery and sustainability:** A partnership has been formed with the Haribon Foundation and the local farmer's cooperative in Caliraya (Laguna) to plant or adopt 20,200 trees by 2020. Through the active involvement of the employee volunteers and the direct engagement of the community, this objective will be achieved in less than five years. To date, in 2011, 9,100 trees have already been planted.
- **Humanitarianism:** A partnership with the Children's Joy Foundation helps orphaned children with their educational needs. A further partnership with the Cancer Warriors Foundation helps impoverished children with cancer to have access to timely

and appropriate diagnosis, proper treatment and high-quality care. ST also works with the Philippine National Red Cross to support a program to provide disaster response and relief distribution.

- **Employee volunteering:** Employee clubs (various clubs are active at site level with annual budget and plan) across ST Philippines participate in at least two community activities every year.

By the end of 2011, the total number of community volunteers reached 345. Community activities are now conducted outside office hours, but all programs that were launched still benefit from the participation of volunteers. The target number of volunteer hours for the year was 1,600 but this was exceeded with 2,032 total hours being volunteered. Such programs have a very significant positive impact, both on employees' morale and on the local communities, who recognize the contributions made by ST employees. ST Calamba has received several external recognitions over the years.

*See the 2011 Awards' list on pages 62-63.*

## Focus on the impact of STMicroelectronics on the Grenoble-Isère community

The fast-growing, high-tech and investment-intensive microelectronics industry is a major driving force behind local economies. It contributes to regional development through salaries and taxes, also by supporting and promoting various local services such as information systems and consultancy companies,

temporary employment agencies or security companies.

In 2011, the Grenoble Chamber of Commerce and Industry commissioned and financed a study in the context of the economic development of the territory and to this end evaluated ST's impact on the community. With the help of the Grenoble Chamber of Commerce and Industry, and by gathering and analyzing data from several ST Departments, subcontractor companies, research institutes and French State services, Reverdy came to the conclusion that STMicroelectronics, who employs 6,000 people in Isère, generates a flow of € 460 million annually into the Rhône-Alpes region. Each job at ST Grenoble and ST Crolles creates at least one job at one of ST's subcontractors or suppliers and four additional jobs in the service industry. ST Crolles and Grenoble therefore contributes in total to sustain approximately 26,000 jobs in France. ST Crolles ranks second in France in terms of industrial jobs created over the past 20 years. The report also highlights the intangible benefit of the presence of industrial leaders such as ST in the Grenoble area, as pioneers that built an internationally renowned high-tech establishment, giving a boost to the 120 innovative companies within the Grenoble ecosystem that can attract customers from around the world.

53

## 2011 results

### ST Foundation's Digital Unify program's beneficiaries / \$01 / EC1

	2006	2007	2008	2009	2010	2011
Total trainees	12,915	15,118	15,178	26,091	30,285	36,444
Total trainees from beginning of program	24,975	40,093	55,271	81,362	111,647	148,136

### STMicroelectronics Donations / \$01 / EC1

US\$K

	2007	2008	2009	2010	2011
Total cash donated to charitable associations	444	463	474	452	423
Estimated value of in-kind donations to community and society	250	188	268	4,253*	335

\* The increased in-kind donations in 2010 is a result of the Carrollton manufacturing site closure which generated US\$ 3.9m through the donation of furniture, equipment (no longer of use to ST), office accessories and, most notably, the land in East Texas (tree farms) which was donated to the Stephen F. Austin State University.

Pietro Fox  
ST Foundation President



"After witnessing the impact of computer literacy courses on a technical school in Burundi while working for WITAR\*, an Italian NGO, I was pleased to become the president of STMicroelectronics Foundation. My first hand experience inspires me to lead the Foundation to expand its activity and aim for greater efficiency while helping to bridge the digital divide."

\* Associazione Istituto Tecnico Alessandro Rossi nel Mondo

# Public Affairs & Industry Networking



Today, in developing their strategies, leading companies, including ST, proactively engage at a global, national and local level with a range of stakeholders such as trade associations, industry groups and standard-setting bodies. This engagement contributes to ST's enhanced competitiveness.

## Everywhere, a dual vision based on development and partnerships

ST has the key objective to promote the electronic industry's potential in all countries in which the company is located.

No matter the location, the strategy is the same even if the approach may vary according to the country, culture, local reality and existing infrastructure.

### ST objectives

- Strengthen our network of public and industrial affairs activities worldwide; create and observe good sustainability practices as well as efficiently manage sustainability-related risks and opportunities

## Focus on Europe

The microelectronics industry in Europe must constantly adapt and innovate to remain competitive. Although the European Commission offers support to Research and Development, this stops short of industrial investments. It rests with companies to find innovative ways to enhance their competitiveness and ensure their long-term sustainability.

European electronics companies are often at a commercial disadvantage compared with their competitors in other continents and support is needed from the European authorities to maintain the

competitiveness of these companies in their policy-making alongside the interests of European end-users of electronics goods.

According to Gérard Matheron, Site Director of ST Crolles (France) and President of SITELESC<sup>(1)</sup>, one of the most significant events in this area has been the formation of a High Level Group (to which Carlo Bozotti participated), nominated by three European Commissioners. The Group delivered a report in June 2011 on the KETs, Key Enabling Technologies for Europe, including nano-electronics and semiconductors. It is expected that this report will positively influence the future landscape of our industry, in particular in the areas of industrial scale pilot lines for manufacturing and public support for industrial investment, in those regions that will benefit from the new Smart Specialization of the region's policy.

In France, ST is playing a leadership role across all locations where we operate, forming partnerships with universities, laboratories and a variety of large and small companies in Tours, Paris, Rousset, Grenoble and Crolles. Multi-annual programs are set up and administered by ST, such as Nano2012 for Grenoble-Crolles and, more recently, Tours 2015 and MAGE<sup>(2)</sup> for Rousset. ST's local teams also contribute expertise to many European projects within the Cluster for Application and Technology Research in Europe on NanoElectronics (CATRENE), the Joint Initiative for European Nanoelectronics ENIAC and the Framework Programs 7 (FP7).

ST's engagement is also focused on environmental protection, safety and

security and in these fields, partnerships are also important.

ST is recognized for its leading role in environmental preservation; cooperating with other French companies and laboratories to develop new environmentally-friendly technologies and to disseminate best practices. Environmental initiatives in the region surrounding Crolles often receive the full support of ST environmental experts.

Our safety and security officers also meet with colleagues from competitors to analyze past incidents, promote best practices and share expertise, within the framework of SITELESC.

In Italy, Pietro Palella, Managing Director of STMicroelectronics Italy, believes that we have a dual engagement:

- contribute to developing local ecosystems by both forming and participating in clusters to develop new programs and ideas with university R&D centers, suppliers and start-up companies. The key areas of focus are: innovation, safety, energy saving, R&D and the transfer of technology. On environmental issues, ST shares its good practices through professional seminars and working groups within the Confindustria, the Italian employers' federation, the most important federation of industrial companies. For safety, ST has been identified as best-in-class within the whole Italian industry. Our local safety experts are members of a special team, created by government to help Italian companies reduce injuries and improve their safety practices.



- elicit Italian funding for R&D projects and partnerships. In our industrial sector, R&D demands a wide set of competences so it is very critical to launch partnerships with the academic community, which involves the application for public grants to promote the industry's economic and social contribution to the local community.

1/ *Syndicat des Industries de Tubes Electroniques et Semi-Conducteurs (French syndicate of the semiconductor industry)*

2/ *Microcontrôleurs pour l'Autonomie à Grande Efficacité Énergétique*

## Focus on Asia

In Asia, François Guibert, Executive Vice President, President, Greater China and South Asia Region strongly believes in the value of strategic partnerships, whether with universities, government, trade associations, standards boards, industry groups, etc. It is essential for the success of any company. No company can operate in isolation. This strategic engagement makes good business sense and ensures long-term business sustainability.

This is especially critical in Asia where ST has established strong research partnerships with top universities in China, Taiwan, India and Singapore to collaborate on advanced R&D projects and next-generation technologies. This helps to advance innovation and also positions ST at the forefront of academic and technical achievement in the minds of students, who are our future human capital. Examples include ST's eight-year partnership with top Tsinghua University, one of China's top universities which is one of the most successful at forging links with foreign companies. Also in India our partnerships include the Indian Institute of Technology, Delhi Technology University and the Indian Institute of Sciences.

We have also formed mutually-beneficial partnerships with many government agencies, including; Economic Development Board (Singapore), Agency for Science, Technology and Research (Singapore), China Electric Power Research Institute, Industrial Technology Research Institute of Taiwan, The Energy and Resources Institute (India), Bureau of Indian Standards, National Electronics and Computer Technology Center (Thailand).

Furthermore, several trade association partnerships have been formed around areas of sustainability i.e. energy saving, environment, water, healthcare, education, culture and the arts. Examples include the European, Italian and French Chambers of Commerce, the Indian and Philippines Semiconductor Associations.

## How can an innovative technical breakthrough turn into a national regulation?

Here is a very concrete example of how a company like ST can contribute to propagate technical good practice within the industry...

French law requires the regular health and safety certification of pressurized equipment, following procedures defined by the Ministry of Industry.

Semiconductor facilities use pressurized purifiers to deliver ultra-high-purity (UHP) gases to the manufacturing units. The catalysts used in this process are particularly sensitive to de-activation if they come into contact with water, making it impossible to conduct conventional water pressure testing, as required by the law. To address this problem, a team from ST Rousset and ST Crolles (France) developed a safe and

environmental alternative. They brought together a multi-site team that worked on the project along with local government environmentalists.

First of all, the teams obtained an agreement from the local authorities to provide relevant data needed to prove the absence of corrosive conditions inside the equipment. Then, they formed a partnership with the French group "Institut de Soudure" who had an innovative, non-invasive examination technique called acoustic emission, which applies a mechanical pressure to a vessel, and monitors the elastic energy that is released. This ingenious method detects potential fatigue cracking or brittleness in the welds or on the steel structure of the vessel. This solution was adopted by the authorities and incorporated into national regulation by the French Ministry of Industry for all manufacturers who deal with ultra-high-purity gases.

## Global view on ST's engagement

### ST's executives participate in many industry initiatives:

- Jean-Marc Chéry sits on the boards of ST-Ericsson SA, CATRENE, the European microelectronics R&D programme and AENEAS (Association for European NanoElectronics Activities)
- Carmelo Papa is Chairman of EPoSS (European Technology Platform on Smart Systems Integration)
- Loïc Lietaer is President of Minalogic, the Grenoble area microelectronics and applications competitiveness cluster
- Roberto Zafalon is member of the steering committee of ARTEMISIA (Industrial Association of ARTEMIS), a European technology platform, of EPoSS and AENEAS
- Dominique Thomas, Mario Diaz-Nava, Marco Maurelli, Maurizio Zuffada are steering group members in CATRENE
- Gilles Casanova works with European Academia, Institutes and industrialists to implement a new pan-European initiative, ENI2 (European Nanoelectronic Infrastructure for Innovation), in order to better address joint R&D activities
- Alain Astier is member of the board of SEMI Europe, a global industry association serving the manufacturing supply chain for the micro- and nano-electronics industries, and leads the cooperation initiative between Grenoble and Dresden Microelectronics Clusters
- Alain Denielle and Pierre Jacquemier are members of ESIA, the European

Semiconductor Industry Association and of WSC (World Semiconductor Council)

- Pierre Ollivier contributes to AFEP, the Association Française des Entreprises Privées
- Gérard Matheron is President of SITELESC and Vice President for Europe of FIEEC (Fédération des Industries Electriques, Electroniques et de Communication). He is also the Chairman of the Board of the Grenoble Institut National Polytechnique, and a support group member at AENEAS, ENIAC and CATRENE
- Pietro Palella is a member of Confindustria and Vice President of The Association of Electrical and Electronic Industries
- François Guibert, former President of European Chamber of Commerce in Singapore, is still a board member; board member of Alliance Française de Singapour; board member as well as chairman of Finance committee of Economic Development Board, Singapore
- Olivier Lamoureux participates in MEDEF (Mouvement des Entreprises de France) and AFEP (Association Française des Entreprises privées)
- ST also contributes to: the Framework Programme 7 (FP7); the ITRE (Industry, Research and Energy) Committee of the European Parliament activities; ORGALIME, the European federation of the national industrial federations

# Partnerships in R&D & Education

Direct contribution to R&D programs can help ST create value for its customers and remain among the industry's most innovative companies. Moreover ST's ability to attract the younger generation is an important indicator of its successful involvement in local R&D and academic ecosystems.

## Why are partnerships in R&D and education important for ST?

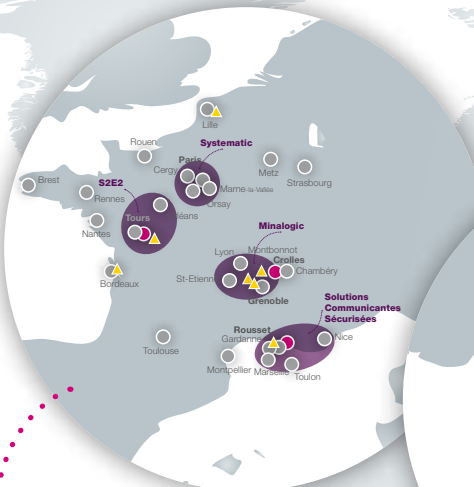
In the global semiconductor industry, research & development (R&D) is organized in clusters. Corporate R&D investments may reach levels of an average of over 20% of turnover and,

for ST, strategic alliances create many opportunities for cross-fertilization and synergistic ways of working.

Investment in, and partnerships with, local universities and other institutions help to provide sustainable, long-term engineering and technical resources in the vicinity of ST's operations.

## ST objectives

- For the short- to mid-term: ensure ongoing growth of ST's technical and specialist populations recognized through the technical ladder (individual paths)
- For the mid- to long-term: raise young populations' employability by providing access to PhD, apprenticeships and internship experience



## France

**85** cooperative R&D funded projects (carried-out at national and international level)

**3** frame agreements with the leading research institutes (CNRS, INRIA, CEA)

**600** student internships in ST premises

**200** PhDs on-going with ST tutors (part-time in ST premises)



## Italy

**90** cooperative R&D funded projects (carried-out at national and international level)

**20** research contracts with external labs

**145** student internships in ST premises

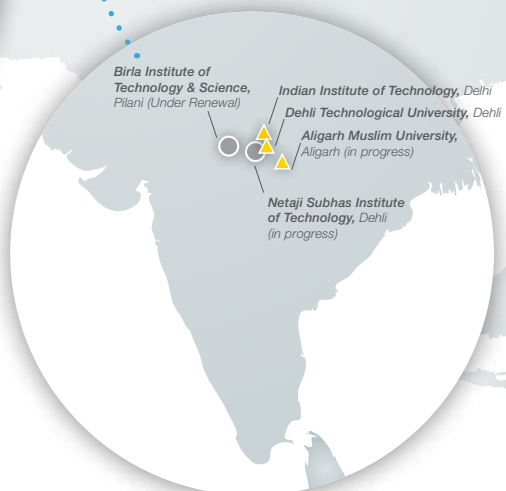
**20** PhDs working for their thesis in ST premises

## India

**2+5** funded projects  
non-funded projects

**3** research contracts

**200** student internships at ST premises annually



- Research Labs at ST facilities
- ▲ Joint Research Labs
- Research Agreements
- Competitive Cluster

There are five worldwide clusters that have developed comprehensive R&D ecosystems which include many universities, engineering schools and laboratories. To be efficient, such clusters need to reach a critical size and be linked through an intelligent communication network. ST leads the French / Italian cluster.

In addition to these global clusters, ST has developed its own R&D clusters around its major R&D locations: ST Crolles and ST Grenoble (France), ST Agrate (Italy) and ST Dehli (India). These clusters correspond to the 3 main pillars of ST's R&D strategy, leveraging technical resources (manufacturing, process R&D and design) that are then supported by R&D alliances with key partners.

In addition to developing its ecosystem, ST ensures the growth of its internal technical and experts' population via a program called "Technical Ladder". Throughout a technical career path, specific recognition systems are applied to strengthen ST's technical capability, increase innovation and promote technical achievement. This promotes the engagement and retention of our best technical experts by:

- promoting a clear technical career path and liked evolution
- creating an environment to support and stimulate continuous shared knowledge and innovation
- providing visibility, recognition and reward to key technical contributors

An integrated program has been developed to structure technical specialists' career paths and technical development under the guidance of technical advisory committees. The program includes aspects such as levels of expertise, eligibility criteria, and a nomination process up to company Fellow.

ST raises young peoples' employability by providing student access to PhDs, apprenticeships and internships' experiences around the world. Each year, hundreds of students join ST sites for a period of between 3 to 6 months for interns, 1 to 2 years for apprentices and 1 to 3 years for PhD's, to bring, share and develop their ideas for innovation within ST.

An award for innovation, the ST's Innovation Cup launched in 2011 in partnership with French, Italian and Swiss universities, is also a further example of ST's commitment to the next generation.

## 2011 results

Partnerships with the academic community / S01 / EC1

Technical ladder

	2007	2008	2009	2010	2011
Partnerships with universities, colleges, schools: teaching programs, internship programs and recruitment*	335	437	470	374	659

(\*) In 2010, we restructured our data for partnerships with the academic community doing a split between the partnerships for R&D purposes (common research labs, long term research contracts (CIFRE, BDI), any research and development programs, etc.) and those dedicated to teaching programs, internship programs and recruitment.

More performance indicators are available on pages 64 to 66

### Increasing the young generation's awareness of science and entrepreneurship

ST participates in various partnerships to promote technical and scientific careers, innovation and entrepreneurial spirit amongst young people and students.

Launched in September 2011, the Global Enterprise Project is a three year pan-European initiative to promote greater awareness amongst young people about entrepreneurship and globalization. It is initiated by the European Round Table of Industrialists (ERT), a forum of about 50 European industrial leaders, including the President and CEO of STMicroelectronics. The program is set up by the Societal Change Working Group of ERT which is currently chaired by ST. The initiative is supported by Junior Achievement-Young Enterprise Europe, Europe's largest provider of entrepreneurship education programs, and European Schoolnet, a network of 30 ministries of education.

Throughout the school year, young people aged 15 to 18 are given the opportunity to develop and apply entrepreneurial skills. Assisted by their teachers, the students are exposed to a variety of learning-by-doing approaches that include contact time with professionals and volunteers from a range of industries. They also have the opportunity to create and run a mini-company of their own, applying valuable skills such as team-building and business awareness in a globalized economy. A one-day innovation workshop named

Global Enterprise Challenge is organized once a year. Coached by volunteers from industry, students from different nationalities overcome language barriers and cultural differences to solve a specific challenge, designed and presented by industry experts. They then present their findings in public. This year's challenge was hosted in Paris and included 60 secondary school students from 11 countries.

inGenious is a European coordinating body for science, technology, engineering and mathematics, aiming at triggering youngsters' interest in science and technology to encourage them to join engineering schools and engage in technical careers. inGenious was founded by the ERT and European Schoolnet in December 2011. Based on an innovative partnership between major European industrial companies and the academic community, this initiative has the objective to improve young people's knowledge of science careers and to better prepare them to join the industry. Best practices are collected and evaluated by the inGenious partners and tested in 150 pilot schools before implementing them across 1,000 classrooms in 15 European countries. ST Crolles (France) collected and submitted best practices from various locations, such as High Tech U and ST3e, the Week of Industry, From Silicon to Wii, and The Robotic Exhibition.

For more information, see ST Corporate responsibility report 2009, page 28

For more information, see ST Sustainability report 2010, page 33

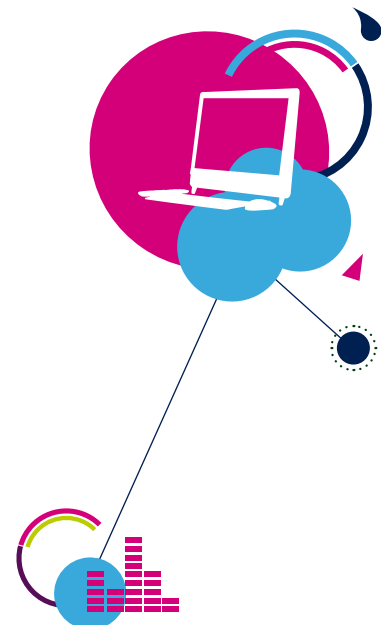
Mrs Androulla Vassiliou  
European Commissioner for Education, Culture,  
Multilingualism, Sport, Media and Youth



"I believe it is important to establish the right conditions in school for children to express their creativity, while at the same time confronting them with the reality of the world of work. I am also convinced that much needs to be done to make science and technology more attractive for children by promoting, for instance, more practical experiences. It is only by combining entrepreneurship education and interaction with business that young people will develop the practical skills, knowledge and attitudes that will inspire them to be innovative. We want them to be able to put ideas into practice, to improve their local communities, to start up a business, to initiate and implement an innovation process at work, and so on."



# Management of Sustainability in Supply Chain



ST suppliers and subcontractors are required to commit to ST and EICC policies and standards, comply with legislation and meet customer requirements. This includes managing health, safety and the environment, along with social and ethics aspects. These partnerships contribute to raising the overall levels of corporate responsibility across the electronic industry's supply chains.

58

## Why is ST engaging its suppliers and subcontractors?

Sustainability not only includes managing the environmental and social impacts of a company's own activities, but also incorporates accountability for the consequences of its decisions. The recently published ISO 26000 standard, Guidance on Social Responsibility, emphasizes this point by encouraging organizations to examine operations, prevent risks, create awareness, promote positive actions and build capacity throughout their spheres of influence.

Building mutually beneficial partnerships with suppliers and subcontractors is extremely important to ST to help us incorporate the latest advances in process technologies that are necessary to remain competitive. Partnerships are also beneficial ways to ensure long-term and reliable access to raw materials in a very volatile market. ST has built a track record of positive engagement with suppliers and subcontractors on environmental, health, safety, social and ethical topics. We are convinced that supply chain performance in these areas is closely linked to ST's overall performance.

## A multi-faceted approach

For a large multinational company like ST, monitoring and improving the sustainability of suppliers and subcontractors poses a major challenge. ST procures materials, goods and services from thousands of sources around the world, managed from both central organizations and local sites. In recent years, we have worked to strengthen and develop environment, health, safety and social requirements for our supply chain.

At corporate level, a supply chain team promotes sustainability and develops long-term relationships by: choosing suppliers and subcontractors with reliable social and environmental standards and practices; assessing risks to ensure ST business sustainability; and applying stringent social and environmental criteria.

### These programs are split into four main areas:

#### 1/ Social responsibility

Since 2005, ST has been a member of the Electronic Industry Citizenship Coalition (EICC) and is committed to deploying the EICC Corporate Responsibility model throughout its supply chain. By 2011, more than 90% of our main suppliers and subcontractors had signed the EICC engagement letter

*See more details on page 59.*

Thereafter, significant suppliers and subcontractors were invited to complete the EICC online Self-Assessment Questionnaire (SAQ). By the end of 2011, 124 SAQs had been completed, an increase of 25 compared to 2010. ST compiles detailed analysis of these assessments and requires suppliers and subcontractors to address major non-conformities with improvement plan proposals. To gain knowledge of the EICC approach and industry issues, 100% of suppliers have also been engaged in specific e-learning.

Since 2009 we are pleased to report a steady increase in SAQ average scores. The next step of the EICC program is validated supplier assessment through third party audits. By the end of 2011, twelve of our suppliers and subcontractors had been audited. A further critical area of social responsibility, conflict minerals, is also covered by the EICC-GeSI program.

*For more information on this area, see pages 28-29.*

## 2/ Environment, health and safety

ST requires all its suppliers and subcontractors to comply with the banned, exempted and declarable substances list to ensure our compliance with all legal and customers' requirements (See page 47). We collect and collate data certificates and Materials Declaration forms from suppliers and subcontractors and use these to compile our own product Materials Declarations. These product chemical identity cards are then provided to our customers so that they, in turn, are able to demonstrate the compliance of their products. We also carefully monitor and check the compliance of our materials suppliers and subcontractors to the EU REACH and other applicable regulation such as RoHS<sup>(1)</sup>.

1/ Restriction of Hazardous Substances, European directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment



We also encourage suppliers and subcontractors to gain certification to ISO 14001 (or EMAS) and OHSAS 18001 to provide evidence of the robustness of their environmental, health and safety management systems.

### 3/ Risk management

ST has an integrated approach to risk identification and mitigation that includes risks relating to sustainability but also business performance of suppliers and subcontractors. We want to be sure that our suppliers and subcontractors support sustainable growth for ST, our employees and our customers.

To assess business continuity risks in the supply chain, we request our suppliers and subcontractors to provide evidence of business continuity planning, including disaster recovery and contingency plans, multi-sourcing and geographical diversification of production. In 2011, 95.5% of key suppliers and subcontractors had provided comprehensive responses to this survey. In addition, key suppliers' and subcontractors' financial risks are monitored on a monthly basis. At the end of 2011, 92.2% were classified as low risk and 7.2% as medium risk.

Our global risk management approach demonstrated its effectiveness during the 2011 major natural disasters in Japan (earthquake and Fukushima nuclear disaster) and in Thailand (heavy flooding).

### 4/ Sustainable purchasing

Responsibility in our supply chain is not only about having responsible suppliers and subcontractors, but also about being responsible ourselves. In 2011, ST launched a Sustainable Procurement Policy which outlined our ambitions to: promote green supplies for non-manufacturing procurements; reinforce EHS requirements in facilities and energy supplies (See page 40); introduce green guidelines to promote eco-labels and green certifications; integrate EHS indicators (such as CO<sub>2</sub> emissions, energy and water consumption, waste generation and safety results) into our sourcing activities and deploy our Sustainable Purchasing Charter to SMEs. The SME Charter is an initiative from the French Ministry of Economy, Industry and Employment and has been endorsed by many large French companies. Signatories pledge to improve their relations with suppliers, especially with small and medium-sized companies. ST has nominated Alain Denielle, Sustainable Development Group Vice President, as the internal mediator in charge of facilitating the problem resolution between ST and its suppliers, when both parties, i.e. suppliers and purchasing department, have already attempted to resolve the situation through normal discussion, without any success.

For more information on the SME charter, visit [www.st.com/pages](http://www.st.com/pages)

## Sustainable purchasing at ST France

In 2011, ST France was involved in two major programs linked to our Sustainable Procurement Policy.

It has been a pilot for the promotion of green procurement of non-manufacturing items that are less harmful to the environment and human health, including criteria such as greenhouse gas emissions and water consumption during the manufacturing phases, use of hazardous materials, recyclability of products etc. A workgroup that includes end-user employees has been working alongside ST office materials supplier to increase the percentage of green products purchased by ST. For that we have rationalized the product offer available in the catalog and at the end of 2011, we went from 2,000 items to 650. Our target now is to increase green products purchased in France from the current level of 10% to 60% by the end of 2012. This initiative will be extended to other European sites next year.

ST France has also joined Pacte PME, an industry-led initiative to encourage cooperation between small and medium enterprises (SMEs) and big industrial companies. The objective is to share good practices, jointly build industrial programs, and propose solutions to governmental bodies that meet the needs of both small and large entities. ST has already pledged to diversify, extend and increase our cooperation with innovative SMEs, business organizations and competitiveness clusters.

### ST objectives

- Ensure 80% of suppliers (by purchasing volume) are involved in the EICC compliance program (annually)
- Ensure none of these suppliers are classified "high risk" based on Self-Assessment Questionnaires (SAQs)
- Continuously reduce the number of non-conformances arising from SAQs and audits
- Ensure all of ST's major sites deploy the EICC approach to local suppliers
- In 2012, deploy the Green Procurement guidelines in Italy
- In 2012, deploy the "Charter for Sustainable Purchasing" to French suppliers
- Promote fair access to business opportunities for Small and Medium-sized Enterprises (SMEs) by encouraging purchasing departments at French sites to include SMEs in tenders

## 2011 results

SAQs average scores by EICC Code of Conduct section

%

	2009	2010	2011
Facilities global scoring	83.7	87.9	<b>88.9</b>
Environment section	84.0	87.5	<b>88.4</b>
Labor section	82.5	87.2	<b>88.4</b>
Health & Safety section	86.8	92.6	<b>92.1</b>
Ethics section	81.1	81.0	<b>81.4</b>

Total number of suppliers and subcontractors' SAQs by level of risk

	2011		
	Low	Medium	High
Suppliers	86	11	<b>0</b>
Front-end subcontractors*	3	0	<b>0</b>
Back-end subcontractors	20	3	<b>0</b>

\* We have visibility for three of our four Front-end subcontractors SAQs because one was not provided in the online format.

# Bribery & Corruption

ST is committed to upholding and promoting the highest standards of integrity and business conduct across its global business operations.

## Attaining the highest standards of integrity and business conduct

We are committed at the highest level to fighting all forms of corruption and to promoting the highest standards of business ethics wherever we operate. This principle applies to all people working for, and on behalf of, ST.

ST's Code of Conduct, our Principles for Sustainable Excellence, defines our corporate policy on business conduct and ethics (P11). We have robust processes in place to ensure that all ST employees are aware of these Standards, including formal signature. /SO3/

ST provides formal channels for employees and business partners to raise concerns relating to aspects of business conduct; either via an external ombudsman or through a confidential channel directly to the Corporate Ethics Committee. Employees are made aware of these via the internet, intranet and supporting internal communications. The contact details are also sent to suppliers on request. All reports received through these channels are raised at the Corporate Ethics Committee and all valid concerns that fall within scope are investigated.

During 2011, 22 cases were reported through these channels resulting in four investigations. Allegations are classified according to 10 categories. The nature of allegations and investigations during 2011 included: conflict of interest, bribery, tone at the top, code of conduct interference, discrimination, harassment, improper use of company assets and security. Not all reported incidents result in full investigations. The Corporate Ethics Committee may determine that a thorough review or audit will suffice. Further concerns are raised through

other routes, including Corporate Security, Human Resources and local line management. These are reviewed and investigated at an appropriate level. There were no reported cases of corruption during 2011. /SO5/

Regional Ethics Committees have been introduced in India, United States and Japan/Korea in order to oversee the implementation of corporate policies and to provide local compliance support and monitoring.

## Raising senior management awareness

To improve employees' knowledge of compliance risks and to better-equip them to deal with potential situations, online training has been given to employees of job grades 18 and above, covering Conflicts of Interest and Compliance with the Foreign Corrupt Practices Act (FCPA), a US law that prohibits the bribery of foreign officials and establishes certain accounting requirements:

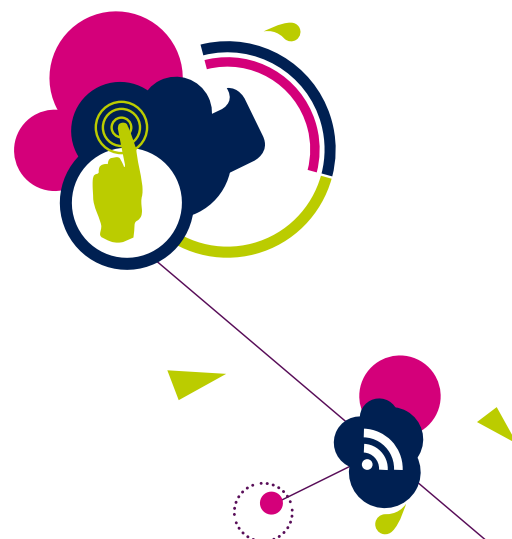
- 'Avoiding Conflicts of Interest' presents several types of conflicts of interest and how to react when facing these situations. It is based on two modules: Introduction to Conflicts of Interest and Maintaining Integrity. It concludes with a short assessment on the concepts covered in the two modules
- 'Complying with the Foreign Corrupt Practices Act' helps employees understand the types of activities prohibited under the Act. This module explores the FCPA, the indicators of potential FCPA violations and the type of gifts and entertainment that could violate the Act.

Each module contains situations faced by employees of a fictitious organization. As the situations unfold, trainees are asked to make ethical business decisions. At every decision they receive feedback which includes important messages.

The completion of both courses was mandatory for employees of job grades 18 and above with a completion deadline of January 2012. The courses helped to reinforce ST's fundamental values and responsibilities.

## ST objectives

- Train 7,000 employees in anti-bribery and anti-corruption (e.g. FCPA, Insider Trading, Code of Conduct, Conflicts of Interest) and reinforce internal controls
- Communicate updated whistle blowing channels to 1,000 employees in EMEA region in 2012 and employees from remaining regions in 2013





## Reinforcing our risk-management approach

In 2011, ST created a specific Enterprise Risk Management (ERM) Steering Committee with the remit to support the Strategic Committee in the identification, assessment and management of risks and to oversee the company's ERM processes.

The revised ERM system incorporates all business functions at every level of the company.

### The ERM Steering Committee responsibilities include:

- validating the ERM framework, guidelines and associated management processes
- defining annual ERM objectives and the implementation schedule
- validating the corporate ERM reporting system
- reviewing outputs of ERM processes
- ensuring risk management good practices are promoted and shared throughout the company
- supporting management in achieving ERM goals
- monitoring progress through management reviews
- identifying and proposing to Strategic Committee where and how risk management responsibilities and activities can be further integrated.

The ERM Committee will also drive ST's alignment with the risk management standard, ISO 31000 which will provide a framework for the formal monitoring and ongoing evolution of the ERM management systems and processes.

## 2011 results

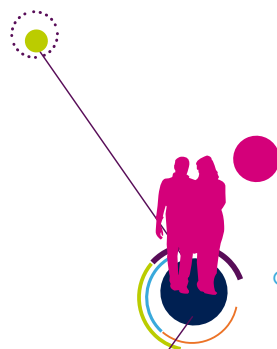
### Non compliance reporting in 2011 / SO4 / HR4

The number of incidents reported to the ombudsman or the Corporate Ethics Committee	22
The number of corporate level investigations	4
Number of incidents closed	17
Open incidents, currently pending	5

### e-signature of Business conduct and ethics policy in 2011 / SO3

	2008	2009	2010	2011
% of eligible managers that signed the policy*	92	94.5	93.9	90.3

\* eligible population = approximately 20% of total ST population



Alisia Grenville  
ST Chief Compliance Officer

"Performance with integrity has been a main staple of the ST culture for 25 years. As the company continues to expand its global reach, we must be cognizant of the company's risk exposure to bribery and corruption. Fraudulent activity can be covert and indirect. It is up to all of us to work to ensure that we are aware that these potential risks exist and do all we can to mitigate them."

# Sustainability Awards

## January

### Carnet Sanitaire award

This year again, ST Crolles (France) has been awarded with the Carnet Sanitaire label by Bureau Veritas, for the healthy quality of its water and air networks. This recognizes the voluntary approach taken by the site to ensure a safe and healthy workplace by diminishing risks especially regarding legionella.

## May



### Harmonious Labor Relations award

ST Longgang (China) has been rewarded by Longgang District Government for its social performance, including its actions to develop good relationships with employees and avoid any labor disputes, to create a strong sense of belonging among employees, and for carefully following China Labor laws and regulations.

## July



### Philippines National Red Cross award

An eleven year service award was given by the Philippines National Red Cross to ST Calamba (Philippines) as recognition for its continuous support and participation in blood donation activity.

### Foxconn Supplier's Energy Conservation and Greenhouse Gas Emissions Reduction contest

ST Shenzhen (China) won the Foxconn Supplier's Energy Conservation and Greenhouse Gas Emissions Reduction contest following the site's audit. This was due to the site's energy savings programs deployment, started in 2010 with such implementations as high/low pressure vacuum system program, membrane humidifier, new heat exhaust systems, etc. These installations have resulted in annual energy savings of 3,472,937 KWH and a reduction in carbon emission of 2,005 tonnes.

## March



### Transportation prize

Pierre Berquin, product engineer in the Automotive Products Group Research and Development Department of ST Rousset (France), received the Transportation prize from the Grenoble Urban Public Transport Authority for his innovative 'Travel to City' solution as part of the STM32 Open World Design Contest on human assistance applications. 'Travel to City' aims to help the visually impaired people use public transport networks.

## June



### Computerworld Honors and Wall Street Journal Technology Innovation awards

ST was awarded in the 2011 Computerworld Honors Program for its iNEMO™ (iNertial MOdule) smart multi-sensor technology. iNEMO™ is a smart combination of multiple MEMS sensors in a unique inertial measurement unit (IMU) completed by an embedded sensor fusion algorithm that provides 3D space orientation. This program rewards ST for promoting positive social, economic and educational change through this technology that provides advances for a wide range of applications, including healthcare. In addition to the Computerworld recognition, iNEMO™ has received a Wall Street Journal Technology Innovation award.



### Alignment Supplier of the Year award

Hewlett Packard awarded ST Rousset (France) with the Alignment Supplier of the Year. HP Vice Presidents, Neal Woods and Rick Van Fleet, rewarded ST and Marie-France Florentin in charge of the Microcontrollers, Memories and Smartcards Secure Microcontroller Division in ST Rousset, for consistently providing strong support to HP through the regular engagement of its executive management team.

### Outstanding Company award

ST Shenzhen (China) has been awarded Outstanding Company by Shenzhen City Environmental Protection Bureau (EPB). ST Shenzhen has successfully achieved the requirements developed by Shenzhen EPB in driving the city energy conservation programs aimed at encouraging companies to develop energy-saving and pollution-reducing objectives.



## September



### United Workers of Electrical and Electronics Industries (UWEEI) 30th Anniversary Commemorative award 2011

The UWEEI congratulates companies that have taken a long-term view of their investment and re-investment policy in Singapore. ST Front-end Manufacturing Asia-Pacific (FEM AP) has been rewarded for its work with the UWEEI on progressive employment and fair practices.

## November

### Sustainability Summit award

During the ID WORLD International Congress, Renato Di Stefano, General Services Director and Energy Manager in ST Agrate (Italy), received the Sustainability Summit award for his commitment to Sustainable Excellence. This award has been created to give voice and visibility to the leaders spearheading adoption of sustainable technology. Over a period of 20 years the Agrate facilities team has reduced the average energy needed to manufacture a wafer by 75%.



### National Safety and Security Watch Group award

ST Front-end Manufacturing Asia-Pacific (FEM AP) received the National Safety and Security Watch Group award 2011 from the Singapore Police and Singapore Civil Defense Forces in recognition of security exercises, tightening of security at their premises and the improvement of their contingency responses.



### Electronics Day Outstanding Achievement award

During the Electronics Day awards, Alessandro Beretta, Water Manager of ST Agrate (Italy), received the Outstanding Achievement award for driving the 'Ocean of Drops' project at ST. This award is assigned to the person who has produced the most concrete results in applying environmentally-conscious strategies for competitiveness. The project aimed at reducing, recycling and reusing the water used in the production of semiconductor chips at its Agrate facility. The program has resulted in the recycling of 45% of the water used at the plant and in the reduction of 33% of the water pumped from the ground.

### Gdansk Technical University award

Professor Henryk Krawczyk, the Rector of Gdansk University of Technology, Faculty of Mechanics, awarded the gold medal to ST Warsaw (Poland) in recognition of its engagement in education. ST provides evaluation boards for motor control iNEMO™ and STM32 for the use of about 60 students every year.

## October



### Kabalikat Special Citation award

ST Calamba (Philippines) received the Kabalikat Special Citation award from the Regional Voluntary Blood Services Program for its support and contribution in promoting voluntary blood donation and its achievement linked to the 1994 National Blood Services Act.

## December



### Environmental awards

Jose Almendras, the Secretary of the Philippines' Department of Energy, awarded ST Calamba (Philippines) with the Outstanding award for energy management performance in saving 6,792,095 kg of CO<sub>2</sub>. Juan Miguel Cuna the Director of the Environmental Management Bureau, awarded the site with the Seal of Approval for superior environmental performance and continuous compliance with environmental laws, rules and regulations.



### Safety Milestone Recognition

ST Calamba (Philippines) and its safety practitioners, Celso Lopez, Querico Moleta Jr. and Elizabeth Beronio, received recognition from the National Department of Labor and Employment (DOLE) for achieving a safety milestone of 3,478,306 safe man-hours in 2010.

### Equality Mark award

ST Kirkop (Malta) received the special national recognition Equality Mark by the Maltese National Commission for the Promotion of Equality at the work-place. This award is further explained in Global Diversity and Equal Opportunity pages.

## August

### Industry Accident Prevention award

ST Longgang (China) has been rewarded by Shenzhen local government for its performance on health and safety and its industry accident prevention.

## Our People

Indicator	2007	2008	2009	2010	2011
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## Headcount evolution by region / LA1

Europe	22,341	21,271	18,338	19,022	<b>18,724</b>
Americas	3,122	3,210	1,802	1,701	<b>1,176</b>
Mediterranean	6,995	5,848	4,533	4,677	<b>4,348</b>
Asia Pacific	19,685	21,409	20,847	22,565	<b>19,965</b>
Total	52,143	51,738	45,520	47,965	<b>44,213</b>

## Hires by job type / LA1

Engineers and managers	1,775	5,224	538	3,573	<b>2,563</b>
Technicians and administrators	774	1,163	639	1,884	<b>1,728</b>
Operators	3,663	5,502	5,984	8,193	<b>5,154</b>
Total	6,212	11,889	7,161	13,650	<b>9,445</b>

## Workforce by employment type / LA1

Full time contract	98.17	98.04	97.88	97.85	<b>97.74</b>
Part time contract	1.82	1.95	2.12	2.15	<b>2.26</b>

## Workforce by employment contract / LA1

Regular contract	96.24	97.77	97.41	96.56	<b>97.48</b>
Temporary contract	3.76	2.23	2.59	3.44	<b>2.52</b>

## External hires in manufacturing

Percentage of jobs filled externally vs overall jobs filled			92	96	<b>89.65</b>
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## Newcomers induction program

Percentage of newcomers who participated in a formal induction session (e.g. Newcomers Seminar) during their first year of employment	84.25	92.72	72.35	97.23	<b>97.29</b>
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## Performance assessment / LA12

Total employees having completed the annual ePA	-	NA	78.4	78.3*	<b>89.4</b>
Exempts <sup>(1)</sup> having completed the annual ePA	-	NA	NA	89.4	<b>96</b>
Exempts <sup>(1)</sup> assessed during a collective people review in the past 2 years	62	53	21	43	<b>67.4</b>

(\*) We have adjusted the 2010 data because there was a typing error in the 2010 Sustainability report.

## Career length and voluntary turnover rate / LA2

% of voluntary turnover of new hires (below 2 yrs)	44.87	45.54	<b>52.67</b>
% of voluntary turnover of employees from 2 to < 5 yrs	13.12	18.07	<b>27.83</b>
% of voluntary turnover of employees from 5 to < 10 yrs	3.40	5.31	<b>7.82</b>
% of voluntary turnover of employees from 10 to < 20 yrs	1.86	2.02	<b>1.79</b>
% of voluntary turnover of employees from above 20 yrs	1.21	1.06	<b>0.72</b>

## Average turnover rate / LA2

Average turnover rate	8.81	10.12	11.65	15.16	<b>18.49</b>
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## Average employee age

Average employee age	34	34	34	33	<b>36</b>
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## Number of nationalities in corporate staff / LA13

Different nationalities represented in the corporate staff	8	9	7	7	<b>7</b>
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## Number of nationalities in the headcount by region\* / LA13

Europe	68	<b>74</b>
Americas	29	<b>26</b>
Mediterranean	18	<b>16</b>
Asia Pacific	36	<b>36</b>

(\*) Expatriates and assignees are counted in host country.

## Gender breakdown by region

Europe	♂	74	73	74	74	<b>75</b>
	♀	26	27	26	26	<b>25</b>
Americas	♂	74	76	79	79	<b>79</b>
	♀	26	24	21	21	<b>21</b>
Mediterranean	♂	40	42	43	42	<b>43</b>
	♀	60	58	56	58	<b>57</b>
Asia Pacific	♂	51	53	53	55	<b>57</b>
	♀	49	47	47	45	<b>43</b>

## Employees working part-time

Women	84.77	84.96	<b>84.25</b>
Men	15.23	15.04	<b>15.75</b>

## Unplanned absenteeism

Unplanned absenteeism	2.90	3.00	2.47	2.67	<b>2.77</b>
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Indicator	2007	2008	2009	2010	2011
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## Formal recognition

Overall recognition budget of all sites USk\$	2,684	2,161	1,644	3,305	<b>3,101</b>
Number of people recognized*	50,171	38,805	38,373	36,697	<b>48,606</b>
% of accepted suggestions which were implemented	62.0	61.0	53.0	54.8	<b>65.2</b>

(\*) Can include more than one recognition for one employee over the year.

## Remuneration

Employees above the ST minimum salary scale in their job grade	87.00	82.44	<b>87.19</b>
Employees below the ST minimum salary scale in their job grade	12.00	16.62	<b>12.79</b>
Employees covered by annual individual salary increase	NA*	95.24	<b>96.93</b>

(\*) Not applicable in 2009 due to salary freeze.

## Benefits, bonus &amp; USA

Unvested Stock Awards (USA) % of eligible (exempt <sup>(1)</sup> > JG 12) employees receiving unvested stock awards	35	33	23	24	<b>21</b>
Unvested Stock Awards (USA) - Number of employees rewarded	6,300	5,700	3,670	3,790	<b>3,390</b>
USA - Percentage of referential population by category %	-	-	-	24	<b>21</b>

## Average training hours / LA10

Exempts <sup>(1)</sup>	30	27	26	32	<b>31</b>
Operators	61	72	94	91	<b>78</b>
Others (non-exempt)	44	43	41	43	<b>38</b>
Total*	44	43	51	49	<b>50</b>

(\*) Including training on equipment and outside training.

## Internal mobility

Internal job request posting rate (exempt <sup>(1)</sup> )	88.8	90.2	17.92	40.54	<b>36.75</b>
Exempt <sup>(1)</sup> open positions filled in by internal candidates	-	-	-	-	<b>22.95</b>

## Collective bargaining / LA4

Number of collective agreements signed in the year	59	38	<b>33</b>
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In 2011, we estimate that 75% of ST employees were covered by union or employee-elected representation.

## Working time and overtime hours

Employees with regular worktime less than 48 hours per week (%)	100	100	100	100	<b>100</b>
Average weekly overtime (hours per employee)	3.12	2.22	1.97	3.14	<b>3.10</b>

## Average weekly working time in selected countries

North America	ST standard working time	40.00	40.00	<b>40.00</b>
	Overtime	1.62	1.51	<b>0.60</b>
China	ST standard working time	40.00	40.00	<b>40.00</b>
	Overtime	3.59	5.00	<b>5.03</b>
Malaysia	ST standard working time	48.00	48.00	<b>48.00</b>
	Overtime	5.11	10.32	<b>9.39</b>
Singapore	ST standard working time	44.00	44.00	<b>44.00</b>
	Overtime	4.02	5.88	<b>1.53</b>
France	ST standard working time	38.50	38.50	<b>35.00</b>
	Overtime	0.23	0.31	<b>0.26</b>
Italy	ST standard working time	40.00	40.00	<b>40.00</b>
	Overtime	0.82	1.15	<b>0.95</b>
Malta	ST standard working time	40.00	40.00	<b>40.00</b>
	Overtime	2.78	6.00	<b>4.50</b>
Morocco	ST standard working time	44.00	44.00	<b>44.00</b>
	Overtime	1.15	2.62	<b>1.46</b>

## Fair wages

Percentage of employees paid up to 105% of the legal or conventional minimum wage*	3.56	21.44	13.36	16.65	<b>12.20</b>
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(\*) Employees paid above 105% are not part of this scope.

## Communication meetings / LA5

Number of meetings for the organisation/site management to present company/organisation/site results to all employees allowing time for open discussion	10	10	15	11	<b>15</b>
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## Career development

% of employees that had a promotion over the year	8.50	15.00	<b>15.87</b>
% of employee having a job function change in the year	27.37	32.95	<b>25.02</b>

## Recordable Cases rate - breakdown : industrial / domestic / LA7

Recordable Cases Industrial rate	0.28	0.23	0.23	0.17	<b>0.18</b>
Recordable Cases Domestic rate	0.22	0.17	0.12	0.12	<b>0.11</b>

## Recordable Cases rate by region

Asia Pacific	0.22	0.20	0.17	0.16	<b>0.17</b>
Europe & Mediterranean	0.68	0.57	0.56	0.46	<b>0.46</b>
Americas	0.75	0.36	0.18	0.12	<b>0</b>

Indicator	2007	2008	2009	2010	2011
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Severity rate by region

Asia Pacific	2.2	2.2	1.3	0.8	0.5
Europe & Mediterranean	10.7	9	7.6	4.9	6.5
Americas	1.2	0.1	0.6	0	0

Breakdown of Recordable cases by type of event, accident or exposure / LA7 %

Fall or slip	20
Struck by or against	41
Overexertion	9
Others	5
Caught in, under or between	7
Contact with chemicals	7
Bodily reaction from slip or motion	11
Total	100

Recordable cases rate benchmarks\*

US Manufacturing (Source BLS**)	5.6	5	4.3	4.4	-
ALL US semiconductor (Source BLS**)	1.5	1.3	1	1.2	-
SIA*** OHS	0.84	0.71	0.8	0.98	-
ST	0.49	0.39	0.35	0.29	0.29

(\*) Latest data available. (\*\*) Bureau of Labor Statistics. (\*\*\*) Semiconductor Industry Association

Average turnover rate by gender, by category and by region in 2011 / LA2 %

	Exempts <sup>(1)</sup>		Others		Operators	
	Female	Male	Female	Male	Female	Male
Europe	1.87	2.05	0.97	0.71	0.64	1.17
Americas	3.77	5.18	3.20	0	0	0
Mediterranean	16.33	10.66	3.08	5.49	2.21	6.28
Asia Pacific	12.40	14.65	11.00	28.0	43.36	73.98

Promotion ratio female/male by category and by region / LA13 %

		2009		2010		2011	
		Female	Male	Female	Male	Female	Male
Americas	Exempts <sup>(1)</sup>	6	4	15	12	20	15
	Others	1	2	10	10	6	13
	Operators	NA*	NA*	10	19	0	0
Asia-Pacific	Exempts <sup>(1)</sup>	10	9	22	26	21	21
	Others	39	13	7	5	10	16
	Operators	12	5	6	6	14	15
Europe	Exempts <sup>(1)</sup>	6	6	19	19	20	18
	Others	4	5	20	17	19	16
	Operators	1	0	23	16	25	16
Japan	Exempts <sup>(1)</sup>	6	7	12	16	30	27
	Others	NA*	NA*	NA*	NA*	NA*	NA*
	Operators	NA*	NA*	NA*	NA*	NA*	NA*
Mediterranean	Exempts <sup>(1)</sup>	12	17	34	24	10	11
	Others	17	16	19	12	6	4
	Operators	0	2	7	8	0	0

(\*) Not applicable because in these regions the company hasn't manufacturing areas.

1/ It refers to employees who hold positions normally requiring graduate or post-graduate education and who are not eligible for overtime compensation.

# The Community

Schooling programs\* / LA11 %

Indicator	2009	2010	2011
Professionals**	2.76	4.39	5.26
Operators	2.75	1.02	7.96
Others (non-professional)	4.69	6.01	7.58

(\*) % of employees following ST supported external schooling programs vs total number of employees.  
(\*\*) It refers to employees who hold managerial roles and are exempt from overtime compensation.

Technical ladder\* in 2011 %

ST total population recognized through the technical ladder	3.3	
	Europe	Asia Pacific
ST population recognized through the technical ladder by region	4.81	0.88

(\*) The specialist path starts from job grade 14 and above which is the reference population. This internal program started from Europe and its deployment is currently on going.

Suppliers' and subcontractors' environmental and health & safety performance / 8.3

Indicator	2007	2008	2009	2010	2011
Suppliers of materials	112	107	108	104	102
Suppliers of equipment	61	40	40	40	40
Suppliers of spare-parts	NA	NA	NA	35	38
Total	173	147	148	179	180
Subcontractors Back-end	56	59	65	62	59
Subcontractors Front-end*	22	11	10	19	22

Suppliers of materials	82	83.7	81.1	81.0	81.2
Suppliers of equipment	76	85	82.5	83.0	80
Suppliers of spare-parts	NA	NA	NA	54.2	47.4
Total	79.9	84.1	81.5	76.2	73.8**
Subcontractors Back-end	91.0	97.0	97.0	97.0	98.3
Subcontractors Front-end*	100.0	100.0	100.0	100.0	95.5

Suppliers of materials	30.0	37.0	41.0	44.0	49.7
Suppliers of equipment	NA	6.0	10.0	8.0	21.0
Suppliers of spare-parts	NA	NA	NA	20.0	15.8
Total	NA	28.6	32.6	31.3	36.2
Subcontractors Back-end	80.0	92.0	91.0	87.0	62.1
Subcontractors Front-end*	95.0	82.0	80.0	84.0	77.3

(\*) The total number of Front-end subcontractors can change from one year to another, based on our response to the market evolution. This list is updated each month versus planning data in order to give an interactive overview.  
(\*\*) The decrease in 2011 is due to a modification in the scope of companies considered which now includes suppliers that are not certified to ISO 14001 or EMAS but instead have adopted equivalent industry-specific standards.

Suppliers and subcontractors' compliance with EICC

Indicator	2007	2008	2009	2010	2011
Suppliers of materials	117	108	108	104	102
Suppliers of equipment	NA	104	104	104	87
Suppliers of spare-parts	NA	NA	NA	35	35
Subcontractors Back-end	28	40	39	32	32
Subcontractors Front-end*	22	11	10	19	22

Suppliers of materials	52.0	81.5	82.4	89.0	95.2
Suppliers of equipment	NA	34.0	41.4	50.0	99.0
Suppliers of spare-parts	NA	NA	NA	71.0	94.1
Subcontractors Back-end	69.0	97	98.5	98.0	97.0
Subcontractors Front-end*	0	86.4	90.0	95.0	95.5

Suppliers of materials	-	18	42	76	97
Suppliers of equipment	-	0	0	0	0
Suppliers of spare-parts	-	NA	NA	NA	NA
Subcontractors Back-end	-	11	17	20	23
Subcontractors Front-end*	-	0	1	3	4

(\*) The total number of Front-end subcontractors can change from one year to another, based on our response to the market evolution. This list is updated each month versus planning data in order to give an interactive overview.  
(\*\*) The number of SAQs is not the number of suppliers/subcontractors that have filled in SAQs. One supplier or subcontractor has to fill in one company level SAQ and SAQs for all their manufacturing sites that produce materials/equipment/products for ST.

## Our Products

### Customer Social & Ethics / EHS requirements

	2007	2008	2009	2010	2011
Number of customer requirements for Social & Ethics and EHS requirements received at company level*	157	277	252	267	376

(\*) This data includes all Customer Social & Ethics/EHS requirements requirements from our customers, received by our corporate-level departments for support and validation. Many more are dealt with directly at local and regional level.

### Quality<sup>(1)</sup> (baseline 100 in 2004) / PR5

	Q4' 04	Q4' 05	Q4' 06	Q4' 07	Q4' 08	Q4' 09	Q4' 10	Q4' 11
Customer complaints by volume	100	86.2	71.6	64.2	82.6	61.5	55	70.6*
Cycle time to process failures analysis	100	72.7	62.6	71.9	62.2	65.4	71.1	59.8**
Customer returns	100	41.1	38.3	40	33.7	30.8	20	58.9***

1/ Quality indicators include ST-Ericsson.

(\*) Q4 low shipments strongly impacted our customer complaints by volume, even if the number of complaints received was stable. (\*\*) In 2011, our failures analysis cycle time significantly improved as a result of an efficient task force on cycle time reduction. (\*\*\*) The customer returns results have been mainly impacted by negotiated returns from distributors.

### WEEE/ (EN27)

As a supplier of components to the electronics industry (and not manufacturers of electronic equipment), we are not directly affected by the European Directive 2002/96/ EC Waste of Electrical and Electronic Equipment (WEEE).

## The Environment

In 2011, environmental performance sometimes failed to meet expected targets. There are two explanations:

- the economic crisis of 2009 and the decrease of production in 2011 have impacted ST's normalized indicators which are performance expressed per unit of production. However, the absolute values of energy, water and chemicals are consistent, irrespective of production output, due to the need to maintain constant conditions in production areas i.e. temperature, hygrometry etc.

- after 15 years of environmental improvement, it becomes more and more challenging over time to further advance our performance.

Indicator	2007	2008	2009	2010	2011
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### Environmental burden : net values / EN16 / EN17 / EN19 / EN20 / EN26 / 4.1 / 4.3 / 4.4

#### Emissions to air

Global warming*	MTCE	478,884	404,319	358,167	413,974	429,187
Ozone depletion	Kg R11 Eq	171	62	8	7	0
VOCs	Tons	262	244	170	178	192
Atmospheric acidification	Kg SO2 Eq	58,178	63,142	55,370	36,581	41,525
Photochemical oxidant creation	Kg ethylene Eq	15,761	48,969	35,044	25,292	38,125
Air emission toxicity**	Kg PH3 Eq	4,881	4,720	4,101	4,484	3,075

#### Emissions to water\*\*\*

Eutrophication	Kg (P+N)	381,889	414,730	305,502	396,271	378,339
Aquatic oxygen demand	Kg COD****	351,967	834,032	626,835	709,202	667,146
Heavy metals to water	Kg heavy metals	13,277	10,354	8,934	9,579	9,796
Aquatic ecotoxicity	Kg Cu Eq	10,398	7,598	6,698	5,774	4,032

(\*) 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. (\*\*) 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. (\*\*\*) Domestic waste water is included. (\*\*\*\*) Total Chemical Oxygen Demand (COD).

### Environmental costs versus savings / EN30

US\$m

Total costs	28	41	48	53	52
Energy savings	201	192	87	219	203
Water savings	27	25	15	25	24
Chemical savings	90	86	58	87	69
Total saving	318	303	160	331	296
Balance (cost savings)	290	262	112	278	244

The method used to calculate the savings shown in this table is the following: **1)** we set a baseline using the 1994 model with the assumption that there are no installation enhancements, except for chemicals for which the baseline is 2000; **2)** this baseline is projected each year (in relation to the quantities produced); **3)** each year, the actual value is compared to this projection; and **4)** the result shows the theoretical benefits due to the installation improvements concerning the savings for energy, water and the use of chemicals. Total costs cover expenditure of environmental management areas (including waste and remediation) and yearly net investment and equipment depreciation.

### Environmental investments / EN30

%

% of total company investments	0,67	0,48	0,40	0,06	0,50
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### Consumption: absolute values / EN1 / EN3 / EN4 / EN8 / 2.1 / 2.2 / 2.3

Electricity	GWh	2,482	2,127	1,986	2,018	2,058
Water	1,000m3	21,729	18,194	16,346	17,393	17,314
Chemicals	tons	20,498	17,883	12,451	17,138	17,076
Natural gas	GWh	279	234	214	171	166

### Waste split / EN22

Tons

Total Waste	43,628	46,367	33,439	40,775	38,593
Reuse & recycled	36,264	41,143	29,164	36,113	35,387
Burnt & incinerated	4,973	3,487	3,170	3,522	2,134
Landfill	2,391	1,684	1,105	1,140	1,072

### EHS Fines / EN28

In 2011, ST has not received any fine.

Indicator	2007	2008	2009	2010	2011
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### Initiatives and changes resulting

in a reduction in GHG / EN18 / 3.3

Saved kTons CO<sub>2</sub>

Related to PFC direct emissions reduction per IPCC guidelines	235	50	-	155	0
Saving electricity	189	295	-	195	0
Used green electricity	24	17	-	41	61
Produced electricity by windfarm	9	8	-	8	7
Total GHG gas emissions reduction	457	370	-	398	68.4

### EHS Incidents / EN23

In 2011, ST has not recorded any incidents or spills.

### Consumption of electricity (per unit of production):

normalized values / EN4 / 2.1

kWh/production unit

Target	51.3	48.8	46.3	44	41.8
Consumption of electricity	52.3	49.7	71	48	50.4

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

normalized values / 2.1

GWh/production unit

Consumption of natural gas	42,9	39,9	51,6	29,4	29,7
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### Energy saved\*: absolute values / EN5 / 2.1

GWh

Energy saved	93	130	0	129	0
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(\*) Includes electricity and natural gas

### Direct and indirect energy consumption by primary sources / EN3 / EN4 / 3.3

#### Breakdown of energy consumption (GWh)

Electricity consumption	2,482	2,127	1,986	2,018	2,058
Natural gas consumption	279	234	214	171	166
Others sources	1	0	0	0	0
Total energy consumption	2,762	2,361	2,200	2,189	2,224
Percentage of energy consumption due to electricity	89,86	90,09	90,27	92,19	92,54

#### Breakdown of energy sources (%)

Green electricity purchased	3.01	2.04	2.63	5.79	8.56
Electricity produced by ST's windfarm	1.1	0.92	1.03	1.09	1.13
Photovoltaic and thermal solar electricity produced by ST	0.01	0.01	0.01	0.01	0.09
Electricity purchased from nuclear (CO <sub>2</sub> free)	25.6	28.78	22.15	23.72	23.23
Electricity purchased from fossil fuel sources	60.18	58.34	64.48	61.57	59.53
Natural gas	10.1	9.91	9.7	7.81	7.46
Other fuels	0	0	0	0	0
Total	100	100	100	100	100



## Statement GRI Application Level Check

GRI hereby states that STMicrowelltechnics has presented its report "ST Sustainability report 2011" to GRI's Report Services which have concluded that the report fulfils the requirement of Application Level A.

GRI Application Levels communicate the extent to which the content of the GRI Guidelines has been used in the submitted sustainability reporting. The Check confirms that the required set and number of disclosures for that Application Level have been addressed in the reporting and that the GRI Content Index demonstrates a valid representation of the required disclosures, as described in the GRI G3 Guidelines.

Application Levels do not provide an opinion on the sustainability performance of the reporter nor the quality of the information in the report.

Amsterdam, 21 June 2012

Reinoud Arjes  
Deputy Chief Executive  
Global Reporting Initiative



The Global Reporting Initiative (GRI) is a not-for-profit organization that has pioneered the development of the world's most widely used sustainability reporting framework and is committed to its continuous improvement and adaptation. The GRI Guidelines are the principles and standards that organizations can use to develop and report their economic, environmental, and social performance. www.globalreporting.org

Disclaimer: Where the relevant sustainability reporting includes external data, including to which third parties have provided data, this statement only can serve as a statement of fact at the time of the Check on 20 June 2012. GRI explicitly disclaims the statement being applied to any other changes to such information.



# Indicators Index

The following table shows the correlation between the STMicroelectronics Sustainability Report and the ten Principles of the Global Compact, the Global Reporting Initiative (GRI) elements and the ISO 26000 standard.

	GRI Indicators	Global Compact Principles	ISO 26000 core subjects and issues
Readers' Guide	2.1; 2.3; 2.4; 2.9; 3.1-3.8; 3.10; 3.11; 3.13; 4.9; 4.14-4.16		
Company	2.3; 2.4; 2.5; 2.7; 2.8; 3.6; 4.1-4.3; 4.8; 4.9; 4.11; 4.14-4.17 EC1; EC9; LA13; S05; PR1		6.2
Our People	6.3; 6.4		
Recruitment, Learning and Development	LA2; LA10; LA11; LA12	GC6	6.4.7
Employee Engagement	4.16; 4.17		6.2.3
Global Diversity and Equal Opportunities	LA13	GC1; GC6	6.3.7
Employee Safety	LA7; LA8		6.4.6
Employee Sealth and Well-being	LA8	GC1	6.4.4; 6.4.6
Labor Rights and Social Issues	4.8; 4.12 EC8; HR5; HR6; HR7; S05	GC1; GC3; GC4; GC5	6.3.10; 6.4.5
Our Products	6.7		
Customer Satisfaction	4.16; 4.17		6.7.3; 6.7.6
Conflict-free Minerals	4.17 HR2; HR7; PR3	GC1; GC2	6.3.5; 6.6.4
Eco-design	EN2; EN5; EN6; EN26; EN27; PR1; PR3	GC7; GC8; GC9	6.5.3; 6.7.4; 6.7.5
Responsible Products (env/soc)	EN6; EN26; PR1	GC1; GC8; GC9	6.5.3; 6.7.4; 6.7.5
Intellectual Property and Innovation			6.6.7
The Environment	4.8; EN1; EN2; EN18; EN26 6.5		
Water Management	4.17 EC2; EN8, EN10, EN21; EN25; S01	GC7; GC8; GC9	6.5.4
Energy Management	EC2; EC6; EN3; EN4; EN5; EN7	GC7; GC8; GC9	6.5.4
Transports and Logistics	EC2; EC6; EN4; EN5; EN7; EN16; EN17; EN29	GC7; GC8; GC9	6.5.3; 6.5.5
Waste Management	EN2; EN22; EN24	GC7; GC8; GC9	6.5.3
Management of Chemicals	4.13 EN1; PR3	GC7; GC8; GC9	6.5.3
GHG Emissions from Operations	4.13 EC2; EN3; EN16; EN17; EN18; EN29; S01	GC7; GC8; GC9	6.5.3; 6.5.5
The Community	4.16; 4.17 6.6; 6.8		
Local Sustainability Impacts	S01; EC1; EC8; EC9; S01		6.8.3; 6.8.5; 6.8.6; 6.8.7; 6.8.9
Public Affairs and Industry Networking	4.13 EC9; S05		6.6.6
Partnerships in R&D and Education	4.13 S01; EC1		6.8.4
Management of Sustainability in Supply Chain	4.8; 4.9; 4.12 EC6; HR1; HR2; PR3	GC1; GC3; GC4; GC5; GC6; GC9	6.6.6
Bribery and Corruption	4.6; 4.9 S04; HR3; HR4; S02; S03; S04	GC10	6.6.3
External awards	2.10 6.2		
Additional Indicators	2.8; 3.9; 3.12 EC1; EC5; EC7; LA1; LA2; LA4; LA5; LA7; LA10; LA11; LA12; LA13; EN1; EN3; EN4; EN8; EN16; EN17; EN19; EN20; EN22; EN23; EN26; EN28; EN30; PR5		

# Evaluating our practices against ISO 26000

Det Norske Veritas Business Assurance France S.A.R.L. ('DNV Business Assurance') has been commissioned by the management of STMicroelectronics NV ('the Company') to conduct a gap analysis on the current status of the Management of Key Sustainability Issues and how they are integrated within the organisation's practices in accordance with clause 5.2.2 of the ISO 26000 "Guidance for Social Responsibility".

To that respect the scope of work agreed upon with the Company did include the following tasks:

- Review of Principles and Core Subjects and how their implementation contributes to the Company's Sustainability Strategy and the achievement of Sustainability Objectives;
- Visits to three sites (Rousset-France, Ang Mo Kio-Singapore, Muar-Malaysia) and interviews with internal stakeholders. These visits took place in April 2012.

As a leading service provider in the field of sustainability solutions, DNV Business Assurance promotes the use of ISO 26000 toward companies willing to be more efficient in contributing to Sustainable Development.

To facilitate this DNV Business Assurance uses a tool that :

- Allows stakeholders to share their views with the organisation;
- Promotes the importance of stakeholders' dialogue ;
- Recognizes the principles of Social Responsibility;
- Facilitates the review of Core Subjects so as to identify relevant issues;
- Is transparent with regard to the activities performed, the subjects included in the scope of work and the Stakeholders involved and their contribution to the improvement of the Management of Key Sustainability Issues.

Since the tool is aimed at applying the ISO 26000 standard the reports and comments made have to be understood as opportunities for improvements

in the way best practices are being implemented.

During our visits on the Company's sites we have interviewed employees at different levels in the organisation about their perception on the Company's Strategy and how the Principles and the relevant Core Subject of the ISO 26000 standard were being applied in relation to the Sustainability Strategy and in the particular context of the organisation. No interview with External Stakeholders was conducted. Participation of External Stakeholders to the definition of the Company's Sustainability Strategy was checked through records and documents review.

As Principal Considerations we can state that as STMicroelectronics' Sustainability Strategy and objectives are just being rolled out a particular emphasis was put on the actual implementation of the ISO 26000 Standard through the organisation. We found best practices already well implemented in the fields of Governance, Labour Practices (Health & Safety issues); The Environment (management of GHG emission); Customer Issues and Fair Operating Practices (anti-corruption practices).

On the other hand it was perceived that some actions were implemented but needed stronger internal awareness to better follow the guidance provided by the ISO 26000 standard on the Core Subjects of Human Rights (particularly in the supply chain), The Environment (Energy & Water management) and Fair Operating Practices (promoting sustainability in the sphere of influence).

This document represents a meaningful synthesis of the complete report provided to STMicroelectronics in April 2012 and

which states the robust implementation of best practices for reaching the Company's Sustainable Objectives.

We acknowledge the efforts made by the Management of STMicroelectronics to use ISO 26000 as a framework to integrate social responsibility into their values and practices.

DNV is not involved in the actual management of Sustainability Issue for the organization. It is left to the responsibility of the organization to identify and implement opportunities for improvement in this domain.

DNV Business Assurance expressly disclaims any liability or co-responsibility for any decision a person or entity would make based on the content of this letter to the Management of STMicroelectronics NV.

With Best Regards.

For DNV Business Assurance,

**Jean-Christophe CARRAU**  
Global Service Responsible ISO 26000



**DET NORSKE VERITAS**

# Glossary

APG	Automotive Products Group
ASIC	Application Specific Integrated Circuit
CAO	Chief Administrative Officer
CDP	Carbon Disclosure Project
CEC	Corporate Ethics Committee
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CFS	Conflict-Free Smelter
CHEWS	Comprehensive Health and Employees' Wellness Services
CMOS	Complementary MOS (Metal Oxide Semiconductor)
COO	Chief Operating Officer
CTO	Chief Technology Officer
DA5	Die Attach 5 Consortium
DJSI	Dow Jones Sustainability Index
DNV	Det Norske Veritas
DRC	Democratic Republic of Congo
DU	Digital Unify
EAP	Employee Assistance Program
ECHA	European Chemical Agency
ECOPACK®	Lead-free labelling for RoHS-compliance (the EU Directive on Restriction on Use of Hazardous Substances)
EHS	Environmental, Health & Safety
EICC	Electronics Industry Citizenship Coalition
EMAS	Community Eco-Management and Audit Scheme
EMEA	Europe, Middle East & Africa
ENIAC	European Nanoelectronics Initiative Advisory Council
ePA	electronic Performance Appraisal
ERM	Enterprise Risk Management
ERT	European Round Table of Industrialists
ESG	Environmental, Social and Corporate Governance
ESIA	Electronic Semiconductor Industry Association
EWS	Electrical Wafer Sort
FEM	Front-end Manufacturing
FEM-AP	Front-end Manufacturing Asia-Pacific
FCPA	Foreign Corrupt Practices Act
GeSI	Global e-Sustainability Initiative
GHG	Greenhouse Gases

GLWO	Global Logistics & Warehousing Organization
GRI	Global Reporting Initiative
GWP	Global Warming Potential
H&S	Health & Safety
IC	Integrated Circuit
ICT	Information and Communication Technologies
ILO	International Labor Organization
IMS	Industrial & Multisegment Sector
ISO	International Organization for Standardization
ITRI	Industrial Technology Research Institute
ITSCi	Tin Supply Chain initiative
J&K	Japan & Korea
KPI	Key Performance Indicator
LCA	Life Cycle Assessment
MEMS	Micro-Electro-Mechanical Systems
MMS	Microcontrollers, Memories & Smartcards
MTCE	Metric Tons of Carbon Equivalent
NGO	Non-Governmental Organization
NYSE	New York Stock Exchange
ODS	Ozone Depleting Substances
OECD	Organization for Economic Cooperation and Development
OHSAS	Occupational Health & Safety Assessment Series (OHSAS 180 01)
OTT	Over The Top
PFCs	Perfluorinated Compounds
PFOS	Perfluorooctyl Sulfonate
PQE	Product Quality Excellence
PTM	Package Test Manufacturing
R&D	Research & Development
RC	Recordable Cases
REACH	Registration, Evaluation and Authorization of Chemicals
RoHS	Restriction of Hazardous Substances
RSE	Responsabilité Sociale d'Entreprise
SAM	Serviceable Available Market
SAQ	Self-Assessment Questionnaires
SE	Sustainable Excellence
SEC	Securities and Exchange Commission

SITELESC	French syndicate of the semiconductor industry
SMEs	Small and Medium Enterprises
SOC	System-on-Chip
SRI	Socially Responsible Investment
SVHC	Substances of Very High Concern
TAM	Total Available Market
TCOO	Total Cost of Ownership
TR&D	Technology Research & Development
UPW	Ultra-pure Water
VAP	Validated Audit Process
VOCs	Volatile Organic Compounds
WBCSC	World Business Council for Sustainable Development
WSC	World Semiconductor Council
WEEE	Waste of Electrical and Electronic Equipment
20-F	Annual report filed with the Securities and Exchange Commission
3TG	Tantalum, tin, tungsten and gold

## GRI indicator prefixes

EC	Economic Impact
EN	Environment
HR	Human Rights
LA	Employment
PR	Responsibility Product
SO	Society

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