Sustainability Report
2013

Global Harmony

with people,
society
& environment

SAMSUNG | ⬤⬤⬤
WORLDWIDE OLYMPIC PARTNER

SAMSUNG SAMSUNG ELECTRONICS

CONTENTS

Inspire the World
Create the Future!

Samsung Electronics aims to create
a new future that positively impacts
the entire global community.

Samsung Electronics aspires to further secure its position as a global electronics leader through creative business strategies that inspire future innovation and create opportunity for people around the world.

Dear Stakeholders,

It has been twenty years since Samsung Electronics executed a series of turnaround strategies that have fundamentally changed the way we manage our business.

During the past two decades, Samsung Electronics has emerged as a leader in the IT industry, not only in terms of global sales but also in sustainability. This Samsung Electronics Sustainability Report for 2013 provides a comprehensive look at our efforts in environmental and social responsibility, from stories on our past successes to a focused vision for our future.

The business environment in 2012 was tough for us just as it was for many others. However, Samsung has been able to successfully navigate the challenges of 2012's global IT marketplace and economy. This past year saw Samsung Electronics record its largest annual growth and operating profits in its corporate history, further strengthening our leadership position in the global electronics industry. In 2012, external recognition of our company's value also continued to rise, as Samsung Electronics ranked 20th on the list of Fortune Global 500 Companies and 9th in Interbrand's Best Global Brands Report. The corporate value of Samsung Electronics skyrocketed all around the globe.

Above all else, these successes are due to the hard work and expertise of Samsung Electronics' employees, whose collaborative efforts enhance our company's competitiveness and accelerate innovation. There can also be no doubt that our company's achievements in 2012 would have been impossible without the keen interest and full support of all of our stakeholders like you.

Let me take this opportunity, then, to extend my deepest gratitude to all of you for your great contributions to our company's accomplishments in 2012. I can personally assure you that Samsung Electronics will regard our success as an asset that positions us for future growth and realize our Vision 2020 plan and become a leader in corporate citizenship.

To that end, let me share with you some highlights of Samsung's sustainability efforts in 2012, specifically in terms of our contributions to both society and the environment.

Under our philosophy of 'People First,' Samsung continued to hire great people around the globe who are the best and brightest in their field. Samsung took a variety of measures to make itself a world-class workplace. Samsung Electronics took great care to develop and foster a workplace environment that assured our workers' health and safety. One highlight includes a program through hospitals, through which we offered various physical and mental health services to our employees. These services include onsite stop-smoking clinics, counseling centers and fitness facilities.

Samsung is also committed to using our resources to help communities in need. One of our most exemplary social contributions, the Samsung Hope for Children program, benefits around 200,000 children and young adults in the developing world in both education and healthcare and we will continue to increase our role in creating better lives for children around the world.

In 2012, in order to ensure the responsible management of our supply chain, Samsung Electronics intensified the systematic scrutiny of our suppliers in terms of labor conditions, human rights, and health and safety. In doing so, we identified key issues with which to measure our suppliers' compliance - some of which we took immediate measures to address.

At Samsung Electronics, we view the growing imperative for eco-friendliness as an opportunity for responsible business leadership. In 2009, we announced two key sustainability strategies in our 2013 Eco-Management Plan, namely reduction in GHG emissions and increased eco-product launches. In 2012, Samsung Electronics exceeded its goals in these two strategies, whose work consisted of activities in three major areas: Green Operations, Green Products, and Green Communication.

Through the release of this report, Samsung Electronics hopes to enhance communication with its stakeholders about the company's contributions to the economy, society and the environment. We'd also like to engage in open discussions with our stakeholders about the challenges we face while seeking ideas to address them. We firmly believe that a company can continue to grow only when it maintains its stakeholders' full trust and collaboration.

In order to create value for our stakeholders - including customers, shareholders, investors, employees, suppliers and local communities - Samsung Electronics has expanded our commitments to social and environmental responsibility, embedding social contributions and sustainable practices into our core business. We are always developing new goals to further improve upon our corporate citizenship and, in turn, helping to create a healthier global community.

I look forward to your continued trust and support in these endeavors. Thank you.

Oh-Hyun Kwon
Vice Chairman and CEO
Samsung Electronics Co., Ltd.

A Global Leader in the IT Industry Committed to Making the World Smarter

Since its founding in Suwon, Korea in 1969, Samsung Electronics has grown into a global information technology leader, managing more than 200 subsidiaries around the world.

The company's offerings include home appliances such as TVs, monitors, printers, refrigerators, and washing machines as well as key mobile telecommunications products like smartphones and tablet PCs. Samsung also continues to be a trusted provider of key electronic components like DRAM and non-memory semiconductors.

Samsung pledges to create and deliver quality products and services that enhance convenience and foster smarter lifestyles for its customers around the world. Samsung is dedicated to improving the global community through its constant pursuit of groundbreaking innovations and value creation.

Making
the Smart World

Sec. 01
Sustainability Overview

Corporate Governance

**Responsible
and Transparent
Leadership**

Throughout 2012, Samsung Electronics continued to advance its practice of sustainable management through responsible corporate governance. In addition to compliance with national and international law, Samsung also employs a set of ethical standards and values that guide its decision making processes and work procedures. Through a corporate governance structure that centers on board of director engagement, the company works to ensure transparent, responsible business management across all operations. Each policy and decision enacted by the board of directors seeks to maximize corporate value and enhance shareholder rights and interests.Specifically, the Samsung board of directors is responsible for the execution of all matters as mandated by the Korean Commerce Act and the Samsung Electronics Articles of Incorporation, including those delegated by the company's general shareholders' meetings. The board also makes important decisions on the company's management policies and oversees executive work performance.

Board of Directors (BOD) Composition

The BOD is composed of four executive directors and a five-person independent director majority, an arrangement designed to both guarantee the board's independence and establish a transparent decision-making process with inputs from a broad spectrum of outside experts. In accordance with the Articles of Incorporation, the Independent Directors Recommendation Committee initially selects candidates from among a pool of professional experts with in-depth knowledge and experience in a variety of areas including business management, economy, accounting, law, and technology. The independent directors meet separately from the BOD's executive directors in order to promote a free exchange of ideas on all aspects of the company's management. All directors are prohibited from engaging in business activities within the same industry without the approval of the board. This arrangement is to prevent conflicts of interest as specified in the Korean Commerce Act and the Samsung Electronics Articles of Incorporation.

The BOD and Committees

In 2012, Samsung Electronics addressed 47 agenda items at a total of 11 BOD meetings. The three-year average director attendance rate (2010-2012) for BOD meetings stands at 94%. For swift and efficient decision-making throughout the company, Samsung has established committees under the BOD in accordance with pertinent laws. The BOD refers certain matters to the committees to be reviewed by members with in-depth experience and extensive expertise in the related fields. At present, six committees are in operation: Management Committee, Audit Committee, Independent Director Recommendation Committee, Related Party Transactions Committee, Compensation Committee, and the newly-formed Corporate Social Responsibility (CSR) Committee.
The Related Party Transactions Committee helps boost the transparency of corporate management through the Fair Trade Autonomous Compliance System. The Audit Committee, comprised of three independent directors, supervises and supports management through a process of checks and balances to maximize corporate value.

* For further details about the committees and meeting agenda items, please visit DART (Data Analysis, Retrieval and Transfer System) at http://dart.fss.or.kr

Evaluation and Compensation

Each year the BOD and its committees conduct self-evaluations of their annual activities and participation rates. For reasons of independence, their compensation includes only the basic salary and business travel expenses.

Committee Status

6 Committees

- Management Committee
- Audit Committee
- Independent Director Recommendation Committee
- Related Party Transactions Committee
- Compensation Committee
- CSR Committee

Introduction of the Corporate Social Responsibility (CSR) Committee

Samsung has chartered the CSR Committee within its BOD in order to ensure legal compliance around ethical issues, oversee the company's contributions to promoting public welfare, and guide initiatives that satisfy ambitious corporate citizenship goals. The CSR Committee is composed entirely of independent directors. It has set up a subordinate research group in which many experts from a variety of fields take part. The CSR Committee recognizes a growing opportunity to further broaden Samsung's social contribution programs through collaboration with external organizations. The committee will also ensure that the company promotes a culture of shared growth among the partners with whom it does business.

Major BOD Agenda Items in 2012

Date	Agenda Items	Decision	Decision
01/27/2012	Three agenda items including 43rd financial statements and quarterly report	Approved	4/4
02/20/2012	Six agenda items including approval of LCD business spin-off	Approved	4/4
03/16/2012	Three agenda items including the appointment of the representative director and the assignment of director duties	Approved	3/4
04/02/2012	Four agenda items including the report on and announcement of completion of the LCD business spin-off	Approved	4/4
04/27/2012	Five agenda items including approval of the 44th 1Q12 financial statements and quarterly report	Approved	4/4
06/08/2012	Appointment of the representative director and the assignment of director duties	Approved	4/4
06/25/2012	Three agenda items including approval of the CEO's concurrent position as a director of Samsung Display	Approved	4/4
07/27/2012	Two agenda items including approval of the 44th 1H12 financial statements, business report, and interim dividends	Approved	4/4
09/13/2012	Two agenda items including the decision on the merger with SEHF Korea	Approved	4/4
10/26/2012	Five agenda items including approval of the 44th 3Q12 financial statements and quarterly report	Approved	3/4
12/03/2012	Three agenda items including the report on and announcement of conclusion of the merger with SEHF Korea	Approved	3/4

Board of Directors (BOD)

Total **9**

Board of Directors

4

**Vice Chairman & CEO
Oh-Hyun Kwon**
Vice Chairman & CEO, Head of Device Solutions, Samsung Electronics

**President & CEO
Bu-Geun Yoon**
President of CE, Samsung Electronics

**President & CEO
Jong-Gyun Shin**
President of IM, Samsung Electronics

**President & CFO
Sang-Hun Lee**
President of Corporate Management Office, Samsung Electronics

Board of Directors
(Independent Directors 5)

5

**Independent Director
In-Ho Lee**
Former President & CEO, Shinhan Bank

**Independent Director
Han-Joong Kim**
President & Chairman, CHA Strategy Committee

**Independent Director
Gwang-Su Song**
Advisor, Kim & Chang Law Office

**Independent Director
Byeong-Gi Lee**
Professor of Electronic Engineering, Seoul National University

**Independent Director
Eun-Mi Kim**
Dean, Graduate School of International Studies, Ewha Women's University

Management Results

200 Trillion KRW Annual Revenue

A testament to its competitiveness and continued success on a global scale, Samsung Electronics became No.1 IT company in 2012 with annual revenue exceeding KRW 200 trillion. Independent of its current success, Samsung remains committed to future innovations and improvements in areas such as sustainable management, economic value creation, and capacity to expand into new business areas.

2012 Revenue

KRW **201** trillion

2012 Profit

KRW **29** trillion

A Record in the Global Electronic Industry

Global circumstances in 2012 posed a set of unique challenges for Samsung Electronics. The global economic recession triggered by a worldwide debt crisis decreased consumer confidence almost universally, negatively affecting the economic performance of many companies and countries alike. The difficulties presented by the economic landscape compounded challenges within the always-competitive IT industry.

Nevertheless, Samsung Electronics achieved annual sales of KRW 201 trillion and annual operating profits of KRW 29 trillion in 2012, a record in the electronics industry across the world.

Samsung Electronics achieved a landmark KRW 100 trillion in sales in 2009. In 2012, just four years later, it has doubled its annual sales record. Compared to the figures posted in 2011 (KRW 165 trillion in sales and KRW 15.6 trillion in operating profits), Samsung achieved increases of 21.85% and 85.4%, respectively, in 2012.

Global IT Leader

Samsung Electronics reaffirmed its position as a market leader by recording a 14.4% operating profit rate in 2012, one of the highest rates in the global IT industry.

The IT & Mobile Communications sector in particular achieved considerable growth in 2012 by posting annual operating profits of KRW 19.44 trillion. This figure represents a 139.4% increase over 2011 and an operating profit rate of 18%, largely due to Samsung mobile phones' new position as global market share leader.

The consumer electronics sector recorded an operating profit of KRW 2.3 trillion, a remarkable 82.54% increase over 2011 numbers. Samsung's success in the consumer electronics space is largely due to the strong sales of its TVs and displays, which ranked number one in sales across the world for the seventh straight year in 2012.

Despite delays in the recovery of the global memory chip market, Samsung's components sector recorded operating profits of KRW 4.17 trillion in 2012 due to the steady growth of its System LSI (Logic) business.

The display panel division recorded operating profits of KRW 3.21 trillion in 2012, largely due to increased sales in emerging markets.

A Global Workplace

Keeping pace with increased globalization, Samsung Electronics is continually evolving to create a workplace for diverse populations around the world. At present, the company employs 240,000 individuals in 217 countries throughout the world. Employees work in a wide variety of workplaces including 40 production subsidiaries, 51 sales subsidiaries, and 34 research centers.

Samsung Electronics Revenue/Operating Profits Trends

- Revenue
- Operating Profits

KRW 34.2T — 7.4T — 2000
KRW 80.6T — 7.5T — 2005
KRW 165T — 15.6T — 2011
KRW 201T — 29T — 2012
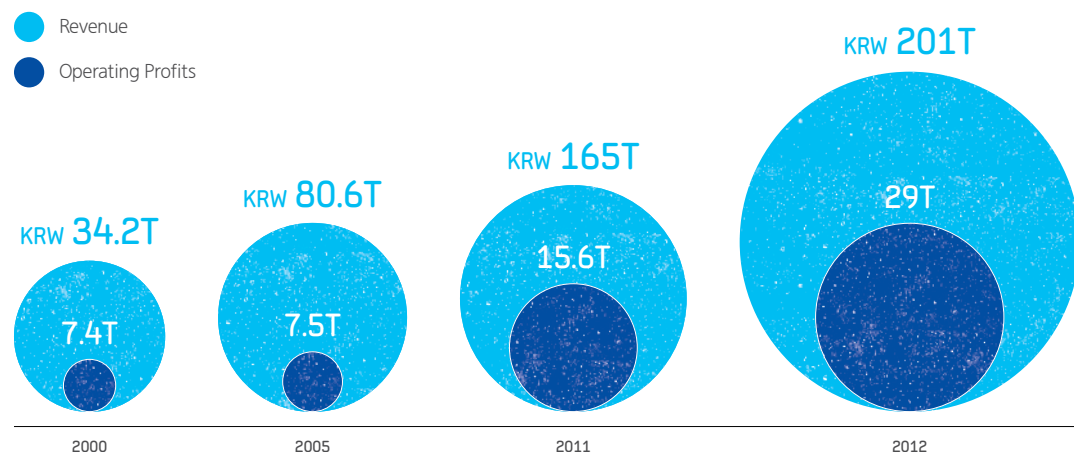
Economic Value Distributed to Stakeholders

Total Economic Value Distributed to Stakeholders of Samsung Electronics:

187.2 T(KRW)

from a 2011 baseline

22 % increase

In 2012, the Company distributed a total of KRW 187.2 trillion (i.e. a 22% rise over 2011) in economic value to stakeholders.

Shareholders and creditors

KRW **1.8** trillion

Combined total of KRW 599 billion for shareholders and an interest expenditure of KRW 827 billion for creditors

The Government

KRW **7** trillion

Combined total of income tax expenditures, corporate tax, and dues

Suppliers

KRW **138.7** trillion

Total operating expenses

Employees

KRW **16.9** trillion

Combined total of wages, retirement allowances, and benefits

Local Community

KRW **245.4** billion

Combined total of social contribution expenses, including donations made for the development of local communities.

Re-investment (surplus)

KRW **22.6** trillion

Retained earnings for future investment

Market Shares by Business Area

**Leading the
Global Market
with Cutting-
edge Technology
& Quality
Products**

Leading the Global Market with Cutting-edge Technology & Quality Products Samsung Electronics sold more than 406 million mobile phones in 2012, securing a position as the global market leader with an overall share of 23.4%. Samsung also maintained its global market leader positions in other key product areas, including TVs, monitors, semiconductors and digital appliances. And will continue to lead the global market with cutting-edge technologies and quality products.

**Samsung's Market
Shares
by Product**

No.1

● Samsung ● 2nd company

Mobile Phone Total
1
33.3% 27.0%
20.6% 21.2% 25.1%
21.2%
2nd
2010 2011 2012

Smartphones
1
30.4%
19.9%
8.0% 19.0% 19.4%
2nd
2010 2011 2012

TVs
1
20.2% 21.7% 24.3%
15.8% 16.0% 14.0%
2nd
2010 2011 2012

LCD Monitors
1
14.5% 15.1% 15.3%
12.6% 12.7% 13.0%
2nd
2010 2011 2012

LED Monitors
1
19.0% 23.3% 21.1%
16.8% 12.1%
2nd
2010 2011 2012

Semiconductors • Memory
1
34.3% 35.7% 35.4%
15.4% 15.8% 16.6%
2nd
2010 2011 2012

Semiconductors • System LSI
2.4% 3.3% 4.9%
3rd
2010 2011 2012

Refrigerators
9.1% 9.6% 10.3%
3rd
2010 2011 2012

Washing Machines
8.8% 9.2% 9.7%
2nd
2010 2011 2012

Printers
17.6% 17.2% 14.5%
2nd
2010 2011 2012

Notebook PCs
5.0% 6.3% 6.9%
7th
2010 2011 2012

Cameras
12.7% 12.6% 12.0%
4th
2010 2011 2012

Global Network

One Company Fueled by Global Diversity

Samsung Electronics began doing business in Korea in 1969. Forty-three years later, Samsung has expanded into 200 countries. Samsung attributes much of its success to its global network of employees, whose creativity and innovation are engines for growth. The diversity of perspective and expertise present at each of Samsung's nine regional headquarters ensures independent strategic development and solutions that can be applied both locally and around the world.

Efficient Resource Allocation and Localization Strategies

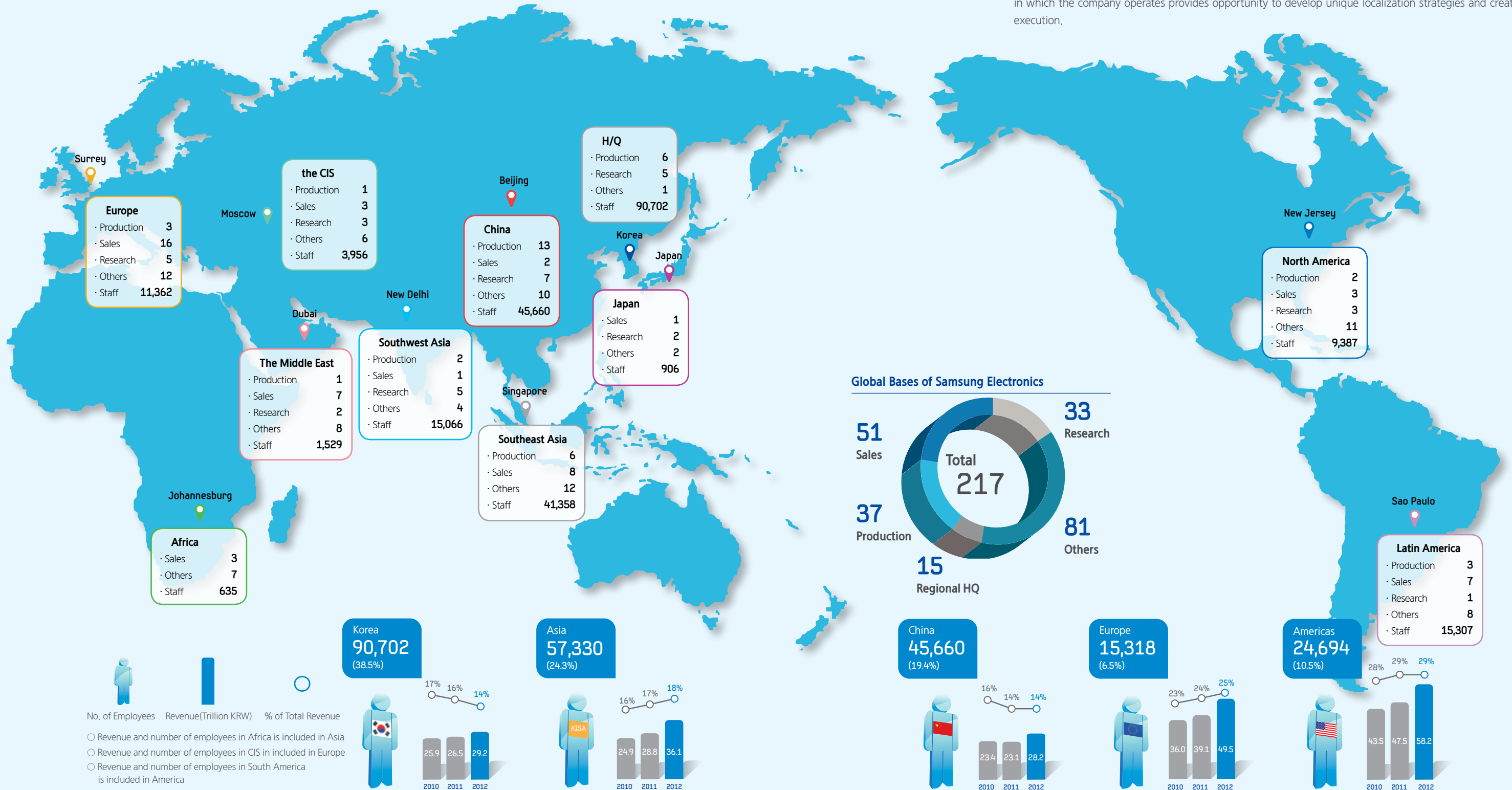Samsung's business operations include 217 locations around the world, including centers of production, sales, design, and research. In order to effectively manage its diverse global portfolio, Samsung Electronics maintains 15 regional headquarters around the world (including its corporate headquarters in Korea). Leadership at Samsung takes care to equip each regional business segment with considerable resources and autonomy. This commitment to each region in which the company operates provides opportunity to develop unique localization strategies and creative global execution.

Surrey

Europe
- Production 3
- Sales 16
- Research 5
- Others 12
- Staff 11,362

Moscow

the CIS
- Production 1
- Sales 3
- Research 3
- Others 6
- Staff 3,956

Beijing

China
- Production 13
- Sales 2
- Research 7
- Others 10
- Staff 45,660

H/Q
- Production 6
- Research 5
- Others 1
- Staff 90,702

Korea

Japan

Japan
- Sales 1
- Research 2
- Others 2
- Staff 906

New Jersey

North America
- Production 2
- Sales 3
- Research 3
- Others 11
- Staff 9,387

Dubai

The Middle East
- Production 1
- Sales 7
- Research 2
- Others 8
- Staff 1,529

New Delhi

Southwest Asia
- Production 2
- Sales 1
- Research 5
- Others 4
- Staff 15,066

Singapore

Southeast Asia
- Production 6
- Sales 8
- Others 12
- Staff 41,358

Johannesburg

Africa
- Sales 3
- Others 7
- Staff 635

Sao Paulo

Latin America
- Production 3
- Sales 7
- Research 1
- Others 8
- Staff 15,307

Global Bases of Samsung Electronics

Total 217

- 51 Sales
- 33 Research
- 37 Production
- 81 Others
- 15 Regional HQ

No. of Employees
Revenue(Trillion KRW)
% of Total Revenue

○ Revenue and number of employees in Africa is included in Asia
○ Revenue and number of employees in CIS in included in Europe
○ Revenue and number of employees in South America is included in America

Korea
90,702
(38.5%)
17% 16% 14%
25.9 26.5 29.2
2010 2011 2012

Asia
57,330
(24.3%)
16% 17% 18%
24.9 28.8 36.1
2010 2011 2012

China
45,660
(19.4%)
16% 14% 14%
23.4 23.1 28.2
2010 2011 2012

Europe
15,318
(6.5%)
23% 24% 25%
36.0 39.1 49.5
2010 2011 2012

Americas
24,694
(10.5%)
28% 29% 29%
43.5 47.5 58.2
2010 2011 2012

Continuous Growth

Creating a New Future to Bring Positive Impact to the Entire Global Community

Samsung's Vision 2020 mantra, "Inspire the World, Create the Future," guides its efforts to create new value through technology optimization, growth engine development, and sustainable management as well as to bring harmony of its stakeholders around the world.

Brand Value

No.9

Among Interbrand's top 100 Global Companies

Vision 2020

The overarching vision that guides Samsung Electronics' Vision 2020 framework is "Inspire the World, Create the Future." This vision expresses the company's commitment to creating a new future that positively impacts the entire global community through innovations in technology, products, and solutions while maximizing value creation for its customers, employees, and society as a whole.
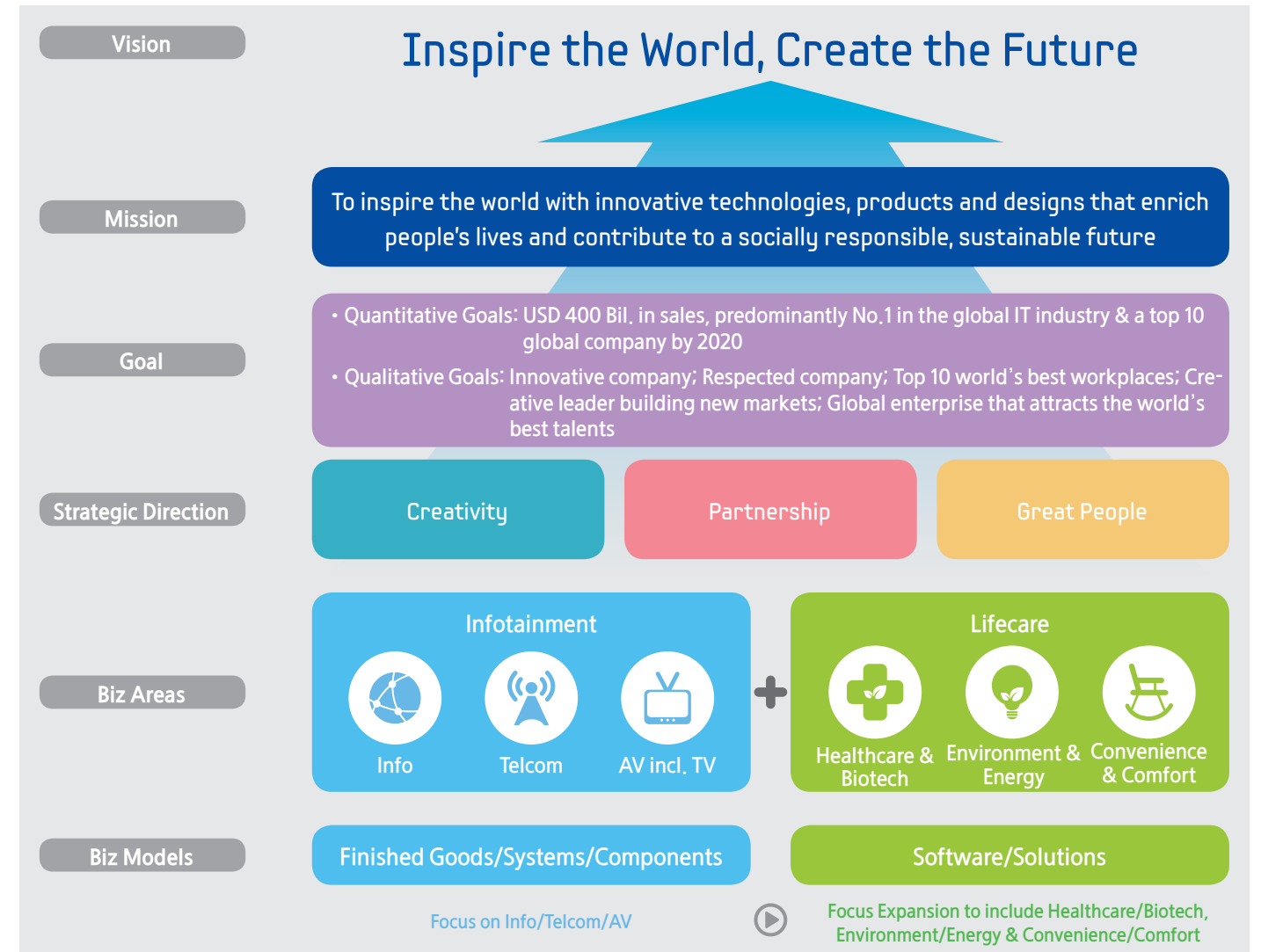
Samsung Electronics has set goals to achieve annual sales of USD 400 billion in 2020, placing its overall brand value among the global top 5. Three key strategic pillars inform Samsung's strategy to accomplish this goal, namely: 'Creativity,' 'Partnership' and 'Great People.' Samsung is committed to operational excellence and innovation within its established business areas. Similarly, the company is working to build capacity and expertise in new business areas, including healthcare and biotechnology, to further increase its global competitiveness. As a creative business leader in the global community, Samsung will continue to contribute shared value for its
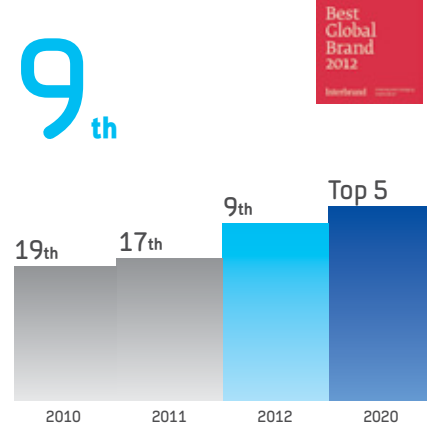
stakeholders around the world.

Samsung expanded its Medical Equipment Team in 2012, leading to the development of the company's new Medical Equipment Division. Backed by a strategic vision and commitment to social responsibility, the company will continue to introduce innovation and creative solutions to the global Medical Equipment marketplace.

Samsung invests significantly in research and development, both in its traditional areas of excellence and in new areas for potential growth. The company recognizes the important pattern between investment in research and development and meaningful business outcomes. In 2012 alone, new product and service innovations contributed to annual sales of KRW 201 trillion and operating profits of KRW 29 trillion. The company also received external recognition for nonfinancial excellence in 2012, as Interbrand ranked Samsung's brand as the 9th most valuable worldwide. In addition, Fortune magazine recognized Samsung as the 34th most admired business entity in the world.
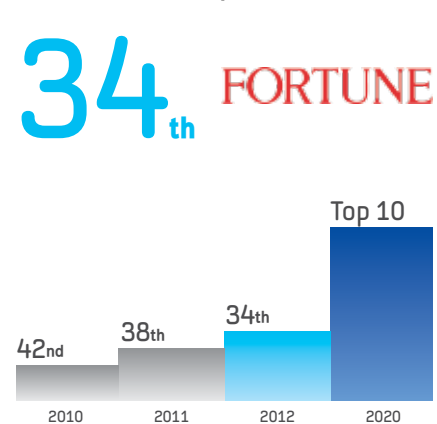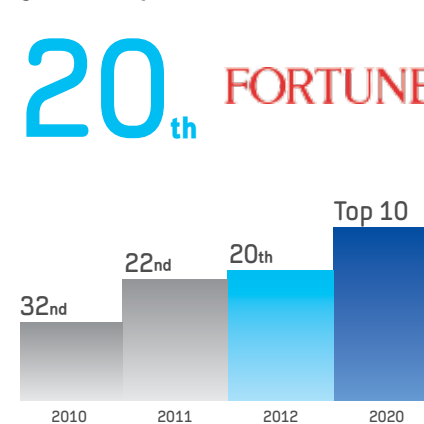

Inspire the World, Create the Future

Vision	To inspire the world with innovative technologies, products and designs that enrich people's lives and contribute to a socially responsible, sustainable future
Mission	
Goal	• Quantitative Goals: USD 400 Bil. in sales, predominantly No.1 in the global IT industry & a top 10 global company by 2020 • Qualitative Goals: Innovative company; Respected company; Top 10 world's best workplaces; Creative leader building new markets; Global enterprise that attracts the world's best talents
Strategic Direction	Creativity Partnership Great People
Biz Areas	**Infotainment** — Info, Telcom, AV incl. TV + **Lifecare** — Healthcare & Biotech, Environment & Energy, Convenience & Comfort
Biz Models	Finished Goods/Systems/Components Software/Solutions

Focus on Info/Telcom/AV ▶ Focus Expansion to include Healthcare/Biotech, Environment/Energy & Convenience/Comfort

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Accomplishments

Samsung Enters Interbrand's Top 10 List

Best Global Brand 2012 Interbrand

2010	2011	2012	2020
19th	17th	9th	Top 5

Fortune names Samsung as 34th most admired companies in the world

34th FORTUNE

2010	2011	2012	2020
42nd	38th	34th	Top 10

Samsung ranks 20th among top 500 global companies

20th FORTUNE

2010	2011	2012	2020
32nd	22nd	20th	Top 10

Other Achievements

3rd
The Boston Consulting Group ranked Samsung as its 3rd most innovative company in the world –8-place jump from 11th in 2011.

BCG THE BOSTON CONSULTING GROUP

2 years
On Thomson Reuters' top 100 global innovator list for the second straight year.

THOMSON REUTERS

4th
Consulting firm Booz&co. ranked Samsung as 4th most innovative company, a 3-place jump from 2011 list.

booz&co.

5 years
Samsung has been included as a component in the DJSI World Index for five consecutive years.

Dow Jones Sustainability Indexes

Organization of Business Areas

Investments & Patents

Enhanced Organizational Efficiency and Competence

In 2012, Samsung Electronics launched an exhaustive program of organizational reform that proactively addresses the changing global IT landscape. As a top priority of the organizational reform, Samsung refined management structures in each business area to optimize capabilities throughout the entire company. Samsung's new organizational structure reflects the company's refocused emphasis on three key business sectors: Consumer Electronics (CE), IT & Mobile Communications (IM), and Device Solutions (DS). These reforms will help Samsung improve upon its history of operational excellence, allowing for increased growth opportunities and continued industry-leading innovation.

Investing in the Future Through Creative Problem Solving and Innovation

Samsung Electronics believes that its efficacy and success relies on its ability to create new business, products, and technology. As a result, the company places a heavy emphasis on future investments and patents. Samsung also believes in the power of constructive failures, recognizing that challenges often serve as a catalyst for strategic problem solving and innovation within the global marketplace. The company regards every challenge - regardless of size - as an opportunity for knowledge building and growth. Through constant problem solving and creative technological innovations, Samsung Electronics is committed to creating a more sustainable future for the entire global community.

Focusing on Three Key Areas (CE-IM-DS)

As part of the 2012 reorganization, Samsung dissolved its Digital Media and Communications (DMC) sector and replaced it with two new, more specialized sectors: Consumer Electronics (CE) and IT & Mobile Communications (IM).

Starting in 2013, Samsung Electronics' organizational structure will center on the three sectors of CE, IM, and Device Solutions (DS).

The reorganization allows for each business sector to make decisions more quickly and deal with global market changes more effectively.

In addition, these structural reforms create models for success enterprise-wide. Going forward, Samsung's TV and mobile phone divisions will serve as best practice examples for other internal sectors such as printers, cameras, networks, and medical equipment.

The DS sector will continue to be run independently of other sectors to preserve its reputation for excellence among key stakeholder groups.

Business Division Efficiencies

Samsung also integrated its PC business into IM sector. The new arrangement demonstrates important foresight of key IT industry issues, namely a recognition of the blurring lines between PC and smartphone technologies. Similarly, the arrangement allows for increased collaboration between the PC business and the IM sector's industry-leading capabilities in software and hardware production as well as marketing.

To optimize organizational operation of its printer business, Samsung established a Printing Solution Business Division in 2012.
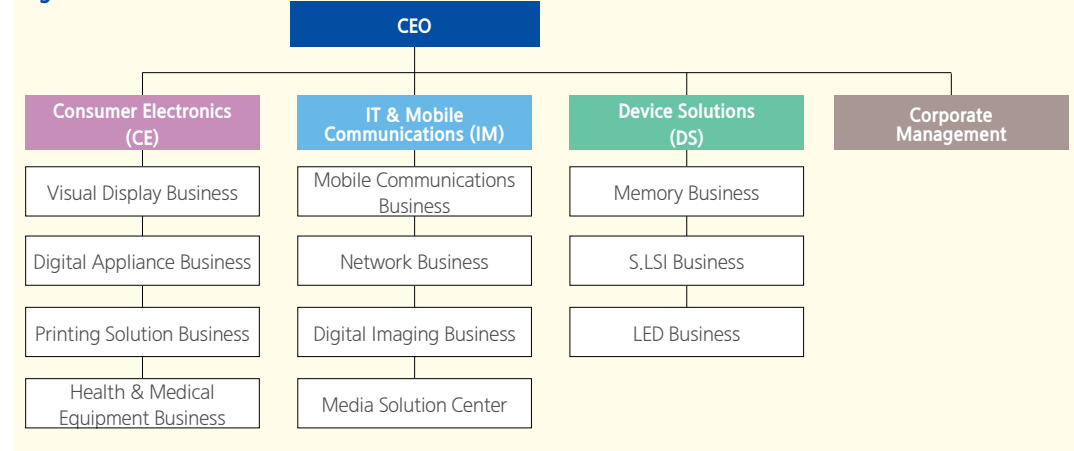
In response to promising results within the global marketplace, the company also expanded its Medical Equipment Business Team to form a new Medical Equipment Business Division.

Software Development

Prompted by the rapidly changing business environment and to maintain technological leadership, Samsung's DS sector enhanced its advanced research capabilities.

The newly-established Software Research Lab will serve as a hub for the company's component software operations. It wil provide the education and training of the company's software experts and develop next-generation software platforms and imbedded software programs.

Continuous Growth through Strategic R&D Investments

The global economy is experiencing unprecedented changes, including both a persistent recession and blurred distinctions between key industries.

Despite the challenges posed by the global economy, Samsung Electronics retains its competitive advantage and growth patterns that outpace industry standards.

In recognition of the IT industry's inherent volatility, Samsung maintains a core belief in the constant pursuit of new innovation and success, regardless of past performance.

Samsung Electronics always increases its R&D investments during times of industry-wide or company-specific slowdown. This practice reflects the company's belief that R&D investments and technological innovation serve as important problem-solving mechanisms.

Over the years, Samsung has increased both its monetary investment and human resource capacity in R&D. In 2012, Samsung Electronics R&D investments totaled more than KRW 12 trillion (6% of its total annual sales). The amount represents a 20% increase over that of 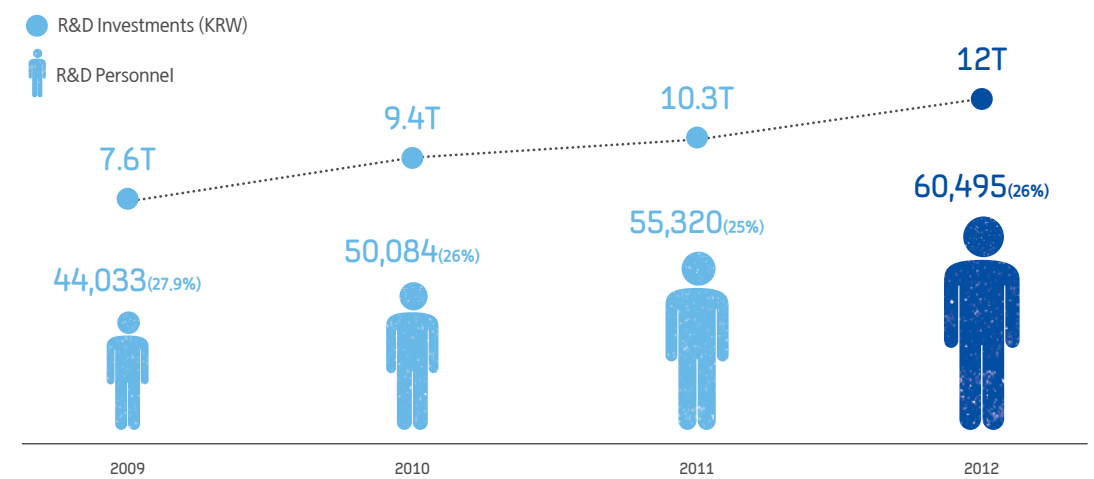the previous year (KRW 10.3 trillion). Furthermore, when compared to the KRW 6 trillion invested in 2007, Samsung has doubled its R&D investments over the past five years.

Samsung Electronics increased its R&D personnel from 21,000 in 2003 to more than 60,000 in 2012, accounting for 26% of the company's total manpower worldwide.

In alignment with the increasing importance of soft technologies including software, design and services, Samsung Electronics added the software occupational group to its recruitment plan for 2011. It has hired an increasing number of experts in this key field.

In addition, Samsung established the Mobile Solution Center America(MSCA) in Silicon Valley, USA as part of its efforts emphasize the importance of software within company operations. To that end, Samsung plans to continue recruiting prominent R&D and software experts from around the world.

R&D Investment Rate

6%

Samsung has invested KRW 12 trillion which is 6% of its Revenue

% of R&D Personnel

26%

From 2003 to 2011, total number of R&D personnel increased from 21,000 to over 60,000. Currently the proportion of R&D personnel is 26%.

CE Consumer Electronics

IM IT&Mobile Communications

DS Device Solutions

Organization Chart

```
                    CEO
    ┌───────────┬───────────┬───────────┬──────────────┐
Consumer      IT & Mobile   Device      Corporate
Electronics   Communications Solutions  Management
(CE)          (IM)          (DS)

Visual Display  Mobile        Memory
Business        Communications Business
                Business

Digital         Network       S.LSI
Appliance       Business      Business
Business

Printing        Digital       LED
Solution        Imaging       Business
Business        Business

Health &        Media
Medical         Solution
Equipment       Center
Business
```

R&D Investment and R&D Personnel as a Proportion of Total Employees

● R&D Investments (KRW)

👤 R&D Personnel

	2009	2010	2011	2012
R&D Investments	7.6T	9.4T	10.3T	12T
R&D Personnel	44,033 (27.9%)	50,084 (26%)	55,320 (25%)	60,495 (26%)

2nd

In the U.S., Samsung has registered a total of 30,461 patents including 378 design patents maintaining No.2 patent holder for 6 consecutive years.

Flagship R&D facilities:

Suwon
(Comprehensive R&D Complex)
Hwaseong
(Components R&D Center)
Umyeong-dong
(Software & Design R&D Center)

Creation of R&D Centers to Catalyze Growth

Samsung Electronics is building new R&D centers and complexes in Umyeon-dong, Suwon, and Hwaseong with the aim of expanding its foundation for the development of future growth engines. R5 Research Building in Suwon opened in June 2013 and Samsung Electronic Material Research Complex is set to open at the end of 2103. Because of the centers' proximity to one another and the variety of research taking place, each new technological development will be tempered by the expertise and counsel of the neighboring facility.

Samsung has also started construction on a large research center for electronic materials in Hwaseong, which the company plans to complete by the end of 2013. The R&D center will work to develop key electronic materials such as graphene, materials for next-generation batteries for sunlight generation and electric cars; and OLEDs that will enable Samsung to incorporate a greater proportion of domestic components in its own electronic devices.

By 2015, Samsung Electronics will complete construction on the new Umyeon-dong R&D Center, which is set to become the hub for the company's design and software research programs. Upon opening the Umyeon-dong center, Samsung will have completed a large R&D network in the Seoul Metropolitan Area. The network is home to multiple R&D facilities located in Seoul and such cities as Suwon, Hwaseong, and Pyeongtaek in the Gyeonggi Province. These interconnected facilities will serve as critical incubators for Samsung's new technologies.

Patents

Samsung firmly believes that investments in research and development directly translate to unprecedented advancements in technology.

Samsung Electronics has filed 36,078 patent applications domestically and 36,276 internationally to date. In the United States, the company has registered a total of 30,461 patents including 378 design patents. In the six years leading up to and including 2012, Samsung continues to rank among the top two global IT companies in the United States in terms of patents acquired.

At Samsung, filing for patents is a collaborative process that involves a variety of experts in research, design, production, and law. The product creation lifecycle involves consultation from each set of experts in order to optimize design and mitigate risk.

Of note, Samsung Electronics has proactively increased the number of patent experts on its R&D teams from 250 in 2005 to 450 in 2012.

Samsung has also introduced a compensation system for employees that rewards job-related inventions. The company compensates each employee that submits patent applications on its behalf, and rewards team members again upon applying the new technologies to its products.

Additionally, Samsung awards Patent Grand Prizes to employees whose patents prove to make significant contributions to the company's product and service portfolio. In doing so, Samsung aims to encourage continued excellence in R&D among team members.

R&D complexes established by the Company
(① number. of employees, ② scheduled completion date)

Suwon Institute R5, Gyeonggi-do
① 10,000   ② June 2013
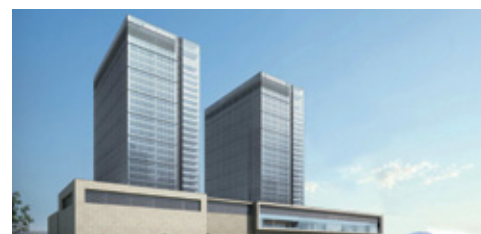
Hwaseong Parts Research Institute, Gyeonggi-do
① 10,000   ② December 2013

Pyeongtaek Complex, Gyeonggi-do
① 30,000   ② After 2016

where 10,000
researchers will be working

Spotlight: Umyeon-dong R&D Center

Samsung Electronics is building its first R&D center at Umyeon-dong in the city of Seoul. Due to its strategic location in South Korea's capital city, the new center will be able to recruit and retain top talent in the fields of research and development. The center will serve as the company's hub for design and software, and further enhance the competitiveness of the company's great variety of products and services. The Umyeon-dong R&D center, a complex composed of six ten-story buildings with a total floor area of 33,000m2, is scheduled to be completed by the end of 2015. The company aims to employ 10,000 researchers in the areas of design and software at the complex.

The Silicon Valley Software R&D Center Set to Expand

In the United States, Samsung Electronics will expand its software R&D center in California's Silicon Valley. The center will accommodate a total of 1,000 world-class experts. Samsung Electronics originally established the Media Solution Center America (MSCA) in Silicon Valley as an auxiliary media solution center for R&D on content and services. Now, the company is expanding the center and planning to develop it into a research facility devoted exclusively to software development. Going forward, the MSCA will play the central role in reinforcing the company's global competitiveness within the software sector.

Stakeholder Engagement

Genuine Stakeholder Communication

Samsung Electronics uses an array of communication channels to engage stakeholders in productive and relationship-driven conversation. The company hosts public stakeholder forums and maintains online blogs in an effort to encourage stakeholders to express their honest points of view on any matter related to the company.

Stakeholders Engagement

Samsung pursues open, relationship-driven communication with stakeholders in order to promote shared growth. Samsung's' diversity of stakeholders includes shareholders, customers, employees, NGOs, local communities, suppliers, mass media, and the government. Taking care to match the appropriate communication channel with each group, Samsung carefully considers each piece of feedback from stakeholders, and makes every effort to reflect lessons from the feedback in the company's future corporate policies and actions. In order to facilitate effective communication with stakeholders, Samsung Electronics has designated a specialized communications department for various stakeholder groups. Each of these departments holds forums, responds to inquiries, conducts surveys and runs advisory groups for its particular group of stakeholders.

Communication channels with stakeholders

Number of students participated in CSR Forum

100

Over 100 students who is interested in CSR attended to "1st CSR Forum for University Students" held by Samsung Electronics.

Samsung Holds Student CSR Forum & CSR Sharing Concert

As part of its 2012 efforts to expand stakeholder engagement in discussions about the company's policies and management, Samsung held a student CSR forum in Korea.
The forum consisted of in-depth discussions about the company's social responsibility policies and ways of improving them.
The company also held a CSR Sharing Concert event that convened volunteers and beneficiaries to both share past CSR accomplishments and discuss potential improvements in future CSR direction and program content.

Student CSR Forum

	Samsung Actions	Stakeholder Actions
Plan	• Thinking: Raise college students' interest in CSR • Analysis & Plan: Meetings with CSR club member students revealed that they had hardly any opportunities to witness actual corporate CSR cases.	• Collection of students' queries about CSR • Summarizing students' needs
Preparation	• Selection of CSR Forum issues • Decision on the forum date • Assignment of experts in personnel, CSR, product development and the environment	• Collection of questions about Samsung's CSR activities • Proposal of the forum date
Forum Operations	• With experts in various fields, Samsung Electronics presented its socially responsible case studies and held discussions with students.	• Participation in discussions • Q&A
Improvements	• Establishment of a system that enables students to participate in improving Samsung Electronics' CSR activities • Enhance publicity in order to drive student participation	• Proposal of improvements to Samsung's CSR activities • Presentation of improvements at the Samsung student CSR forum

Sharing Concert

	Samsung Actions	Stakeholder Actions
Plan	• Thinking: CSR volunteers and beneficiaries need to meet after CSR events • Analyse & Plan : Volunteers and beneficiaries will share CSR preparation processes and impactful CSR cases to promote a sharing culture among concert participants	• Continuous exchanges between volunteers and beneficiaries following CSR activities
Preparation	• Preparation of stories about sharing • Securing beneficiaries and volunteers who will participate in the concert	• Preparation of stories by beneficiaries and NGOs
Forum Operations	• Annual summary of Samsung Electronics' CSR • Sharing volunteers' stories • Community service plays, etc.	• Beneficiaries: share personal stories • NGO: Presentation of ways to strengthen partnerships
Improvements	• Expanding pro bono activities with advanced technologies • Reflection of relevant opinions in CSR programs	• Proposals of expanded pro bono activities using Samsung Electronics' technologies and core competencies

Since joining the Electronic Industry Citizenship Coalition (EICC) in 2007, Samsung Electronics has proactively participated in the various initiatives of the EICC including joint actions on the industry's common issues.
During the 2012 EICC Winter Membership Meeting hosted by Samsung in Korea, Samsung shared Korean companies' CSR accomplishments and the local government's "Shared Growth" policies. The meeting also served as a valuable opportunity for the electronics industry to share CSR best practices with audiences in Korea.

※ Samsung Electronics abides by AA1000SES(Stakeholder Engagement Standard) in all stakeholder forums.

Incorporation of Stakeholder Feedback

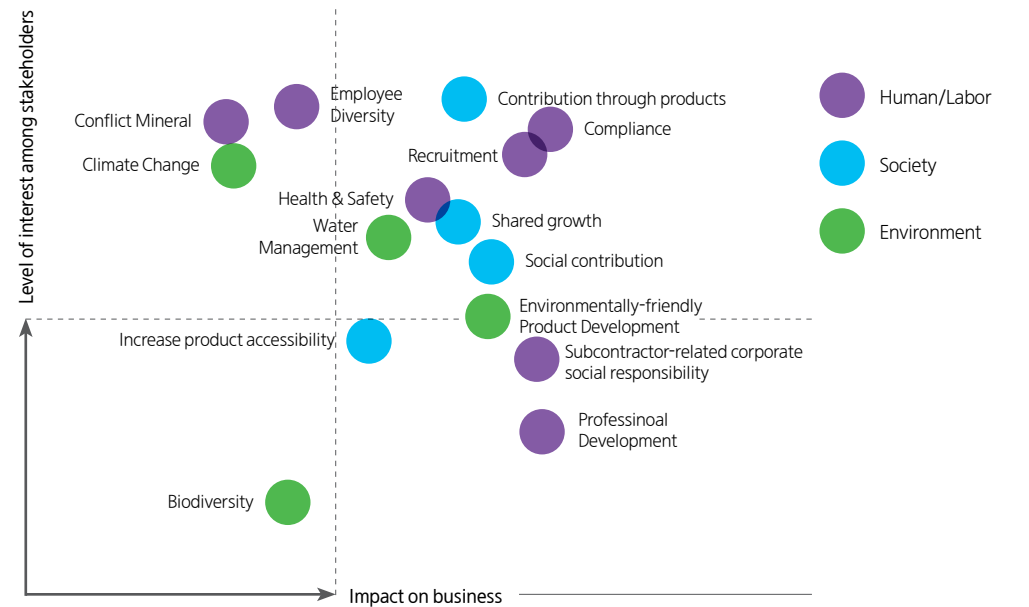| Stakeholders	Major issues	Stakeholder Feedback Incorporated
Shareholders / investors	Ensuring compliance	Launch of a team tasked with monitoring suppliers' compliance with labor laws; expansion of due diligence concerning suppliers; supplier trainings
	Environmental policy concerning water resources and climate change	Establishment of a water resource management policy; assessment of water resource risks at facilities; adoption of water resource reduction technologies
Customers	Workplace environment improvements	Assuring suitable work hours (on a weekly basis); work leave sessions providing education on the necessity of employee vacation days
	Production facility conditions	Assurance of labor rights at production facility (including minimum wage observance); strengthening of workplace safety teams that improve environmental health & safety (EHS) management
	Elimination of conflict minerals	Auditing suppliers' use of ores; smelter/refinery mapping; participation in the EICC Extractives Work Group
NGO	Mineral use	Disclosure of ore extraction sites; analysis of suppliers' mineral use; smelter/refinery mapping; participation in the EICC Tin Initiative
	Supplier labor rights	Distribution of procedure for banning the hiring of underage employees; routine monitoring for compliance
	Environmental policy	Establishment of a biodiversity policy; appraisal of water resource-related risks and mitigation system adoption; measuring of GHG emission reduction; banning harmful materials in products
Government	Shared growth	Expansion of shared growth policy with first and second suppliers; support system for supplier recruitment; development of 'small but strong' support program
	Strengthening of workplace safety	Strengthening of teams in charge of workplace safety management; strengthening of process improvement and diagnosis
Local Communities	Ethical facility management	Establishment of collaboration councils in local production communities; improvement of chemical emissions/wastewater discharge
	Contributions to local communities	Expansion of the Hope for Children program; increase in corporate social contribution investment
Partners	Facilitating supplier business growth	Support system for 'small but strong' global businesses; operation of the Innovative Technology Company Council (ITCC); adoption of the Open Sourcing system
	Fair pricing	Purchase of raw materials by Samsung for its suppliers to help manage component prices
	Assistance for suppliers' recruitment	Holding job expos to help suppliers hire employees

Materiality Matrix

Establish transparent corporate culture by improving material issues and fostering law-abiding business environment

Samsung Electronics received consultation from PwC, an independent multinational professional services firm, regarding its selection of material issues for 2012. After checking with both internal and external stakeholders, Samsung Electronics selected the following as the material issues for 2012 and included them in the report:

Trend Surveys Media Coverage & Industrial Surveys ▶ Feedback from External Stakeholders 132 cases in 2012 ▶ Evaluation of Social Concerns ▶ Evaluation of Business Impact & Control Degrees ▶ Selection of Material Issues

Materiality Matrix

Material Issue

Issues	Major Contents	Page
Compliance	Compliance management, etc.	68, 69
Employment	Expanded employment & recruitment of underserved members of society	46, 47
Employee Diversity	Promotion of inclusion in the composition of staff and executives by hiring a broad array of diverse groups	46, 47
Safety & Healthcare	Promotion of employee health and creation of safe, pleasant workplaces	56~59
Conflict Mineral*	Enhance the transparency of supply chain to ban the use of minerals in the conflict regions	Website
Suppliers' Corporate Social Responsibility	Suppliers' compliance with rules relevant to human rights, labor and environmental safety	54, 55
Social Contribution	Supporting local community development and helping populations in need	34~41
Contribution through products	Creating Shared Value through the development of new products as well as helping to resolve social and environmental issues	26~33
Shared Growth	Enhanced supplier competitiveness and promotion of fair transactions	42~45
Increase product accessibility	Expanded accessibility for populations requiring special accommodations	32, 33
Environmentally-Friendly Products	Development of high-efficiency products to reduce environmental impact; Environmentally-friendly packaging to conserve natural resources, etc.	48~51
Climate Change	Reductions in GHG emissions from corporate activities	78~81
Water Management	Reductions in water consumption and waste water disposal	52, 53

* For more information please visit our sustainability website at www.samsung.com/us/aboutsamsung/sustainability/suppliers/conflictminerals/

Board of Directors (BOD) Composition

We strive to improve our productivity and maximize business outcomes through continuing innovation. Our Sustainability Report 2013 aims to share the company's vision and values with interested parties through showcasing our activities in the following areas, compliance-focused management, social contributions; new value creation through environmentally responsible innovation, shared value and growth; and risk mitigation.

Communication and Co-existence
## for Continued Growth

Creating Shared Value and Giving Back with Samsung Products

Creating Shared Value through Products and Contribution

Samsung works to contribute to the improvement of communities in areas such as poverty reduction, health promotion, environmental protection, and energy self-sufficiency. Samsung Electronics now conducts studies on potential environmental and societal impacts whenever it plans to develop a new product. Samsung takes care to ensure that its new products not only make people's lives more convenient and enjoyable but also contribute to making the global community healthier. By developing and launching energy-efficient products, Samsung's global offerings are designed to address serious problems in many parts of the world such as shrinking water resources, scarce power supplies, and accelerating climate change. Samsung will continue its dedication to launching innovative products that have a positive impact on serious global issues while simultaneously fulfilling consumer needs. Moving forward, the company plans to expand its use of the CSV model in order to drive value creation both within its business and among its stakeholders.

Creating
Shared
Value
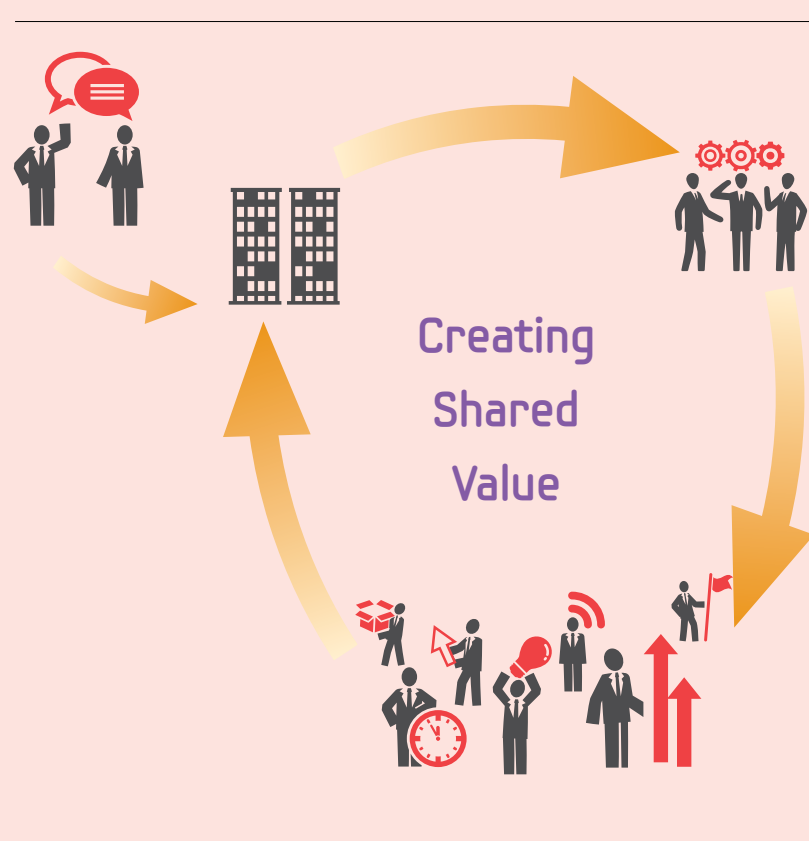
Future Imperatives
In its 2011 United Nations-commissioned 'State of the Future' report, The Millennium Project includes water shortage and climate change among the fifteen most critical issues currently facing humanity. The report states that the earth has undergone marked changes due to global warming, particularly since the 1970s, causing the average annual temperatures for 2005 and 2010 to jump to the highest ever recorded.

Climate-related Disaster
According to global reinsurer Swiss Re, 950 natural disasters resulted in approximately 300,000 deaths and US$130 billion in property losses in 2010 alone. Of the disasters within the study's scope, an estimated 90% were related to climate change.

Water Shortage
More than 880 million people in the world do not have access to clean water, while a further 2.6 billion people are threatened by unsafe water, sanitation, and hygiene. Many inhabited places around the world are seeing their water sources dry up due to global warming. A report from the United Nations predicts that the water tables in most places around the world will continue to descend, aggravating the global water shortage crisis.
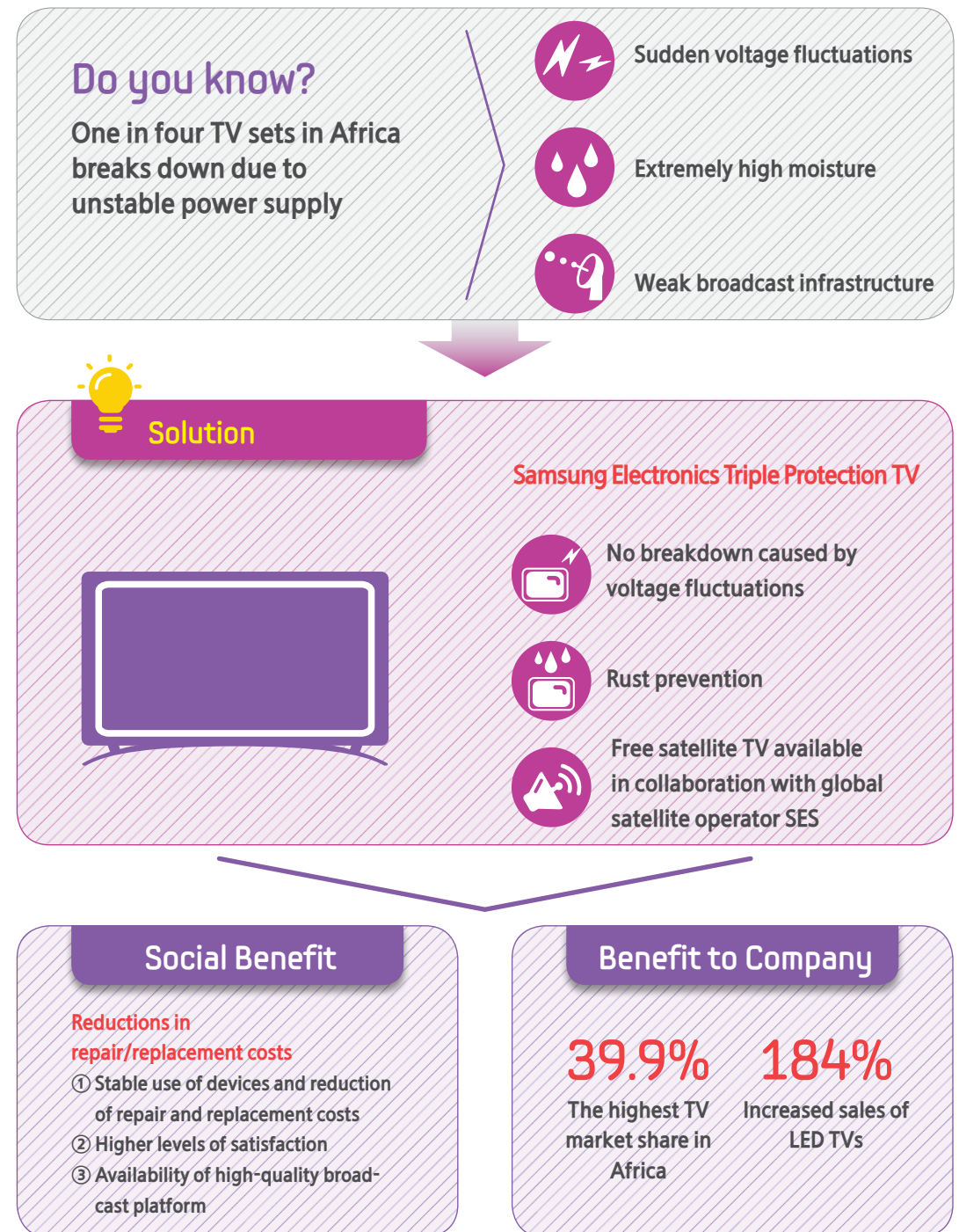
Samsung's Response
Driven by its belief in CSV, Samsung strives to practice responsible corporate citizenship by proactively engaging in various global efforts that combat serious issues like poverty, disease, environmental degradation, and energy crises. To that end, Samsung works to remain conscious of the potential effects that its products - through manufacture and use - could have on the environment. In order to uphold its commitment to environmental responsibility, the company conducts impact analyses during product development and optimizes product design to maximize positive impacts to communities and overall global health. Samsung proactively pursues shared value by creating innovations that can satisfy customer needs, boost corporate value, and alleviate serious global issues.

TV

In order to best meet consumer needs, Samsung takes into account regional challenges faced by end-users, including the severe shortages of water and electricity. For example, much of Africa's energy infrastructure suffers severe fluctuations in power voltage due to unstable power supply. This problem translates into frequent complications with home appliances. In response, Samsung Electronics has developed a Triple Protection TV specifically for African consumers, a product designed to withstand power outages and voltage fluctuations as well as accommodate the region's harsher climate.

Do you know?
One in four TV sets in Africa breaks down due to unstable power supply

- Sudden voltage fluctuations
- Extremely high moisture
- Weak broadcast infrastructure

Solution

Samsung Electronics Triple Protection TV

- No breakdown caused by voltage fluctuations
- Rust prevention
- Free satellite TV available in collaboration with global satellite operator SES

Social Benefit

Reductions in repair/replacement costs
① Stable use of devices and reduction of repair and replacement costs
② Higher levels of satisfaction
③ Availability of high-quality broadcast platform

Benefit to Company

39.9%
The highest TV market share in Africa

184%
Increased sales of LED TVs

Air Conditioners

Despite Africa's warm climate, the local demand for air conditioners remains low - again due to the poor power supply infrastructure commonly found in communities across the continent. Air conditioner motors are particularly vulnerable to surges caused by unstable power supply, further compounding the challenges of bringing reliable climate control solutions to African citizens. Interested in solving this issue and creating value for its stakeholders in Africa, Samsung Electronics has developed the Triple Protector Air Conditioner. Thanks to innovation in design, this newly-launched product continues operating efficiently under harsh conditions including unstable power supply. As a result of this enhanced reliability, African consumers can use Samsung air conditioners with confidence and improve their quality of life significantly.

Refrigerators

African communities experience an increased incidence of a variety of diseases due to extreme heat and food spoilage, a problem Samsung has pledged to help reduce. In an effort to mitigate disease outbreak, Samsung has developed the DuraCool refrigerator, which stays cool for hours even after the power goes out. The company carried out extensive research for more than a year to enhance durability and prevent circuit shortages. This innovative product has greatly contributed to improving the quality of life for millions of people on the continent while simultaneously helping improve Samsung's market leadership position.

Do you know?
Every two to three years, air conditioner breaks down
- Power surge
- Extreme climate condition

Do you know?
power outage results in food spoilage
- Radical voltage fluctuations
- Extremely hot weather

Solution
Samsung Electronics Triple Protector Air Conditioner
- Protection of compressors, the key component, at low voltage
- Protection of indoor unit circuit components from voltage fluctuations
- Prevention of rust from dust or salt

Solution
Samsung Electronics DuraCool Refrigerator
- Refrigeration continues for three hours after blackout
- Protection of major components from unstable power supply
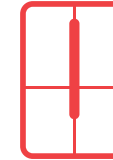- Energy efficiency improvement with LED lighting

Social Benefit
Enhanced Comfort and Convenience
① Enhanced air conditioner operability in extreme weather conditions
② No breakdown during radical changes in weather conditions including humidity
③ Lower power bills thanks to high-efficiency operation

Benefit to Company
No.1
The most admired electronics brand in Africa

The top consumer electronics brand in South Africa

Social Benefit
① Maintenance of cooling features during power failure
② Safe preservation of fresh food
③ Prevention of diseases including food poisoning

Benefit to Company
23.5%
Samsung refrigerators' market share in Africa rose to 23.5% in 2012
No. 1 refrigerator market share in Africa for two years

Washing Machines

Washing machines consume more water than many people suspect. Wash cycles of course require water, but drying laundry often consumes equivalent amounts of water. Traditional machines dry laundry with hot air, generating humidity the process. In order to create balance and eliminate this humidity, many machines introduce cold water at some point during drying cycles.

As part of an ongoing effort to create new products with measurable environmental benefits, Samsung began asking the fundamental question, "why use water to dry laundry at all?" After a dedicated research phase, Samsung succeeded in developing a washing machine that dries laundry without using any water: the 'Bubble Shot 3 W9000' released in 2013. The W9000 is equipped with an 'Air Speed Dry' mechanism that requires no water to operate. The release of the W9000 creates tangible benefits not only for areas suffering from water shortage, but also for many other areas around the world that are concerned with potential water shortages in the near future.

Do you know?

100 liters of water is needed during one drying cycle

Solution

Dries laundry using no water at all – Samsung Air Speed Dry

| Traditional Washing Machine		Bubble Shot 3 W9000
Minimum 52 ℓ	Water consumption for drying	0 ℓ
510 KRW	Cost	420 KRW
176 min.	Running time	78 min.

Social Benefit

① Contributions to solving the global water shortage problem
② Lower water bills
③ Cuts energy bills and makes a positive contribution to dealing with climate change

Benefit to Company

No.1

The washing machine most preferred by U.S. consumers

Securing leadership in premium consumer electronics market

Green Memory
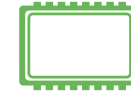
Approximately 500,000 data centers around the world consume 1.5% of the world's electricity annually - the equivalent of energy generated by 50 different 1-million kilowatt power plants. Worldwide, datacenters also produce annual gas emissions equivalent to 40 million consumer cars. As the amount and complexity of data increases, so too does the amount of electricity required by the IT industry to keep up with growing server demands. Samsung's 'Green Memory' line, which provides faster speed while spending less energy, enables sustainable development within the IT industry while simultaneously helping to protect the environment.

Do you know?

5X
During the same period, worldwide data storage space is set to increase by only five times, creating a disparity that Samsung's advancements in memory technology can help to address.

5X

24EB				112EB
2011	2012	2013	2014	2015

12X
Worldwide data transfer is set to increase from 7 exabytes in 2011 to 82 exabytes in 2015, increasing server demands by approximately twelve times.

12X

82EB

7EB

2011	2012	2013	2014	2015

32% About 32% of all data center power is consumed by memory, making energy conservation in this area essential to the creation of more sustainable information hubs.

Memory A/C **14%**
DRAM **8%**
SSD/HDD **10%**
Memory 32%

Solution

4th Generation Green Memory

SSD
20 Nano
SATA 6G

DRAM
20 Nano
DDR3 4Gb

Effects

If all servers in the world were using 10% SSD and 20% DDR2

3.5 TWh Reduction

262 Million Dollars

61M Trees

2.4 MegaTons

473,000 Cars

(DDR3 compared to 1st generation; SSD compared to HDD)

Increasing IT accessibility for all

People with disabilities comprise 15% of the world's population, with this number increasing to as high as 46% among certain demographics. Thus, the challenge of providing information technology access to individuals with disabilities becomes increasingly urgent. Samsung Electronics has long been engaged in research on ways of making access to its products and services possible for everyone. The company's research organizations work to identify and provide solutions for the specific challenges faced by people with disabilities as they interact with modern advancements in technology. As a result, Samsung Electronics has implemented a number of accessibility features for its various devices including the latest smartphones. Samsung will continue to include such innovations within its product to ensure that all people can enjoy the full benefits of information technology, often resulting in increased convenience and quality of life.

Percentage of people with disabilities in the world

15.3%

Dedicated Accessibility Research Organization

Samsung Electronics' Digital Media City Research Center engages in user interface R&D to improve device accessibility functionality and address the needs of people with disabilities. The researchers also seeks product-specific expertise through collaborations with colleagues in Samsung's wireless, visual display, and home appliance departments to make sure that practical improvements are made to each device. Also, Samsung's marketing and customer service teams work to fully optimize the company's website and after-sales service platforms for accessibility.

A Roadmap for Improving Accessibility

Situation Analysis → **Identification of Key Technology Success Factors** → **Establishment of Accessibility Roadmap**

Analysis of current legislation, competitors' accessibility features, and standardization trends

Identification of success factors through the careful examination of feedback from people with disabilities

Establishment of an accessibility roadmap through selection of key enabling technologies

Response to Feedback

Samsung has systematically collected feedback from its stakeholders around accessibility challenges, and the company works to incorporate this feedback in its technology development efforts in order to ensure that practical improvements are made to its product offerings

Category	Feedback
Device Use	• It can be difficult to press/touch exact spots on certain devices. • Mobile phone ergonomics can be improved to mitigate challenges faced by people with upper limb disabilities who may have difficulties gripping devices. • The visually impaired prefer for external buttons to extend further past the device's chassis.
Communication Improvements	• Many require a feature that reads out texts or callers' information while they are on the road. • Many require a voice-to-text feature that translates speech into written messages. • Stronger incoming call notifications such as more intense vibration or screen flickering can help address those that experience challenges recognizing incoming calls.
Recreational Activity Improvements	• Improvements in the design of phones and accessories - such hands-free features to display the phone's screen - can better enable individuals to use devices for an extended period of time. • Many require a feature that prevents camera shake and otherwise enhances image capture functionality. • Volume control and enhanced speaker features can help those with hearing disabilities enjoy music and other audio playback. • Applications that display e-books in larger characters can help facilitate reading for the visually impaired.
Search & Internet-based Services	• The characters/letters of street names and other map text need to be expanded when a map is enlarged. • Mobile web pages need to be enlarged for searching and surfing similar to the functionality present in modern PC browsers. • Image files received through e-mail need to be voice-supported.
Mobility Environment	• Low-resolution video calls create complications for lip readers. • Sunlight reflection can make it difficult to use certain displays. • The maximum volume for voice navigation instructions needs to be raised to accommodate the hearing impaired.

Example: Improved Accessibility to Galaxy S4

A Life Companion that Delivers New Value

GALAXY S4 aims to fully integrate with consumers' lives in order to meet their needs. It is equipped with features designed to improve accessibility and deliver value to consumers with disabilities.

Sight

Talkback • A mobile screen reader that narrates text on web pages

Character Sizes • In alignment with recommendations from groups such as the Korean Blind Union, Samsung offers an additional five character sizes beyond Google's standard offerings

Enlargement • Pages are enlarged/reduced so those with low vision can fully enjoy mobile content

Color Reversal • Colors may be reversed for higher contrast to aid in readability

Color Adjustment • Color palates have been revised and reconfigured according to user color recognition ability, enabling users to distinguish previously indistinguishable colors

Easier Accessibility • Talkback feature is now accessible through a gesture as opposed to navigating through menus

Auxiliary Light • Native support for camera flash to be used as a flashlight is included

Hearing

Hearing Aid Support • Hearing aid compatibility is standard (HAC Test)

Sound Balance • Users with different auditory acuity between the right and left ears can adjust the right/left volume balance

Mono Audio • Stereo sound can be transferred to mono sound for those who have lost hearing in one ear

All Sounds Off • This feature enables the user to turn off all the sounds on the model to avoid disturbing the people around him/her

Alarm through Light • The alarm is signaled by camera flashes that work even when the phone is upside down

Smart Sound • The sound quality of telephone calls or music can be adjusted according to the user's hearing range; earphone tests identify the best sound for each user

Vibration Pattern Creation • The user can create his/her own vibration pattern for telephone calls and alarms; the deaf can also assign different vibration patterns to different people for easy caller identification

Recognition and Others

Input Control • Hardware keys and parts of the screens can be controlled

Telephone Call Reception/Turn-off • Telephone call reception or turnoff can be set through hardware keys, voice commands or touch

Shortcut Display • Shortcut to accessibility page is available

The Physically Challenged

Supplementary Menu • This software feature enables the functions activated by hardware keys or gestures to be completed entirely by touch; this is a helpful feature to those who may have a difficult time pressing the hardware buttons or enabling the pinch-zoom

Screen Press Time • A long press recognition time can be set by the user

Contribution to Create Healthy Society

Social Responsibility: Making Contributions around the Globe

In accordance with its belief that business can prosper only when the society within which it operates remains healthy, Samsung Electronics maintains a wide range of CSR activities in order to help build a better society for all. Most notably, Samsung has been carrying out its Hope for Children campaign across the globe since 2011 to provide youth with opportunities for better health and education through information technology. Samsung Electronics will continue to expand its CSR activities that benefit children worldwide, and the company will further enrich its efforts through collaborations not only with employees but also with customers and local communities around the world.

Contribution in 2012

KRW 245 billion

Samsung
Hope for Children
어린이에게 희망을

Europe
Samsung Experience Academy

Russia
Education for Everyone

China
Samsung
Hope Elementary School

United States
Samsung Solve for Tomorrow

Egypt
Egypt Hope for Children Lab

Iran
Digital Audio Library

Korea
Samsung
Smart School Solution

Latin America
Samsung Complex in Amazona

South Africa
• Samsung Electronics Engineering Academy
• Solar-Powered Internet Schools

Vietnam
Smart Library

Education: Combining Technology and Pedagogy to Deliver Success

Samsung Electronics is firmly invested in creating a society that enables the next generation to achieve their hopes and dreams for the future. In 2012, the company implemented educational support activities customized for each region with the aim of providing children around the world with better educational opportunities through information technology. In addition to infrastructure support and device donation, Samsung is engaged in longer-term programs including educator training and textbook supply; these Samsung initiatives are designed to help provide continuous, quality education to students in each partner school. Additionally, company employees actively participate in volunteer activities and talent donation - providing mentoring, lectures, and more - for students in various regions around the world. Samsung Electronics is committed to continuing its efforts to inspire children around the world by making tangible improvements to their educational environments.

Africa

Engineering Academy
Beneficiaries by 2015

10,000

Solar-powered Internet School :
Target Beneficiary of 2013

35,000

Engineering Academy in South Africa

Samsung Electronics Engineering Academy

Samsung launched the Samsung Electronics Engineering Academy in South Africa in March 2011. The academy offers technical skills education while equipping youth for employment in the IT marketplace. The academy provides vocational education on electronic products to exemplary technical school students across the country based on educator referrals. In 2012, every graduate from the Samsung Electronics Engineering Academy found immediate employment in the IT field. Samsung Electronics' Africa Headquarters is planning to train 10,000 technicians by 2015 through company-operated academies in several cities throughout the continent. Samsung launched engineering academies in Kenya and Nigeria in February and July of 2012, respectively. Beyond Africa, Samsung opened an Indonesian academy in September 2012 and another in Turkey in October 2012. In addition to educating the youth in their host countries, the Samsung Electronics Engineering Academies help develop local economies and resolve unemployment problems.

Solar-Powered Internet Schools

Samsung is providing solar-powered Internet schools in South Africa to overcome routine power shortages. Equipped with advanced, web-connected IT equipment, these 12-meter-long shipping containers are supplied with electricity for more than nine hours each day from solar panels installed on the facilities' roof.

The shipping containers are mobile, enabling them to move closer to community schools in order to maximize the amount of students that can receive the advanced educational opportunities offered by the facilities. As such, some 30,000 students has benefited from the schools in 2012. Samsung plans to open six solar-powered internet schools in Africa by 2015.

Hope for Children Lab in Egypt

In order to address the limited access to technology in impoverished sections of Egypt, Samsung opened IT labs (9 labs in 2011, 10 labs in 2012) which provide students with IT products and the opportunity to communicate with the rest of the world. Samsung plans to offer the lab services to approximately 50,000 children and young adults over the next five years as well as providing training programs for educators including volunteers, teachers, and members of the public.

IT Labs in Egypt

Solar-Powered Internet Schools
in South Africa

The Middle East

Iran Digital Audio Library

Samsung Electronics has set up digital audio libraries in five locations across Iran in order to offer visually impaired children ages 5-18 opportunities to access reading materials and

many other information sources on the Internet. Each digital audio library is equipped with 150 audio books and Samsung products such as LED TVs, home theater systems, and notebook computers. In order to recruit voice talent for the audio books, the company launched a 'Call for Volunteers' campaign, the results of which included narrators from local citizens and celebrities alike. In addition to offering Samsung customers the opportunity to serve their communities as volunteers, the campaign also raised public awareness of the importance of providing educational opportunities for people with impaired visibility.

USA

Samsung Solve for Tomorrow

The Solve for Tomorrow contest started in the U.S. in 2010 and invites entrants to respond to a challenge: show how science, technology, engineering and math

(STEM) can help improve the environment in your community. In 2012, a total of 1,500 schools in the U.S. entered the contest, proposing STEM-based environmental solutions. The winners were awarded with various IT products from Samsung, and the company offered support to related social enterprises and start-ups. Samsung conducted online and offline workshops, mentoring programs and prototype production throughout the contest. Moving forward, the contest is expected to become a significant forum through which to explore innovative ideas, encouraging participation from a broad range of contributors via activities that are aimed at developing creative problem solving skills and fostering leaders for the future.

Europe

Samsung Tech Institute

Samsung Electronics opened the Samsung Tech Institute in order to address the problem of youth unemployment in the European region. The Institute seeks to develop students' expertise and cooperates with local universities, governments and certificated authorities to broaden qualifications in IT, engineering and business skills so that young people will be well-positioned to get a job after completing their studies. Launched in the U.K. in 2012, Samsung Electronics plans to establish additional institutes in 6 countries including Germany and France in 2013. The company also aims to operate 100 facilities capable of teaching 200,000 Europe-wide by 2020.

Russia

Education for Everyone

Samsung Electronics has donated hardware for Russian 10 to 17-year-olds with disabilities so that they might receive high-quality, home-schooling online education. From 2012 to 2013, a total of 1,000 children and teenagers living in 5 regions are expected to benefit from the program.

Latin America

Samsung Complex in Amazonia

The children and other residents of the Central Amazon often fail to receive a contemporary education or exposure to the benefits of modern technology. In November 2011, Samsung Electronics completed construction on an educational complex including school buildings, libraries, dormitories and canteens in the Rio Negro area of northern Brazil. The complex, completed in collaboration with regional nonprofit Amazonas Sustainable Foundation (FAS), attempts to open a window of opportunity for the children living in the region. The complex also features a digital center equipped with many of the company's products that allows students to interact with technology, thereby addressing the IT skills gap facing the children of the region. Samsung will continue to use its technology and capabilities to deliver a resounding message of hope to many more children who are able to receive educational benefits in the continent.

China

Samsung Hope Elementary School in China

Samsung Electronics has constructed schools in rural and remote areas of China since 2005 in order to foster education. 45 schools were built during the 1st phase (2005 to 2007) and 55 schools during the 2nd phase (2008 to 2010). A total of 200 additional schools will be established during the 3rd phase (2011 to 2015).

Number of Samsung Hope School by 2015

200

Korea and Asia

Samsung School

The Samsung School is a glimpse into the future classroom. Network connected electronic devices, such as the e-board which features a touch screen function and the Galaxy Tab 10.1, will be used to share screens or to enable two-way learning, aiding with teaching strategies like quizzes, surveys and group activities.

Since 2010, Samsung Electronics has operated the Samsung School pilot program in 20 schools around the world including those in the U.K., Germany, France, South Africa, Saudi Arabia and Brazil. For those children living in coastal and mountainous areas whose educational opportunities are limited, Samsung Electronics has provided crucial infrastructure and assistance such as Samsung School solutions and products. In 2013, approximately 3,000 students in 10 European countries will gain access to new Samsung Schools.

Samsung Smart Library

The Samsung Smart Library project started in August 2012 with goals to improve school libraries. Samsung Electronics has provided learning opportunities to over 16,000 students from 18 schools in 4 regions in Vietnam, supplying approximately 44,000 books in total.

Vietnam Samsung Smart Library
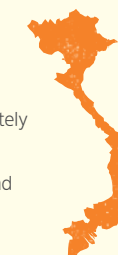
Smart Libraries enable approximately 16,500 Vietnamese students in 18 schools across 4 districts to read a total of 43,738 books

regions
4

schools
18

students
16,500

books
43,738

Samsung employees volunteering abroad in Africa

Donations via the 'Insight Exhibition'
Smart TV App

within the app itself. The app is a groundbreaking example of using web-connected displays to drive donations.

Samsung Employees Give Back

Samsung Electronics is committed to addressing key social issues around the world such as poverty, disease, human rights, and the environment. In addition to its own efforts at the corporate level, Samsung encourages its employees to donate their talents to help resolve these global issues. In 2012, a total of 211,285 employees served on a wide variety of service programs including volunteer efforts in Africa and mentoring services in Korea. Each Samsung employee spent an average of ten hours on volunteer services in 2012. Samsung Electronics plans to expand the scope of its employee volunteerism platform in the future to further demonstrate its commitment to making the world a better place.

Message of Hope to Africa

In the summer of 2012, 150 Samsung employees donated their annual leave to fly to Africa and serve in a number of communities across the continent. Samsung employees served in a total of five African countries, including Cameroon, Senegal, Congo and Tanzania. Local community projects included IT center construction, computer education, cultural exchanges, and medical services.

Number of employees who engaged in skills-based mentoring

1,918

Mentoring for Secondary School Students

In Korea, Samsung employees provided mentoring to a large number of secondary school students. Since May 2012, 1,918 Samsung employees have donated their talent through offering mentoring services to a total of 10,936 students in local schools and job centers. The employees mentored students in the areas of career development and life counseling. Samsung mentors seek

to deliver inspiring messages to all participating students.

Nanum Volunteer Membership

In 2012, Samsung Electronics established the Nanum (Sharing) Volunteer Membership, a volunteer service group composed largely of college students, with the aim of spreading a healthy culture of giving in Korea. The organization is made up of 300 students from 77 universities and colleges across the country in addition to 60 employees of Samsung Electronics. The members engage in a variety of social service activities such as helping the impoverished and providing mentoring for at-risk secondary school students. Samsung employees empower and support student members to create ideas for new volunteer services.

Patent Donation to Improve Quality of Life

Samsung Electronics released a total of 26 accessibility-related patents to the public, including features like 'Cell Phone Text-input System based on Sight Recognition.' In releasing these patents, Samsung allows entities to utilize these accessibility functions within their own product development free of charge. Believing that this arrangement will make significant contributions to the welfare of people with disabilities, Samsung Electronics will continue to maintain the policy of releasing accessibility-related patents into the public domain.

Smart Sharing with Customers

In cooperation with Samsung and a school art program, children and teens with visual impairment took photographs for an exhibit known as the 'Insight Exhibition.' The company developed an Insight Exhibition app in order to both expose more people to the students' creative work and also offer a means to support their talent. Users of Samsung Smart TVs can download the app, enjoy the works, and make donations via mobile payment

Number of Samsung Electronics' skills-based volunteers in 2012

211,285

Nanum (Sharing) Concert

On December 4, 2012, Samsung Electronics held a Nanum Concert in Korea attended by a variety of audiences including Samsung employees, beneficiary students, their teachers, and the general public. The event offered opportunities for attendees to reflect on the preceding years' social impact programs and share ideas on volunteer services for 2013. For example, an elementary school student at the concert discussed the life-changing benefits of the Galaxy Note 10.1 he received through the company's Smart School Solution. The lessons shared at the Nanum Concert will continue to inspire the aspirations of its many at-risk youth attendees.
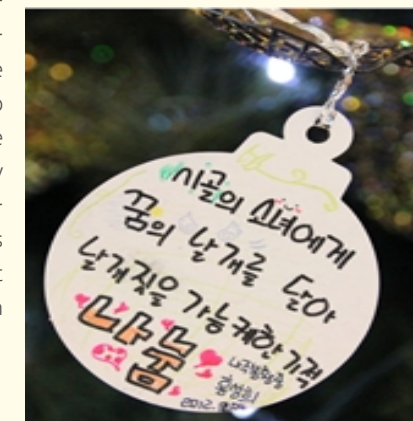
Shared Growth

Shared Growth with Suppliers

Increasingly, shared growth between big and small businesses is becoming a matter of global significance. The worldwide information communications technology (ICT) market is witnessing intense competition between business groups rather than individual companies. As a result, networking between companies has gained even more significance in the ICT sector, where a single supplier's technological competence can have considerable impact on a larger enterprise's competitiveness. Samsung Electronics works to implement principles of shared growth with its suppliers in order to create a mutually beneficial business ecosystem with them.

Growth Together

Number of suppliers with which Samsung signed Shared Growth Contracts

5,392 Suppliers

Laying the Foundations for Shared Growth

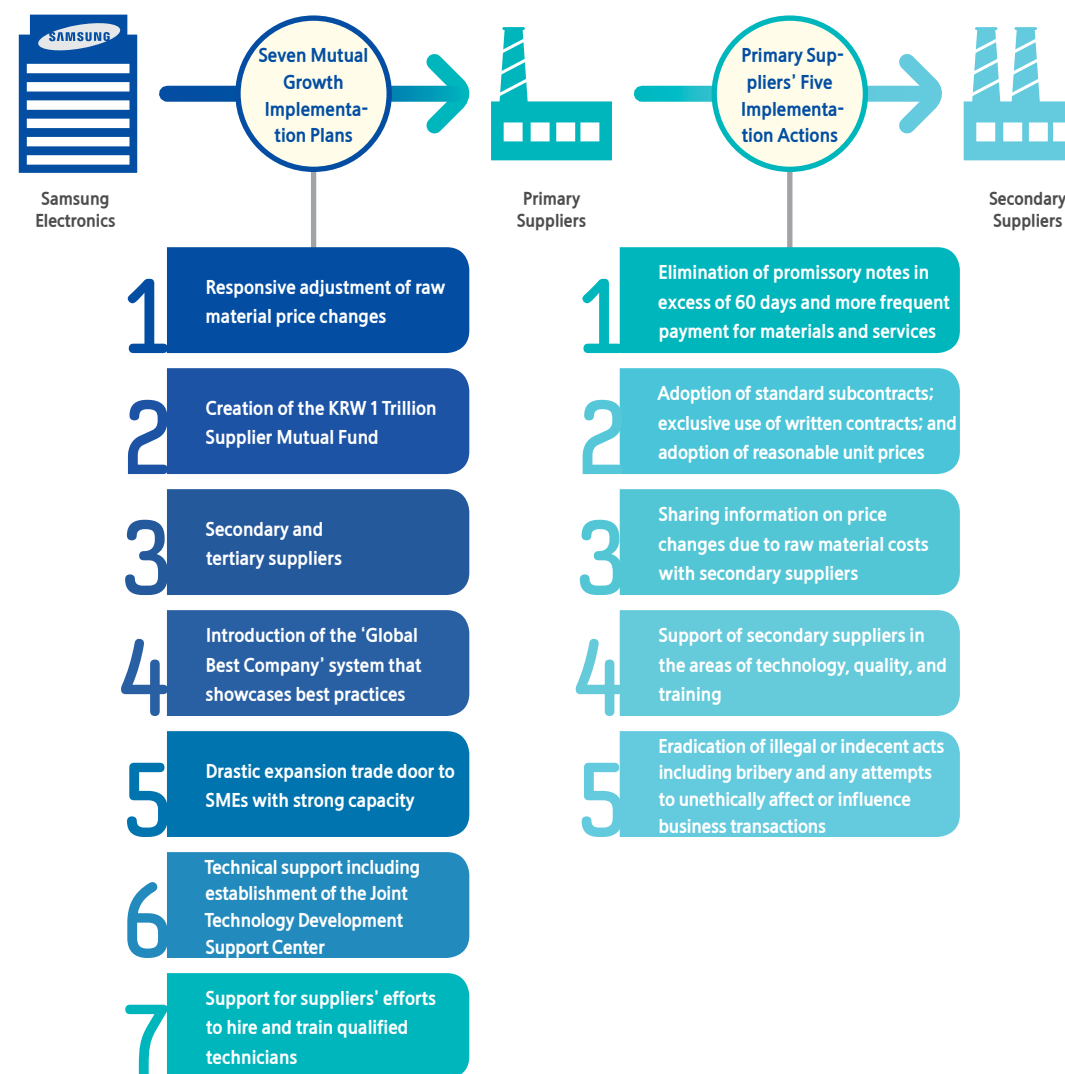Samsung Electronics and its subsidiaries offer strategic support to partner suppliers, understanding that the growth of its suppliers directly translates to improvements in its own competitiveness. In August 2011, Samsung announced its 'Plans to Implement Mutual Growth,' under which it pledged the following:

- financial support for its primary and secondary suppliers
- support for secondary suppliers' efforts to enhance competitiveness
- the opening of doors to new prospective suppliers
- support for 'small but strong' global small to medium enterprises (SMEs)
- contests for new technologies
- incentives for primary suppliers that excel in the implementation of the group's shared growth principles
- joint component development
- access for partner suppliers to Samsung's patented technologies at no cost
- help with applications for technology patents

In March 2012, a total of eleven Samsung subsidiaries enacted shared growth contracts with 3,281 primary suppliers who, in turn, contracted with 2,111 secondary suppliers. Samsung has announced 'The Five Major Implementation Actions' to assist secondary suppliers. This implementation roadmap draws from the foundation that Samsung Group has provided for exemplary, shared growth-driven supplier relationships.

Seven Implementation Plans by Samsung and Five Implementation Actions by Primary Suppliers

Samsung Electronics → **Seven Mutual Growth Implementation Plans** → **Primary Suppliers** → **Primary Suppliers' Five Implementation Actions** → **Secondary Suppliers**

Seven Mutual Growth Implementation Plans:
1. Responsive adjustment of raw material price changes
2. Creation of the KRW 1 Trillion Supplier Mutual Fund
3. Secondary and tertiary suppliers
4. Introduction of the 'Global Best Company' system that showcases best practices
5. Drastic expansion trade door to SMEs with strong capacity
6. Technical support including establishment of the Joint Technology Development Support Center
7. Support for suppliers' efforts to hire and train qualified technicians

Primary Suppliers' Five Implementation Actions:
1. Elimination of promissory notes in excess of 60 days and more frequent payment for materials and services
2. Adoption of standard subcontracts; exclusive use of written contracts; and adoption of reasonable unit prices
3. Sharing information on price changes due to raw material costs with secondary suppliers
4. Support of secondary suppliers in the areas of technology, quality, and training
5. Eradication of illegal or indecent acts including bribery and any attempts to unethically affect or influence business transactions

The Shared Growth Fund

Primary Suppliers

KRW **424.9**billion
292companies

Secondary Suppliers

KRW **294.6**billion
354companies
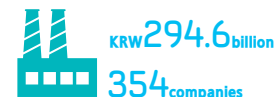
'Small but Strong Companies' by 2015

50SMEs

14 SMEs selected as of 2013
- Technology: joint development and mass production
- Funds: KRW 36.6 billion
- Personnel: Consulting in the areas of management, technology, and production (110 people per year)

Mutual Growth Fund

In October 2010, Samsung Electronics created a supplier support fund, known as the 'Mutual Growth Fund,' in collaboration with Industrial Bank of Korea, Woori Bank and Korea Development Bank. The fund has provided loans to Samsung's suppliers for investment in their plants, equipment, R&D, and operations. The Mutual Growth Fund pays the bank interest incurred by Samsung's suppliers from the fund's cash assets of KRW 400 billion. In 2012, Samsung Electronics supported 646 suppliers with bank loans totaling KRW 719.5 billion.

Fostering Small but Strong Companies

In August 2011, Samsung held a ceremony to mark the beginning of its formal supplier support program. Through the program, Samsung Electronics provides select suppliers with comprehensive support in the areas of financing, personnel and manufacturing technology meant to assist partners in securing global market share in their respective business areas. Samsung's latest support commitment is different, from the temporary engagements of the past, in that it is based on a long-term partnership road map. Following thorough audits of each supplier's status, full support is provided in the areas of technology, financing, logistics, personnel management, and business management infrastructure. In

2013, Samsung Electronics selected 14 suppliers out of 39 candidates as Small but Strong companies, and the company has plans to select a total of fifty new suppliers for the program by 2015.

New Technology Contest

Since September 2011, Samsung Electronics has held new technology contests in an effort to honor SMEs' valuable contributions to advancing technology. To date, Samsung has contributed KRW100 billion to the Large & Small Business Cooperation Foundation to support technology development by SMEs armed with innovative ideas and technologies but lacking sufficient funding. Any SME from across the IT industry can apply for the development funds, as the contests are not limited to Samsung and supplier employees. Four SMEs were selected as beneficiaries in January 2012, followed by an additional 24 SMEs that have received a total of KRW 17.2 billion in grants for the development of innovative technologies.

ITCC

Launched in 2010, the ITCC is Samsung's unique mutual benefit system with SMEs. It is designed to discover startups or well-established SMEs with outstanding technological competence and to foster them as business partners. Samsung Electronics offers such companies a variety of supportive measures including financing, technology development, and the facilitation of advancements into new business areas. So far, a total of forty-seven companies have joined the ITCC and experienced an increase of KRW 530 billion in sales.
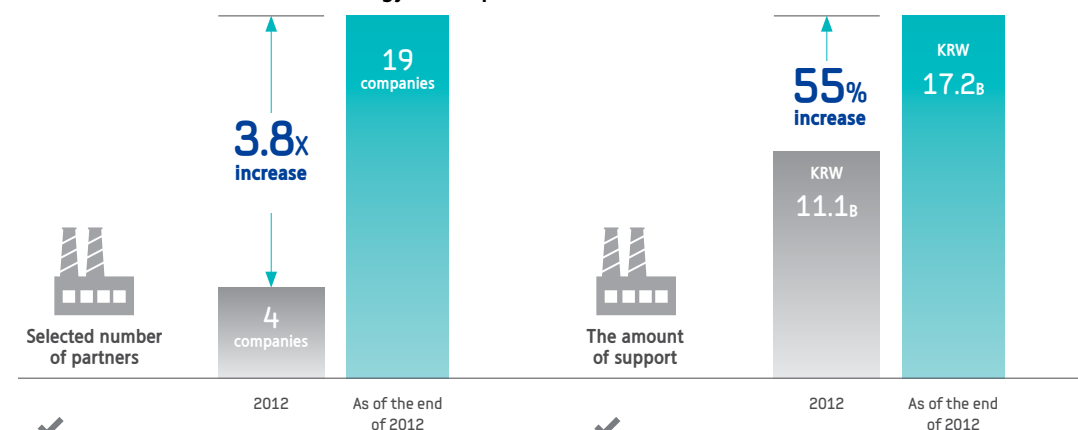
Management Advisory Council for Supplier

Composed of ten experts in a variety of fields, the Samsung Electronics Management Advisory Council for Suppliers is designed to help the company share its experience and expertise with its suppliers in order to help enhance their management competence at the global level.

Sales Growth through the Innovative Technology Company Council (ITCC)

47companies

KRW **530**Billion

Samsung affiliate

11companies

Partners involved

158

Current Status of the New Technology Development Contest

3.8x increase

4 companies — 2012

19 companies — As of the end of 2012

Selected number of partners

55% increase

KRW **11.1B** — 2012

KRW **17.2B** — As of the end of 2012

The amount of support

Success Story #1
Samsung Electronics provided KRW 530M to JAHWA Electronics' imaging business. department for research on image stabilization and shutter integration. In October 2012, the new technology began to be applied to mass-production processes.

Success Story #2
Samsung Electronics offered KRW 430M to K&J's semiconductor research lab for the development of a package grinding facility for semiconductors.
The two companies have filed nine patent applications.

Performance Achievements of the Management Advisory Council for Suppliers

Professional counseling by experts in five areas (since 2009)	Exclusive expert counseling (primary & secondary suppliers)	Strategically sharing excellent Samsung cases and holding seminars on matters of interest	Sharing creative techniques and assistance to promote innovative tasks (members of the Supplier Council)
Personnel/training; Management innovations; Purchase/management; Technology/development; and Manufacturing/ quality	701 counseling sessions for 32 firms in 2012 (personnel system, innovations, productivity improvement, etc.)	40 annual strategic sessions on personnel, management, R&D and manufacturing	Counseling for 160 suppliers' innovation tasks in 2012 (KRW 20.5B in expected financial results)

Samsung Electronics Supplier Jobs Fair

In May 2012, Samsung Electronics held a specialized job fair in Korea for its suppliers that were having difficulties hiring qualified personnel. Some 158 suppliers took part in the fair. Samsung Electronics also provided new recruits at the fair with high-quality new employee orientation similar to the ones it offers to its own new recruits.

Personnel Management

Fostering Talent for a Sustainable Future

High unemployment remains a serious social issue in many parts of the world. Samsung Electronics firmly believes that fostering talent is the surest investment in its own future capabilities. Samsung does not discriminate on the basis of gender, sex, race, or background in its hiring practices. Samsung Electronics always paces their people first, ensuring company growth.

Samsung Electronics Human Resources

(Unit: persons)

4years **74,168** increase

161,700
2008

235,868
As of the end of 2012
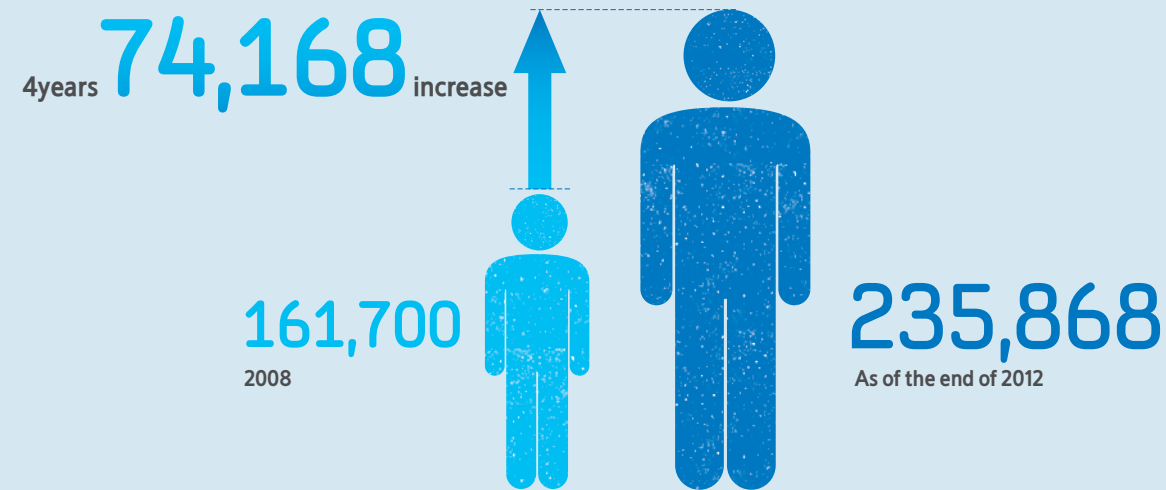
Global Youth Unemployment Rate

18% EU
12.7% Global
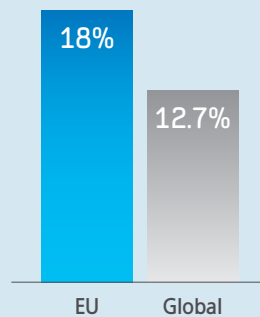
Open Recruitment for the Underserved

In 2012, Samsung Electronics adopted policies that created responsible hiring practices benefitting underserved populations such as those living in impoverished or remote areas. In Korea, Samsung Electronics assigned 35% of its annual college recruitment allocation to schools in rural areas and another 5% to people from low-income households. To that end, the company held career orientation sessions in all major regional universities across Korea to ensure that career information was fully shared with the country's college students. Samsung Electronics created special employment opportunities to benefit those whose households fall in the two bottommost income brackets. Since 2011, Samsung Electronics has employed graduates of specialized vocational schools to help promote an egalitarian view of vocational and

traditional graduates alike. Since 2011, Samsung has also employed people with disabilities as part of its annual recruitment efforts. Moreover, the company collaborates with the Korea Employment Agency for the Disabled to hire additional talent. Samsung will increase its employment of people with disabilities in the future.

Faster promotion at Samsung is now open to all employees including high school graduates. In the near future, high school graduate employees could be promoted at an accelerated rate according to their performance, reaching the new college graduate rank in just three to five years.

Samsung Electronics Daycare Center

Daycare Centers in Korea run by Samsung Electronics

2009
7 Centers
1,074 Children

2012
10 Centers
1,434 Children

Organizational Culture based on Communication and Collaboration

Samsung believes that a company's growth directly relates to positive personnel policies that encourage employees to grow alongside their ongoing contributions to the business. The organizational culture of Samsung Electronics values employee diversity, promoting the free flow of creative ideas among all of its various employees. Such a variety of opinions and backgrounds allows Samsung to remain competitive in the similarly diverse global marketplace.

In order to promote flexibility and accommodate employees' work-life balance, Samsung provides onsite childcare and telecommuting opportunities for parents.

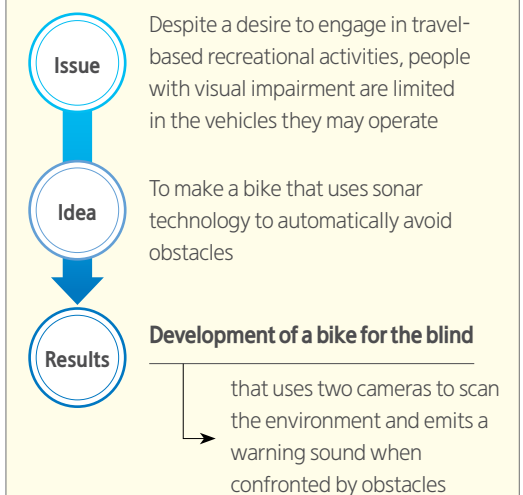### Expanded Facilities for Employees with Disabilities

Samsung is hiring an increasing number of employees with disabilities and is committed to building facilities that accommodate them. As of the end of April 2013, Samsung employs a total of 1,213 people with disabilities. The company has introduced Samsung Barrier Free (SBF), an internal building standard that eliminates all the physical barriers throughout its facilities. So far, ten Samsung buildings have acquired Rank-1, the highest rank of SBF. The company has also arranged for more staff members with disabilities to use business class seats on planes. Samsung's human resources team includes experts in disability studies who are responsible for the ethical recruitment and accommodation of people with disabilities.

Establishment of a Creative Organizational Culture

At the end of 2012, Samsung Electronics carried out a number of organizational reforms for the purpose of boosting the organization's creativity and vitality. Under

the Device Solutions (DS) unit, for example, the company established the Samsung Software Center, a hub for software in the area of components. The research center is tasked with advancing the development of next-generation software platforms, creating embedded software, and training software engineers. Samsung Electronics also piloted a few temporary organizations in 2012, such as the Creativity Development Research Lab, in order to augment the company's creative organizational culture. At the beginning of 2013, Samsung completed these pilot programs and awarded certain temporary organization permanent status. These creative groups' accomplishments, including the eyeCan (a mouse for the people with disabilities that can be manipulated by movements of the eye) and a bike for the blind have been well received. In further efforts to drive creativity within the enterprise, Samsung Electronics has created specialized accelerator teams and a startup incubating center. The company has also set up creative teams in locations known for their creativity and innovation, including Silicon Valley and New York City. Finally, Samsung Electronics entrusts Open Innovation Centers installed at major business units with carrying out small-scale mergers and acquisitions.

Development of a Bike for the Blind

Issue
Despite a desire to engage in travel-based recreational activities, people with visual impairment are limited in the vehicles they may operate

Idea
To make a bike that uses sonar technology to automatically avoid obstacles

Results
Development of a bike for the blind
that uses two cameras to scan the environment and emits a warning sound when confronted by obstacles

Eco Product Story

Pursuit of 'PlanetFirst'

Samsung Electronics places a high priority on environmental sustainability, and this company-wide value led to the development of its PlanetFirst initiative. By bringing eco-friendly products and green technologies to market, Samsung continues to contribute to worldwide sustainability efforts.
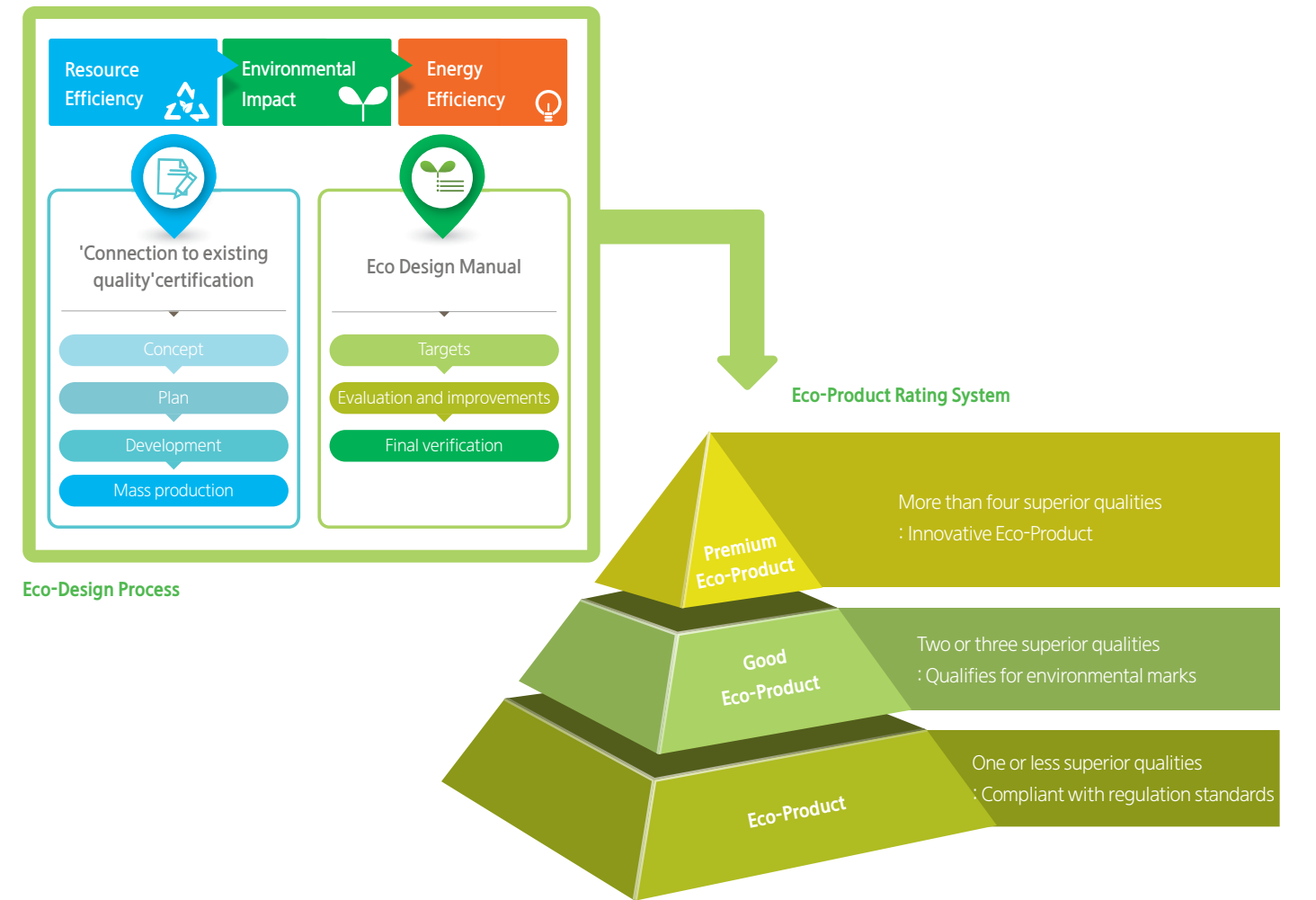
Eco Product

Creating New Value through Eco Innovation

Samsung continues improving the eco-features of its products by enhancing their energy efficiency, upgrading their recyclability, and restricting the use of hazardous substances in production. Since 2006, Samsung Electronics implements an 'Eco-Design Process' to evaluate the eco-friendliness of a new product at the development stage. During the process, each new product is given a rating prior to approval for mass production. In the areas of materials and packaging, Samsung has achieved outstanding results. The company will continue making improvements through the continued launch of products that minimize impact on the environment.

Eco-Design and Eco-Product Rating Process

Resource Efficiency | Environmental Impact | Energy Efficiency

'Connection to existing quality' certification

- Concept
- Plan
- Development
- Mass production

Eco Design Manual

- Targets
- Evaluation and improvements
- Final verification

Eco-Design Process

Eco-Product Rating System

Premium Eco-Product — More than four superior qualities : Innovative Eco-Product

Good Eco-Product — Two or three superior qualities : Qualifies for environmental marks

Eco-Product — One or less superior qualities : Compliant with regulation standards

Environmental Responsibility throughout Product Life Cycle

Purchase	Development & Production	Distribution	Use	Disposal
· Eco-Partner certification system (management of hazardous materials in the supply chain)	· Implementation of Eco-Design process & eco-rating system · Operation of clean production processes	· Green logistics · Weight reduction in packaging materials	· Improved product energy-efficiency	· Establishment of waste collection and recycling system

Eco-friendly product development and launch

Samsung introduces products using green technologies in order to decrease its use of hazardous materials while saving both resources and energy.

Green Product Highlights

LED TV
ES6500

- Energy Frontier (Korea)
- Super Efficiency (Australia)
- EPA Energy Star Certified (U.S.)
- EU Energy Efficiency A+

Smartphone
Exhilarate

- PCM 80%
- BFR/PVC/Beryllium/ Phthalate Free
- UL Platinum Certification

Monitor
S27B750

- 17% reduction in electricity usage compared with former models
- EPA Energy Star 6.0 Certification (U.S.)

Mono Printer
Polaris

- Green Technology Certification
- Electricity-saving Software
- 30% energy saving compared with former models

Blu-ray Disk Player
BD-E5300

- 24% reduction in electricity usage compared with former models
- EPA Energy Star 3.0 Certification (U.S.)

Notebook PC
NP900X3B

- Thin & light design uses fewer materials
- BFR/PVC Free
- EPEAT, TCO certified

Refrigerator
RF263TEAESP

- Inverter, vacuum insulation installed
- EPA Energy Star Most Efficient rating (U.S.)

Air Conditioner
AF-HD253

- High Efficiency Inverter
- Energy Efficiency Level 1 (Korea)
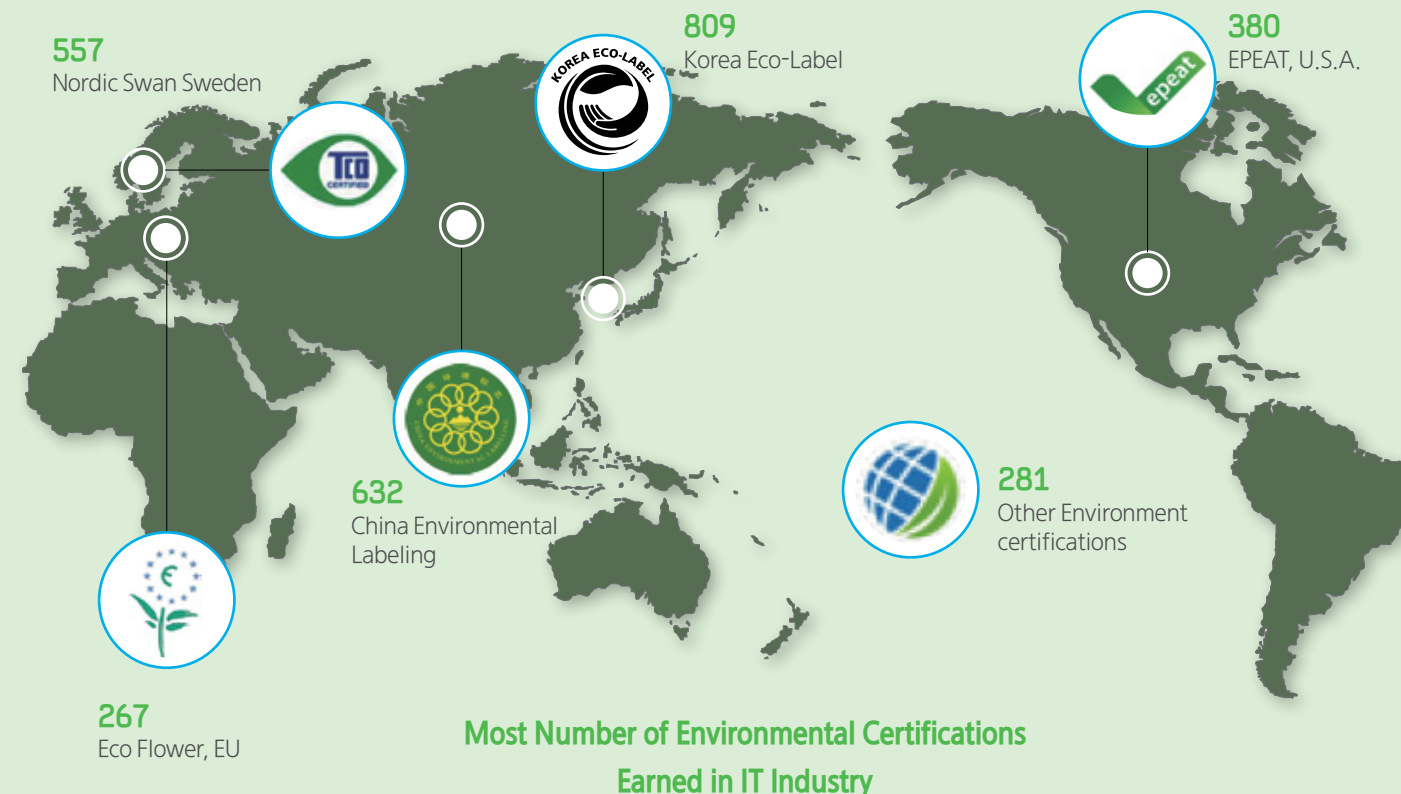
Washing Machine
WF455A

- Lowest energy usage in U.S. (90kWh/y)
- Low temperature washing technology

Camcorder
HMX-Q20

- Manual printed with vegetable ink
- High Efficiency Adaptor

2,926 Global Environmental Certifications

557
Nordic Swan Sweden

809
Korea Eco-Label

380
EPEAT, U.S.A.

632
China Environmental Labeling

281
Other Environment certifications

267
Eco Flower, EU

Most Number of Environmental Certifications Earned in IT Industry

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56 Global Carbon Footprint Labels   as of the end of 2012

Korea
43 Carbon Footprint Labels
7 Low-carbon Certification

U.K.
5 Carbon Trust Certification

Japan
1 Carbon Emissions certified by JEMAI(Japan Environmental Management Association for Industry)

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19 Green Certification

Certification of 19 technologies including a 35nm low-powered, large-data capacity mobile DRAM semiconductor for smartphones

녹색인증
Green Certification

11 Awards for Samsung's Eco-Friendly Products   as of the end of 2012

4 Europe, 3 The USA, 3 Korea, 1 China

SEAD Global Efficiency Medal Award
Two LED TV Models (UE26EH4000, UE40EH5000) SEAD Global Medals awarded to two highly-efficient flat-panel TVs available in four major geographical regions (North America, Europe, Australia, India)

GLOBAL EFFICIENCY MEDAL

Water Management

Water Resource Conservation Efforts

Approximately 1.1 billion people around the world suffer from water shortage on a daily basis. Furthermore, it is expected that 40% of the world's population will experience a severe water shortage by 2050 according to the OECD Environmental Outlook for 2050 released in August 2012. In order to uphold its position as a global leader in the IT industry, Samsung Electronics has established water resource management policies and conservation goals enterprise-wide. In order to achieve its business objective of responsible water management, Samsung collaborates with a set of global partners in implementing effective reduction policies. In 2012, the company set up comprehensive water conservation plans and expanded its efforts to reduce the consumption of water resources around the world.

### Samsung Electronics Water Resource Policies

Basic Philosophy

"
Samsung Electronics recognizes the importance of water resources in the sustainability of society and business management, and contributes to its protection as a responsible corporate citizen of global community.
"

Courses of Action

1 Strive to minimize water risk impact by our business activities.
Analyze the impacts of our products, production activities and services make on water resources and minimizerisks by identifying and implementing new technologies.

2 Instill an awareness of the importance of water resources as a part of our corporate culture.
Integrate the importance of water resource protection and sustainability management into the corporate culture and ensure responsible water resource management by employees with the highest consideration for the impact on local communities and the environment.

3 Proactively cooperate with public water policies.
Proactively contribute to the establishment and implementation of water resource management policies by international institutes, the government and local authorities in line with relevant guidelines.

4 Disclose our policies and activities on water resource management.
Disclose company policies and activities related to water resource use to stakeholders including local communities in a transparent manner.

Water Intensity(Withdrawal/Sales)
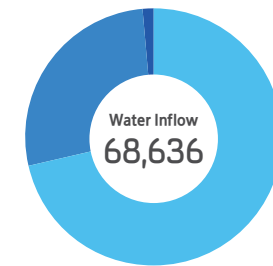(Unit : ton/100 Million KRW)

Year	Korea	Global
2010	86	68
2011	91	74
2012	39	41
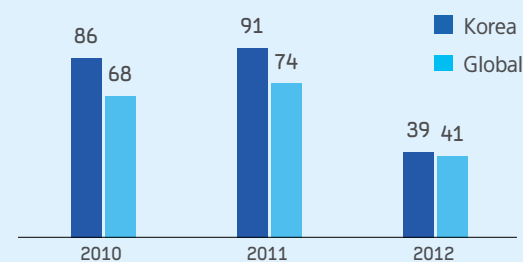
＊Excluding LCD and including LED business

Recycling rate

Korea 61.9%   Global 61.3%
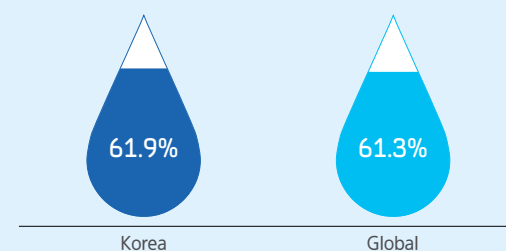
Water Resources status
(unit: 1,000 tons)

Water Inflow 68,636

- Industrial Water 49,003
- Municipal Water 18,806
- Ground Water 827

Water Discharge 54,590
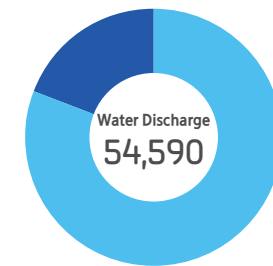
- Internal Treatment Facilities 44,220
- External Treatment Facilities 10,370

Reuse of Water

42,104 K tons

Water Resource Risks

Using the water resource management tools distributed by the FAO (Food and Agriculture Organization) and the WBCSD (World Business Council for Sustainable Development), Samsung Electronics has identified the water resource risks in its 34 owned manufacturing plants. According to the recommendations of Carbon Disclosure Project, Samsung has analyzed each water resource risk associated with its business sites in countries suffering severe water stress and has developed differentiated emergency countermeasures for each site.

Regional Water Intake Quantity

Region	Number of Subsidiaries	withdrawal (unit: 1,000 tons)	Discharge (unit: 1,000 tons)	Water stress countries (number of Samsung business sites within the countries)
Asia	25	61,604	49,601	Korea (6) and India (2)
The Americas	5	6,721	4,850	
Europe	4	311	139	Poland (1)

※ FAO water resources management tools were used.

Risk Management

Description		Risk Countermeasures
Physical Risks	Water quality degradation	• Assurance of water quality throughout Water pre-treatment process
	Floods	• Creation of wetlands, establishment of embankments, and subscription to natural-disaster insurance
	Water supply disruptions	• Building dual main water supply lines and sufficient water storage facilities to prevent disruptions of work
Regulatory Risks	Changes in regulations on water usage & disposal	• Establishment of internal regulations on discharge concentration that are stricter than legally required; increased water recycling to reduce discharge quantity
	Efficiency standards legislation	• Evaluation of water efficiency for new facilities; investments in existing facilities for water efficiency improvements
	Uncertainty over new legislation	• Continuous monitoring of global environmental legislation trends
Reputation Risks	Disposal of wastewater	• Continuous monitoring of discharge water and early establishment of environmental management system (EMS) for new manufacturing facilities
	Wastewater leakage, etc.	• Operation of emergency response organizations and enhanced internal and external communication about the company's water resources management

Water Resource Conservation Efforts

Samsung Electronics' water resource conservation efforts can be divided into two broad types: minimization of water inflow through manufacturing process efficiencies and optimization of water use through retreatment and recycling facilities. In 2012, Samsung Electronics conserved a total of 42,104 thousand tons of water through the following water resource conservation efforts.

Samsung Electronics' Water Resource Conservation Efforts

- Optimization of water management processes for utility systems and semiconductor production
- Installation of discharge water treatment systems for optimum recycling
- Use of discharged water in other processes

Supplier CSR

Enhanced Supplier Compliance

As human rights issues such as labor conditions and working hours continue to be a matter of global concern, Samsung Electronics strongly urges suppliers throughout its supply chain to comply with the EICC code of conduct. Since 2009, Samsung Electronics has supported its suppliers' efforts to establish compliance verification systems. In 2011, Samsung increased its supplier standards for compliance as part of the company's annual supplier evaluations. It order to assure full compliance with Samsung and EICC standards, the company also mandates third party supplier audits conducted by independent agencies. In 2012, Samsung Electronics recognized the ever-increasing importance of compliance management and set up a dedicated organization to deal with the issue extensively.

The management and training for supplier compliance

Establishing a Dedicated Supplier Compliance Organization

Recognizing the importance of supplier compliance with labor rights guidelines, Samsung Electronics has set up a dedicated organization to manage routine supplier compliance audits. The organization works to minimize risk throughout Samsung's supply chain while protecting the human rights of its suppliers' workers. The organization continually monitors its domestic and international suppliers' progress in the area of compliance management to determine whether they are meeting the requirements put forth by Samsung Electronics and the global electronics industry. Samsung is planning to set up internal supplier compliance networks within its broader shared growth centers in order to help make improvements incompliance management. The network will soon begin its overseas operations in China.

Site Audits of Suppliers in China

In September 2012, Samsung Electronics embarked upon site audits of its 249 major supplier companies in China to assess their status in the areas of human rights, working conditions, and environmental protection. The audit teams held interviews with each and every laborer aged 18 years or younger. Of note, Samsung found no worker at any of its suppliers under the age of 16. Auditors did, however, observe irregularities such as overtime work beyond the legal limits, failures to deliver employment contracts to workers, excessive dependence on temporary workers, and discrimination in employment. In addition, some suppliers failed to install emergency rescue kits and imposed unreasonable penalties on workers. Samsung is working with the suppliers to eliminate these compliance infractions and implement policies that prevent future labor rights abuses.

Samsung Supplier Code of Conduct

In November 2012, Samsung Electronics established a code of conduct for its suppliers based on EICC guidelines. To prevent child labor in accordance with the mandates from the International Labor Organization and many other international institutions, Samsung has prepared a special policy and asked all its suppliers to sign a compliance agreement.

The signboard hanging ceremony for eradication child labor

Reinforced Supplier Audit

In September 2012, Samsung Electronics embarked upon site audits of its major supplier companies in China to assess their status in the areas of human rights, working conditions, and environmental protection. The audit teams were composed of experts in a variety of areas, including lawyers, certified labor consultants, experts in environmental safety, personnel & labor management professionals, purchase experts, and certified EICC auditors. Of note, Samsung found no worker at any of its suppliers under the age of 16. Auditors did, however, observe irregularities such as overtime work beyond the legal limits, failures to deliver employment contracts to workers, excessive dependence on temporary workers, and discrimination in employment. Samsung is working with the suppliers to eliminate these compliance infractions and implement policies that prevent future labor rights abuses.

Samsung Electronics will continue conducting regular and unannounced site audits of its suppliers using personnel resources and demand corrective measures for any observed violations. In the case of violation, Samsung adopts a zero-tolerance policy and will suspend transactions immediately.

Health & Safety Safety Management

Health Program for Employees and Safety Initiatives

Samsung Electronics places heavy emphasis on the safety of its employees' safety and health. As such, the company continually strives to keep health and safety policies through careful monitoring and improvement procedures meant to guarantee the safest work environment possible. As part of this monitoring practice, Samsung identifies potential safety hazards and proactively fixes corresponding problems.

Safety + Management

Environment and Safety risk Assessment

Samsung Electronics works to preserve the environment by reducing harmful pollutants. Samsung conducts regular environmental impact studies and strictly complies with the regulations and guidelines of international organizations such as the United Nations and environmental NGOs.

Information collection → Risk Analysis → Take Action → Monitoring

Environmental Accident Response Systems

Samsung Electronics has prepared scenarios that include proactive countermeasures for environmental pollution, toxic chemical spills, fires, explosions, and natural disasters. It conducts regular emergency drills in order to prepare employees and minimize potential damage. In the event of an environmental accident, Samsung deploys additional crisis response teams that block the spread of damage by implementing prepared emergency measures.

In order to ensure safe and immediate worker evacuation in the case of a crisis, regular drills and emergency medical treatment demonstrations are carried out for all company staff. Following any accident and its subsequent emergency response, Samsung analyses the accident's cause and takes all necessary preventive measures going forward.

Emergencies Response Procedure

Accident Occurrence → Emergency Measures → Investigation & Cause Analysis → Counter-Measures → Preventive Measures

Accident Rate (Unit : %)

- Non Work-related accidents 71%
- Work-related accidents 29%

Employee Injury Management

Samsung conducts risk assessments according to OHSA18001(Occupational Health and Safety Assessment Series) in all of production facilities, and continues to improve the work environment. Samsung also conducts regular education programs to increase the awareness of Health and safety among its workers and run emergency relief system. While the accident rates happened during work hours remained the same compared with last year, accidents happened during non-work hours such as sports activities take 71% of total accidents. Thus, Samsung is establishing safety guidelines for all leisure activities within the company.

Despite every effort to maintain accident-free workplaces, a Samsung Electronics chip plant in Hwaseong experienced a hydrofluoric acid leak at the beginning of 2013. Investigations are ongoing to determine the exact cause of the accident, and the company pledges to take preventative measures that will avoid the recurrence of such an accident and enhance its communication channel with local communities.

The Cause of the Accident and Investigations

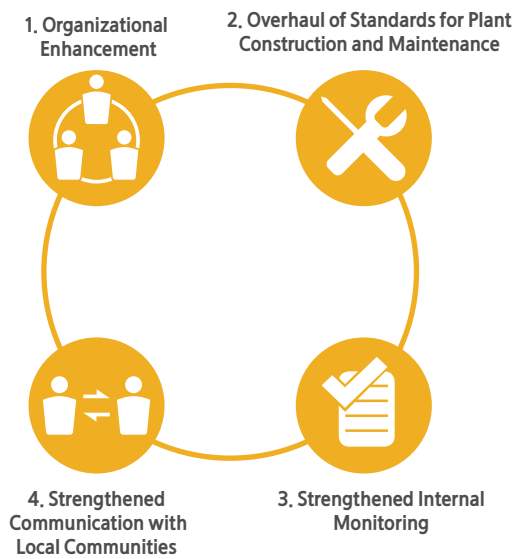Present investigations have determined that the hydrofluoric acid leak was most likely due to faulty valve gaskets on the hydrofluoric acid storage tank. Official investigations by the authorities, the Ministry of Labor and Employment, and the Ministry of Environment have not yet been concluded. The company will readily evaluate these third-party results and take all necessary measures to overhaul the plant's systems. According to results from the National Institute of Environmental Research, which has thoroughly analyzed the air in and around the Hwaseong plant, hydrofluoric acid did not spread outside the plant premises. Samsung Electronics plans to enhance the precautions in its plants as a result of this accident in commitment to both workplace and environmental safety.

Improvements

1. Organizational Enhancement
2. Overhaul of Standards for Plant Construction and Maintenance
3. Strengthened Internal Monitoring
4. Strengthened Communication with Local Communities

❶ Organizational Enhancement

Samsung Electronics has reinforced its organizational capacity in the fields of environmental protection and safety promotion. In March 2013, Samsung Electronics set up a new environmental organization that convenes company safety experts from both Gihueng and Hwaseong. The new organization, headed by leadership at the executive level, has appointed two experts in semiconductor manufacturing and production to manage the two chip plants. Once matriculated, this new leadership will work to transform the plants into exemplary workplaces in terms of environmental safety.

❷ Overhaul of Standards and Procedures

Samsung Electronics will complete an overhaul of its internal standards and procedures for engineering, construction, and maintenance at its production facilities by June 2013 in an effort to ensure that the standards meet requirements of global entities such as ASME, ANSI, and DIN.

The company will launch training programs on the control of hazardous substances that will be mandatory for every applicable employee. Samsung will also establish an internal certification system and train specialists to carry out long-term systematic improvements in this area. In addition, it will reorganize its collaboration with public agencies in emergency cases and carry out biannual disaster drills with these agencies.

❸ Enhanced Inspections

Samsung Electronics has bolstered its internal inspection processes, placing heavy emphasis on areas of past accidents such as plumbing. The company will set up a special organization charged with plumbing inspections before the end of the first half of 2013. In addition, Samsung will request that government agencies conduct regular and unannounced audits of company facilities to inspect for proper workplace maintenance. The company will also intensify its 24-hour monitoring of gas and chemical leaks at both Gihueng and Hwaseong worksites - as well as its offsite control center.

❹ Strengthened Communication with Local Communities

Samsung has formed a council composed of ten community representatives and company officials to serve as a channel of constant communication on a variety of mutually-relevant issues. The company has realigned its emergency contact network to include members within the community, the city government, and emergency services.

Total Healthcare Program

Samsung Electronics plans to set up total healthcare program to provide suitable medical service to the employees.

Total Health Care

- Medical checkups
- Cerebral & cardiovascular disease risk assessments
- Musculoskeletal disease risk factor examinations
- Work-related stress assessments

- Onsite Company Clinics
- Obesity prevention and non-smoking, etc.
- Musculoskeletal disease prevention exercise center
- Mental health programs

Wellness Programs

Onsite Company Clinics

Clinic
(Occupational, internal medicine, Family Practice)
- Routine Medical Treatment
  Cold, indigestion
- Vaccination
  Hepatitis B, tetanus, influenza
- Emergency Services
- Dental & Acupuncture

Obesity Clinic

Prevention of Cerebral and Cardiovascular Disease Obesity Clinic
- Obesity level test, body mass indices analysis, aerobic endurance evaluation
- Walking Paths Promote regular exercise
- Low-calorie Menus Encourage balanced diets

Musculoskeletal Disease

Prevention of musculoskeletal disease resulting from bad posture
- Musculoskeletal Prevention Center Exercise programs
- Stretching exercise broadcasted twice daily
- Ergonomic work station improvements to ergonomic soundness of manufacturing processes

Mental Health Program

Professional Counselors
- Stress assessment heart rate variability and biofeedback stress tests
- Therapy for sleep disorders and depression light therapy
- Family relations counseling and communication program with spouses and children

Samsung plans to set up and expand a global guideline based on Musculoskeletal Diseases tests conducted in 6 global Manufacturing plants (Brazil 2, China 2, India, Vietnam) in 2012.

Ergonomic Management Processes

Status	Hazard Analysis	Work Environment Analysis	Medical Analysis	Prevention
Current state of occupational safety & health	Analysis of physically demanding processes	History of work environment improvement records and efforts	Treatment of musculoskeletal diseases	Degree of satisfaction with preventive measures

For the purpose of monitoring and analyzing our efforts to ensure that all business activities are aligned with sustainable development, Samsung Electronics 은 identified several key performance indicators with measurable data to guide our innovation in sustainability.The following Facts & Figures section outlines the progress we have made across those performance areas in 2012 as well as our plans for the future. To ensure credibility, the report contains third party assurance providing expert opinion on transparency and levels of disclosure to guarantee we meet internationally recognized standards of reporting. By sharing our perspective of the challenges the global community is facing, as well our progress in achieving our targets, we hope this report will serve as a communication channel with stakeholders of our progress of achieving the common goal of sustainability.

Global Corporate leadership and Value Enhancement

Sec. 03
Facts & Figures

Creation of Economic Value

Key Financial Performance

In 2012, Samsung Electronics recorded its largest leap in year over year sales with figures totaling KRW 201.1 trillion - an increase of 21.9% over the KRW 165 trillion posted in 2011. The company earned KRW 29 trillion in operating profits, KRW 23.2 trillion in net income, and KRW 44.6 trillion in EBITDA while extending its market share in core business areas of TVs and mobile phones.
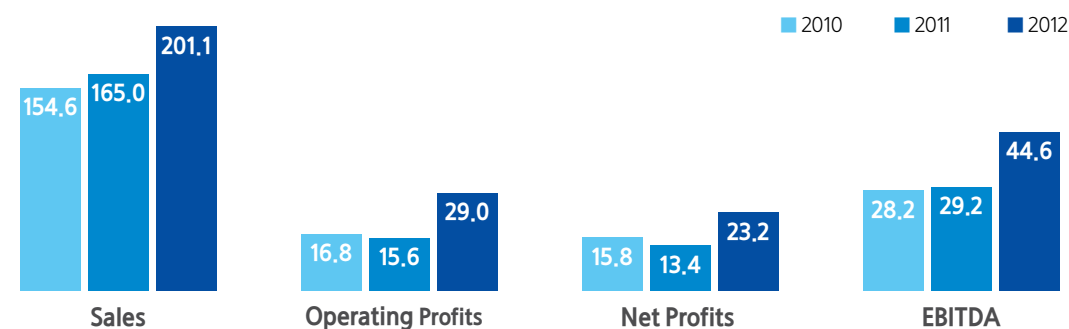
Sales

KRW 201 trillion

Sales and Financial Performance
Unit: KRW 1T

Legend: 2010, 2011, 2012

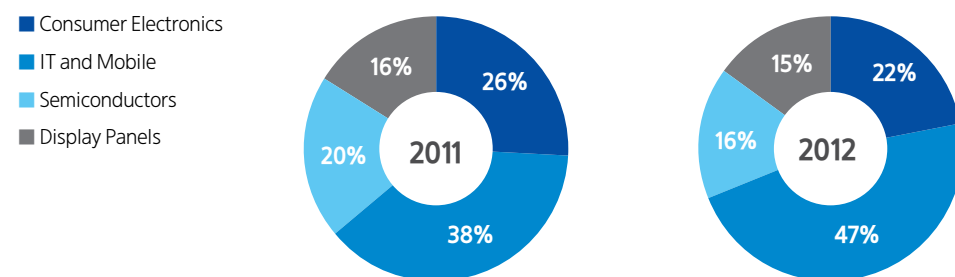|	Sales	Operating Profits	Net Profits	EBITDA
2010	154.6	16.8	15.8	28.2
2011	165.0	15.6	13.4	29.2
2012	201.1	29.0	23.2	44.6

Performance by Business

Samsung Electronics has a diverse business portfolio consisting of: the Consumer Electronics (CE) sector, which encompasses the business units that manufacture and sell digital TVs, monitors, printers, air conditioners and refrigerators; the IT and Mobile (IM) sector, which includes businesses that specialize in mobile phones like smartphones and multimedia phones, ICT systems, and cameras; the Semiconductor sector, which encompasses memories and system LSI; and the Display Panels (DP) sector, which comprises the business units that produce and sell display panels for a variety of key products such as TVs, monitors, notebook PCs, and smartphones.

Sales Proportion by Business Division

- Consumer Electronics
- IT and Mobile
- Semiconductors
- Display Panels

2011: Consumer Electronics 26%, IT and Mobile 38%, Semiconductors 20%, Display Panels 16%

2012: Consumer Electronics 22%, IT and Mobile 47%, Semiconductors 16%, Display Panels 15%

In CE, Samsung Electronics maintained the world's highest market share for the seventh consecutive year thanks to increased sales in LED, LCD, and PDP televisions. Within the IM sector, sales increased by KRW 41.0 trillion thanks to the successful launch of premium mobile phones in the global market. The Semiconductor sector was affected by slow market conditions from the persisting global recession, recording sales decreases of KRW 2.1 trillion. Sales in Display Panels rose by KRW 3.8 trillion thanks to the sector's continued competitiveness in the global marketplace. The trends of sales and operating profits during the last three years are as follows:

Sales Increase of IM (from 2011)

61%

Samsung Electronics' Net Sales by Business
Unit: KRW 1T

Legend: 2012, 2011, 2010

	Consumer Electronics	IT and Mobile	Semiconductors	Display Panels
2010	58.4	40.1	37.6	29.9
2011	47.3	67.5	37.0	29.2
2012	48.4	108.5	34.9	33.0

Sales by Region

2012: Korea 14%, Americas 29%, Europe 25%, Asia 18%, China 14%
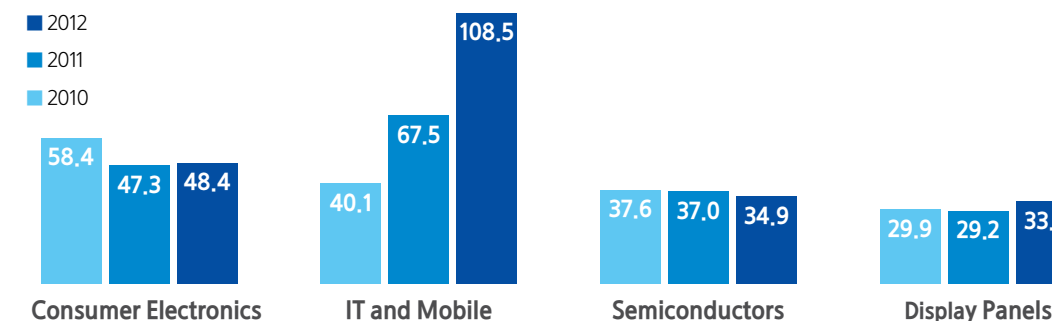
- Korea
- Americas
- Europe
- Asia
- China
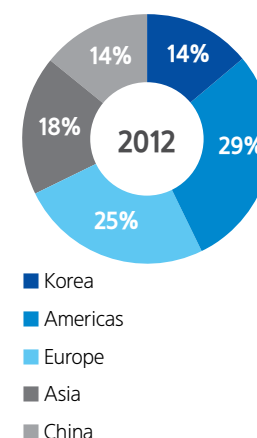
Sales by Region

Geographically, the sales of mobile phones and TVs have skyrocketed in the Americas, Europe and Asia.

Performance by Region
Unit: KRW 1T

	2010	2011	2012
Korea	25.9	26.5	29.2
Americas	43.5	47.5	58.2
Europe	36.0	39.0	49.5
Asia	24.9	28.8	36.1
China	24.3	23.1	28.2

Major Products and Global Market Shares (*)
Unit: %

Sector	Product	2010	2011	2012	Remarks
Consumer Electronics	TV	18.2	19.3	21.1	Global market shares according to DisplaySearch
IT and Mobile	Mobile phones	20.6	21.2	25.1	Global market shares according to Strategy Analytics (based on phone numbers)
Semiconductors	DRAM	37.4	42.2	41.0	Global market shares according to iSuppli (based on sales amount)
Display Panels	TFT-LCD	25.7	26.1	25.4	Global market shares according to DisplaySearch (based on sales amount of large models)

* The market shares above are based on the statistics released by various independent market research firms (e.g. Display Search, Strategy Analytics, and iSuppli).

Creating Economic Value

Samsung Electronics created the following economic value in 2012.

Summary of Economic Value created by Samsung

Unit: KRW 1B

	2010	2011	2012
Sales	154,630	165,002	201,104
Other Profits*	9,732	8,803	8,823
Other Costs**	(6,900)	(6,977)	(7,100)
Depreciation Costs***	(11,394)	(13,592)	(15,622)
Economic Value Created	34,311	32,730	48,547

* 'Operating Expenses' refer to all payments made by Samsung Electronics for goods and services needed for production and sales.
** Other profits include: interest/dividends for investments in financial goods, equity profits from the performance of invested companies (subject to equity method laws), and foreign exchange gains.
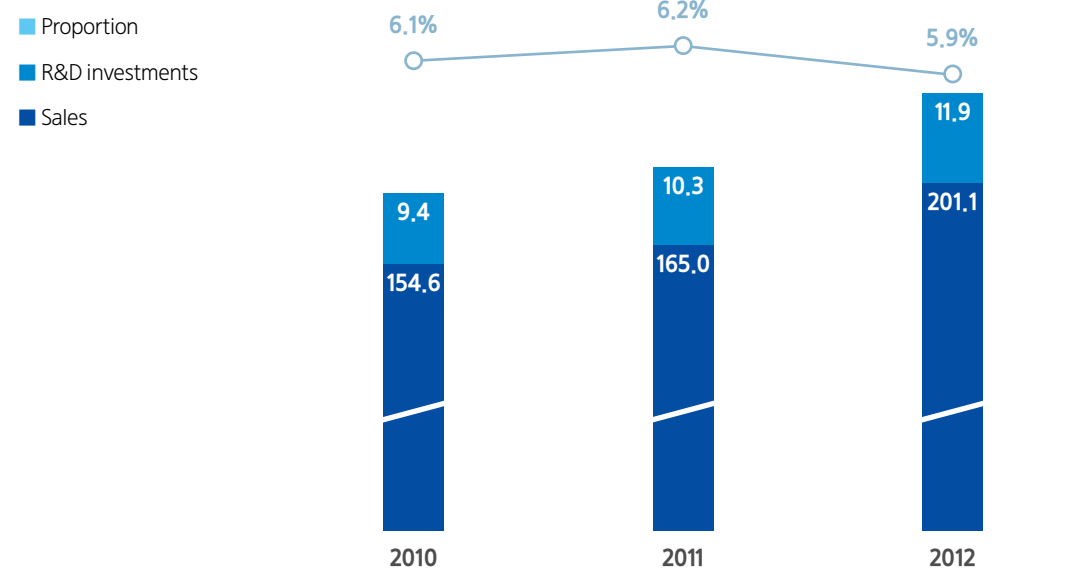*** Interest expenses are excluded from financial expenses.

Investments in R&D and Production Facilities

Significant investments in R&D and production facilities are central to Samsung Electronics' value creation. In 2012, Samsung invested KRW 11.9 trillion, or 5.9% of its sales, in R&D to enhance its competitiveness and develop future technologies. Thanks to such considerable investments in R&D, Samsung has been able to launch innovative products from each of its business segments year after year.

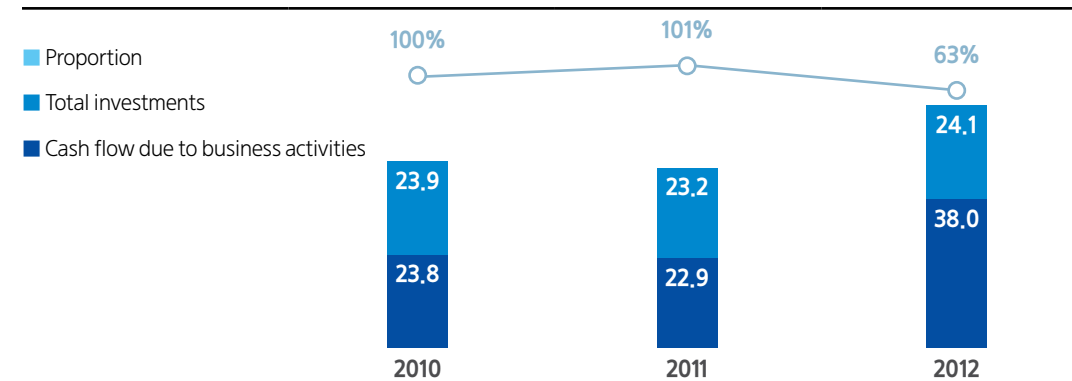**R&D Investments**

KRW 12 trillion

R&D Investments

Unit: KRW 1T

- Proportion
- R&D investments
- Sales

	2010	2011	2012
Proportion	6.1%	6.2%	5.9%
R&D investments	9.4	10.3	11.9
Sales	154.6	165.0	201.1

As semiconductor and display panel production are capital intensive businesses which require large, time-sensitive investments in facilities to maintain competitiveness, major investment decisions are made by the Management Committee. With full authority from the Board of Directors, the Management Committee holds hearings with relevant executives and outside experts before deliberating. In 2012, Samsung Electronics invested KRW 24.1 trillion in production facilities for semiconductors and display facilities including intangible assets.

Facility Investments

Unit: KRW 1T

- Proportion
- Total investments
- Cash flow due to business activities

	2010	2011	2012
Proportion	100%	101%	63%
Total investments	23.9	23.2	24.1
Cash flow due to business activities	23.8	22.9	38.0

Distribution of Direct Economic Value

In line with the company's belief in co-prosperity, the economic benefits of Samsung Electronics' operations directly filter through to its various stakeholders, as evidenced below:

Total Economic Value Distributed to Stakeholders

KRW 187.2 trillion

Economic Value Distribution

Unit: KRW 1T

Stakeholders	Items	2010	2011	2012
Employees	Labor Costs*	13.6	14.5	16.9
Government	Taxes & Dues**	3.8	4.2	7.0
Suppliers	Purchase cost***	111.7	120.5	138.7
Local Community	CSR****	0.2	0.3	0.2
Creditors	Interest Expenses	0.6	0.6	0.6
Shareholders	Dividends	1.5	0.8	1.2
Retained	Earnings	14.7	12.9	22.6
Distributed Economic Value		146.1	153.8	187.2

* The total sum of salaries, severance payments and fringe benefits included in the cost of sales, R&D costs, and administrative expenses.
** The total sum of consolidated corporate taxes paid, other taxes, and dues calculated on an accrual basis.
*** The total sum of social contribution expenses paid including donations and other expense accounts.
**** The total amount of economic value created.

Employees

Economic value distributed to Samsung Electronics and subsidiary company employees consists of salaries, retirement settlement packages and employee benefit expenses. Personnel expenses have increased by 16.5% in 2012 compared to the previous year.

Employees/Personnel Expenses

KRW 16.9 trillion

Samsung Electronics Consolidated Personnel Expenses

Unit: KRW 1T

- Employees/Personnel Expenses

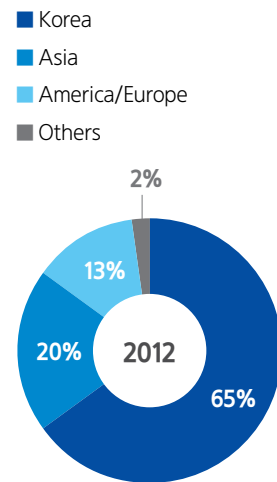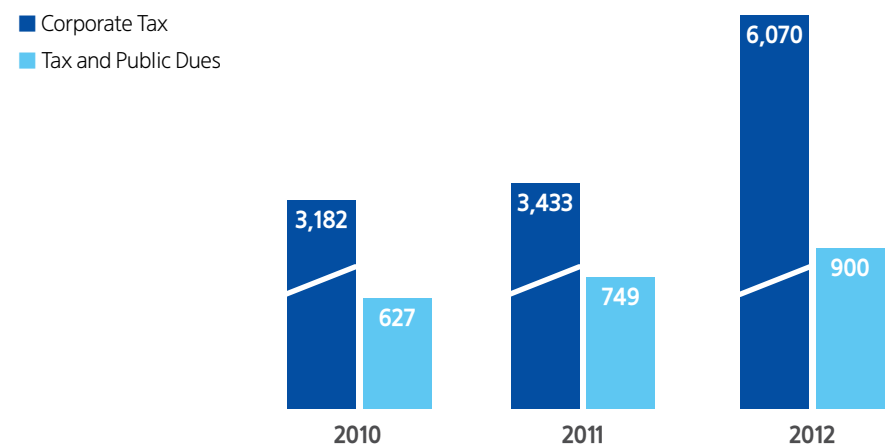| Year	Value
2010	13.6
2011	14.5
2012	16.9

Government

Taxes and dues paid to the governments of Korea and other countries by Samsung Electronics and its subsidiaries in 2012 increased by 67.0% in relation to a 2011 baseline. Geographically, Samsung Electronics paid 65% of its total taxes and dues to the government of Korea, which is home to its corporate headquarters. The outstanding amount was paid to the governments in Asia (home to many Samsung manufacturing plants) and America and Europe (where Samsung sales subsidiaries are situated). Samsung Electronics has also received direct and indirect subsidies for its investments in R&D and production facilities. These subsidies include both reductions in tax (corporate and/or local) and infrastructure support. Samsung received subsidies from the Korean government and governments in the countries in which its production subsidiaries are located.

2012 Taxes and Dues by Region

- Korea
- Asia
- America/Europe
- Others

2012
- 65%
- 20%
- 13%
- 2%

Regional Taxes and Dues Paid by Samsung Electronics

Unit: KRW 1B

- Corporate Tax
- Tax and Public Dues

845
599
(246)

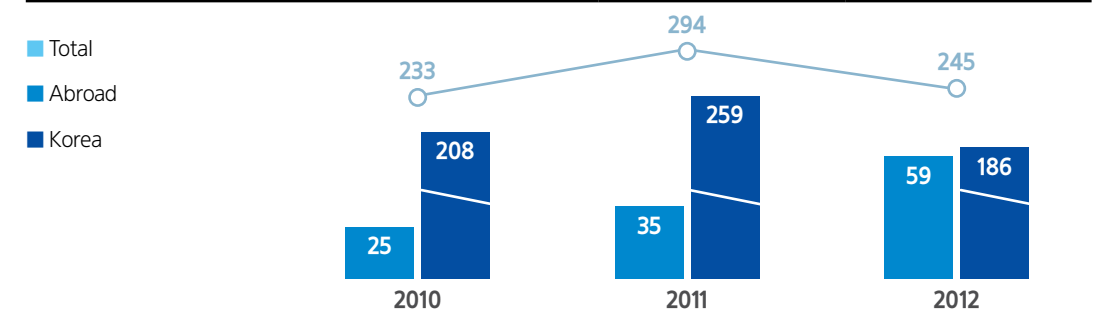| Year	Corporate Tax	Tax and Public Dues
2010	3,182	627
2011	3,433	749
2012	6,070	900

Local Communities

In 2012, Samsung Electronics and its subsidiaries donated KRW 245 billion to local communities. In Korea, it contributed KRW 51.3B, KRW 53.8B, and KRW 77.4B in the areas of culture & arts, talent education, and social welfare, respectively. More than 1,200 teams visited social welfare facilities across the country and provided a variety of volunteer services with a corporate allocation of KRW 3.6 billion. Samsung Electronics spent KRW 42.9 billion on foreign aid in 2012, with its support mostly comprised of education content generation and the placement of medical professional and educator volunteer service teams.

Samsung Electronics Contributions to Local Communities

Unit: KRW 1B

- Total
- Abroad
- Korea

Year	Total	Abroad	Korea
2010	233	25	208
2011	294	35	259
2012	245	59	186

Increase in CSR Expense Abroad (from 2011)

69%

Creditors

The interest expenses paid by Samsung Electronics and its subsidiaries rose slightly in 2012. Interest returns increased by KRW 139.7 billion in 2012 compared to a 2011 baseline.

Samsung Electronics Interest Revenues, Interest Expenses and Net Interest Expenses

Unit: KRW 1B

	2010	2011	2012
Interest Revenues	558	706	845
Interest Expenses	581	644	599
Net Interest Expenses	23	(62)	(246)

Shareholders/Investors

Dividends paid by Samsung Electronics and its subsidiaries increased in 2012 due to the increase of net profits. There was no buy-back in 2012.

Samsung Electronics' Consolidated Dividends, Pay-out Ratio and Buy-back

Unit: KRW 1B

	2010	2011	2012
Dividend	1,497	827	1,207
Pay-out Ratio*	9.5%	6.2%	5.2%

Dividend

KRW 120.7 billion

* The Total Pay-out Rate is the rate of cash distributed to shareholders or investors in the form of dividends (or net buy-back) from net profit during the given term (dominant firm's equity ownership).

Transparent Management

Strengthening Policy Measures for Compliance Management

Legal compliance and business ethics become increasingly important as Samsung Electronics expands its business to global markets. Thus, Samsung Electronics established a compliance team in 2010 to strengthen and stabilize the compliance management structure. In 2011, the team changed its name to Global Legal Affairs & Compliance Team and expanded its staff to reinforce compliance management further.

Number of Compliance professionals
Unit : Persons

Year	Value
2010	200
2011	270
2012	300
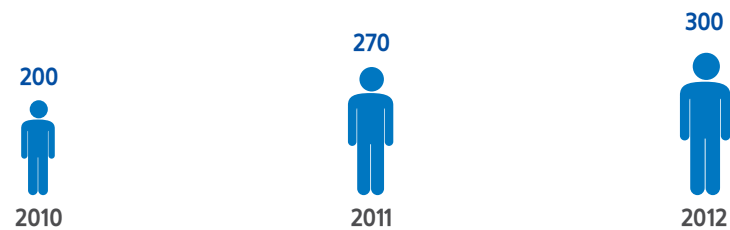
Raising Internal Awareness of Compliance

In 2012, Samsung Electronics reinforced the compliance training by enhancing the quality of training materials and diversifying the curriculum.

Expanding the Curriculum and Participants
Unit : Persons

	2010	2011	2012
Number of Compliance Training Participants	-	186,391	220,713

Strengthened Employee Education

Instructors from Samsung's audit team are providing employee education in the following areas:
- Education for newly appointed directors (at least annually)
- Leadership education for officers
- Introductory education for newly-recruited employees
- All-employee education for groups of employees holding similar positions and assignments
- Education for employees assigned to overseas duties
- Online education

In 2012, there was a marked increase in the number of personnel attending education sessions due to requirements in the newly-enacted Ethical Management Guidelines for employees.

Number of Trainees

227,217

Corruption Prevention Training
Unit: persons

Year	Value
2011	183,132
2012	227,217

In addition, Samsung Electronics posts the "Guidelines for Staff and Executives" on the company intranet so that employees can learn about the criteria for dishonest acts on their own. For its customer companies, Samsung posts the "Guidelines for Customer Companies" on its major portal site, which is frequently visited by customer companies.

Ethical Management Website

Since 2002, Samsung has managed a website that offers information on ethical business management and provides an external reporting mechanism. The dedicated reporting system (http://sec-audit.com) allows external stakeholders to report unethical business conduct by Samsung Electronics employees. Information submitted is reviewed and classified into different categories for action. The site is operated in thirteen languages, including Korean, English, Chinese, Japanese, and Polish.

Number of Reports Submitted in the Past Three years

1,404

Number of Reports on Unethical Business Conduct Submitted in the Past Three Years
Unit: cases

Year	Value
2010	472
2011	579
2012	353
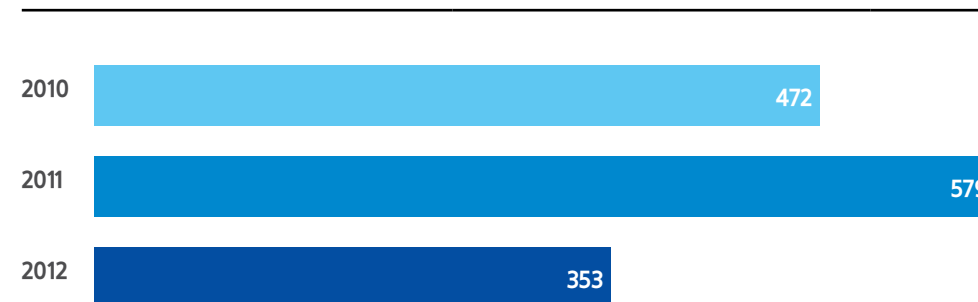
After careful review of each reported case, Samsung took steps to resolve verified cases involving employee misconduct or consumer complaint. According to analysis, 66% of the 1,404 reports made in the past three years consisted of consumer complaints and 23% were related to unethical conduct.

Incidence of information provided by refraction reporters by type
Unit: %

Legend:
- Employee Misconduct
- Consumer Complaint
- Other

Type	2010	2011	2012
Employee Misconduct	23	19	28
Consumer Complaint	70	61	67
Other	7	20	5
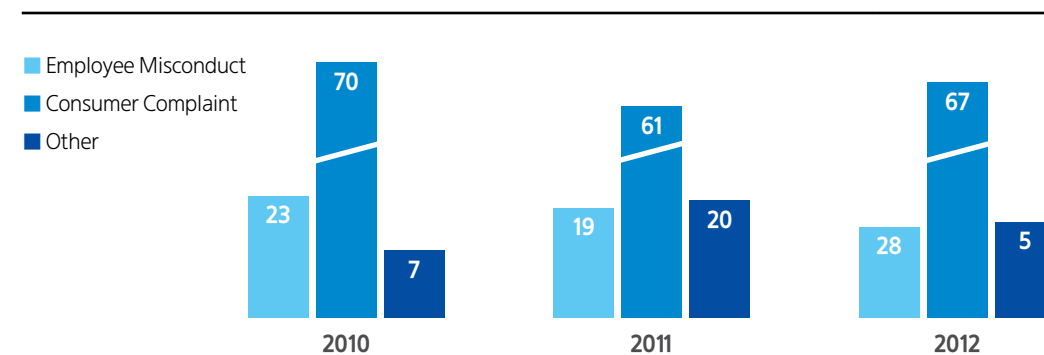
Consequences of Misconduct
Unit: %

Legend:
- Dismissal
- Warning
- Other

Type	2010	2011	2012
Dismissal	28	21	47
Warning	7	7	42
Other	65	72	11
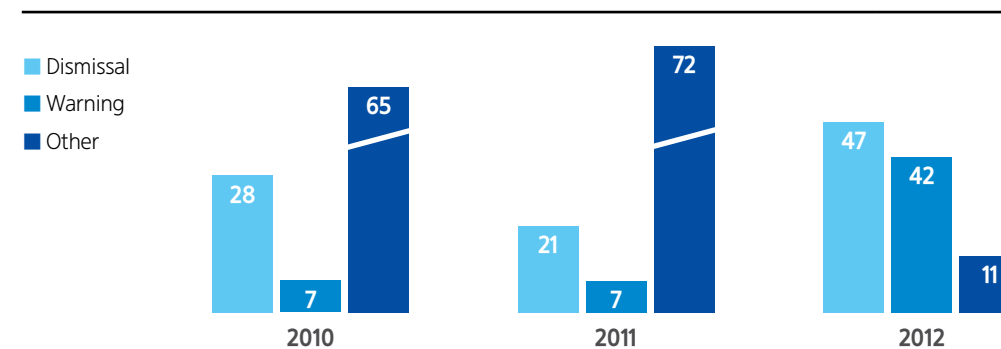
Talent Management

Human Capital

In 2012, Samsung Electronics hired a total of 71,419 new workers outside of its Korean headquarter operations, largely at its global production subsidiaries in order to meet the increasing global demand for its mobile devices.

Total Number of Employees

235,868

Number of Employees (Korea)

Unit: persons

■ Korea ■ Overseas ■ Total

Year	Korea	Overseas	Total
2010	95,662	94,802	190,464
2011	101,973	119,753	221,726
2012	90,702	145,166	235,868

*Decrease in the number of employees in Korea due to separation of LCD business

Employees by Region (2012)

2012

Region	%
■ Korea	38%
■ Asia	24%
■ China	19%
■ America	11%
■ Europe	7%
■ Middle East & Africa	1%

Employees by Region

Unit: persons

	2010	2011	2012
Korea	95,662	101,973	90,702
Asia	26,355	41,481	57,330
China	37,599	41,203	45,660
America	16,151	21,531	24,694
Europe	13,334	13,850	15,318
Middle East	969	1,154	1,529
Africa	394	534	635

Employees by Contract Type

Unit: persons

	2010	2011	2012
Regular	178,732	210,070	223,408
Temporary Contract	11,732	11,656	12,460

Employees by Age

Unit: persons

	2010	2011	2012
Under 20	17,457	22,009	23,027
20s	89,182	102,632	106,371
30s	61,806	70,531	76,494
40+	22,019	26,554	29,976

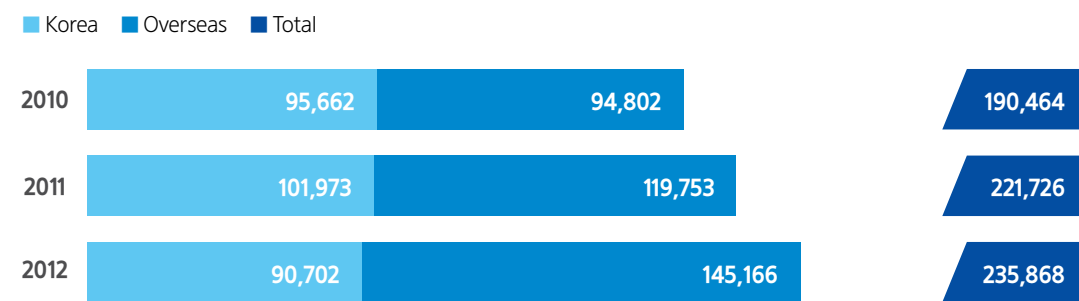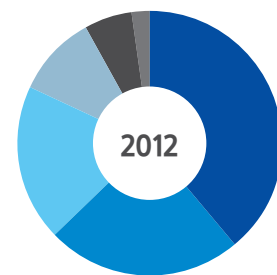### Employees by Rank

Unit: persons

	2010	2011	2012
Associates	155,319	181,793	192,188
Managers	34,171	38,766	42,351
Executives	974	1,167	1,329

Number of R&D Personnel with Doctorate Degress

5,009

Newly Recruited Employees outside of Korea (2012)

71,419

R&D Personnel

In order to catalyze growth, Samsung Electronics constantly seeks to reinforce its R&D competence and patent portfolio. In order to accomplish this, the company continues to expand recruitment of highly qualified R&D personnel year over year. Indeed, the number of Samsung Electronics R&D personnel is rising sharply.

The number of researchers with doctoral degrees exceeded 5,000 in 2012. These highly trained R&D personnel around the world are playing a key role in the continuous growth of the company.

R&D Personnel

Unit: persons

	2010	2011	2012
R&D personnel	50,084	55,320	60,495

Overseas Employment

Employment by Region

Unit: persons

	2010	2011	2012
Southeast Asia	12,046	21,165	27,328
China	16,240	15,948	21,329
Southwest Asia	3,586	6,124	7,001
Latin America	3,567	5,454	7,793
North America	5,313	5,177	1,920
Europe	3,633	2,486	3,167
CIS	1,509	1,456	1,811
The Middle East	468	407	615
Africa	215	299	264
Japan	138	146	191
Total	46,715	58,662	71,419

Employment by Experience Level

Unit: persons

■ New hires at entry level
■ New hires with career experience
■ Total

	2011	2012
Total	58,662	71,419
New hires at entry level	34,907	41,597
New hires with career experience	23,755	29,822

Women Employees

Women Employees by Job Function

Unit : %

■ Sales
■ Production
■ Product Development

	2010	2011	2012
Product Development	34	40	39
Production	54	53	52
Sales	28	28	30
	14	15	16
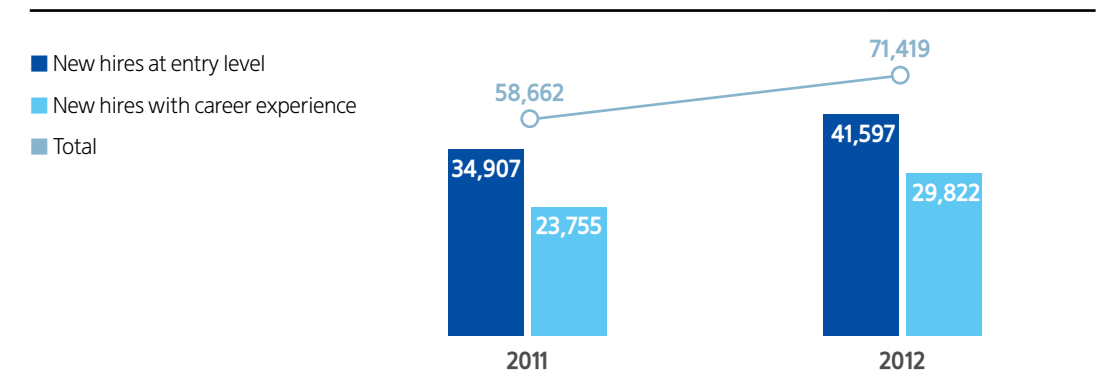
Percentage of Women Employees

39%
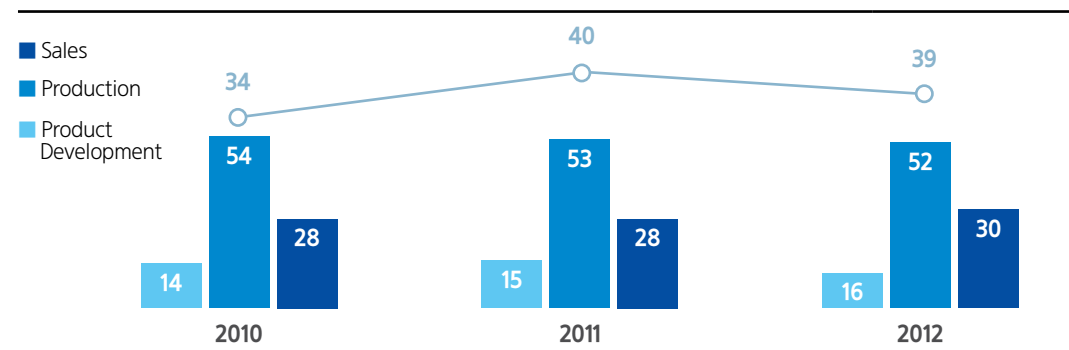
Women Employees by Region

Unit: %

	2010	2011	2012
Southeast Asia	51.5	36.9	66.2
China	57.3	55	49.2
Latin America	43	42.9	43.8
Europe	38.6	36.2	32.7
CIS	38.5	35.8	34.2
Africa	35.3	34.5	32.0
Korea	33	31.2	27.1
North America	30.6	30.3	27.5
The Middle East	23.3	24.6	24.1
Japan	15.7	15.2	15.3
Southwest Asia	12	11.5	14.1

Women Employees by Rank

Samsung Electronics upholds policies that ensure responsible hiring and promotion practices regardless of gender. In 2011, Samsung Electronics announced that it would increase the proportion of women executives to 10% by 2020 against a 1.5% baseline. In doing so, Samsung hopes to encourage its talented female workforce to continue their careers with the company. Samsung believes that retaining a talented workforce - regardless of gender - is important to its continued success. As of the end of 2012, women accounted for 2.4% of the total number of executives, representing a 1% increase over the figure for 2011.
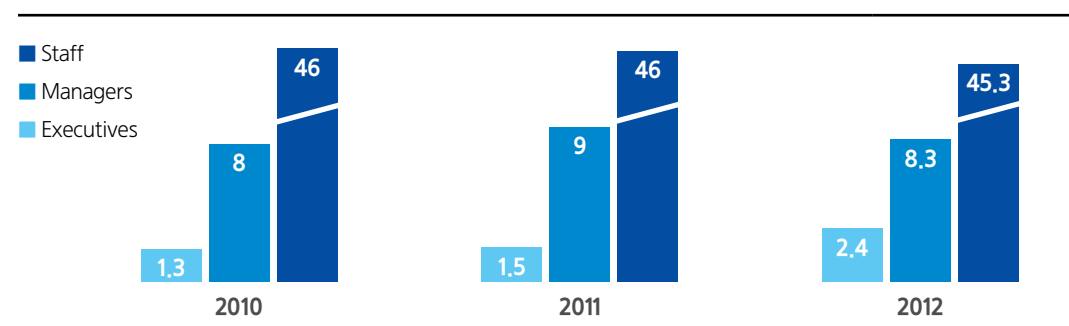
Percentage of Women Executives

2.4%

Women Employees by Rank

Unit: %

■ Staff
■ Managers
■ Executives

	2010	2011	2012
Staff	46	46	45.3
Managers	8	9	8.3
Executives	1.3	1.5	2.4

College-educated Women Recruits (Korea)

29%

Returning Rate from Maternity Leave

87.3%

Number of Employees with Disabilities

1,205

Employment of College-educated Women

In 2012, Samsung's percentage of women in college graduate recruitment rose to 29%, and the company is continually working to increase this figure.

Women Employment by Education

Unit: % & persons

	2010	2011	2012
College-educated Women Recruits (Korea, %)	22	27	29
Number of Total Women Recruits Overseas (persons)	23,244	31,864	33,380

Support for Working Parents

We also support all employees through flexible working hours and telecommuting and we have developed programs specifically designed to improve the workplace for working parents.
The company has adopted flexible work hour policies and telecommuting for its female employees. The company also enlists female employees with children to serve in our mentor program and offers on-site daycare for all employees.

Support for Working Parents

Unit: % & persons

	2010	2011	2012
Employees on Maternity Leave	1,484	1,979	2,039
Females who quit within a year of maternity leave	233	380	264
% of females coming back to work after maternity leave	84.3	80.8	87.3
Children in SEC daycare centers (number of centers)	–	1,239 children (7 places)	1,434 children (10 places)

Employing People with Disabilities

In 2011, Samsung Electronics began to hire people with disabilities through its official employment procedures, and the company strives to provide accessibility that ensures a healthy and safe working environment for all. In 2012, the company hired 203 people with disabilities and plans to continue this hiring practice in 2013.

Employees with Disabilities

Unit: persons

■ New recruits of employees with disabilities
■ Total number of employees with disabilities

	2010	2011	2012
Total number of employees with disabilities	838	1,193	1,205
New recruits of employees with disabilities	173	316	203
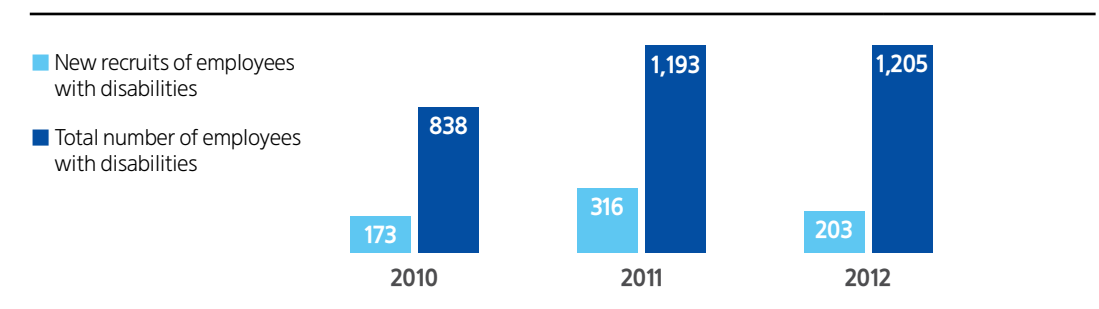
The current percentage of Samsung employees with disabilities (1.46%) will rise to 1.6% in 2013.

Minimizing Associate Turnover

Turnover

Unit: persons & %

- ■ Employee Resignations (Korea)
- ■ Employee Resignations (Overseas)
- ○ Turnover Rate (Korea)
- ○ Turnover Rate (Overseas)

	2010	2011	2012
Turnover Rate (Korea)	15.3	15.6	17.2
Turnover Rate (Overseas)	4.9	4.9	3.9
Employee Resignations (Overseas)	13,011	16,817	22,068
Employee Resignations (Korea)	4,539	5,035	3,527

Professional Development

Training Expenditures (Korea)

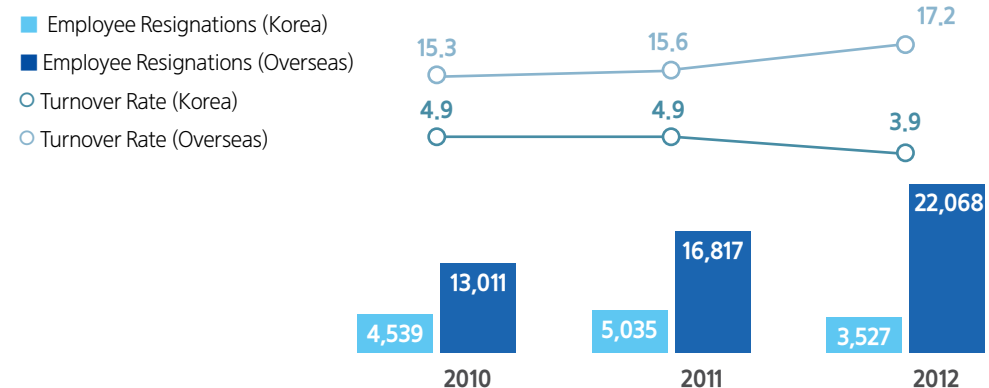|	2010	2011	2012
Training Expenditures (KRW Billion)	104.5	114.4	117.4
Training Expenditures per person (KRW 1)	1,099,297	1,123,595	1,294,349
Ratio of Training Expenditures to Sales	0.07%	0.07%	0.06%
Ratio of Training Expenditures to Payroll Costs	0.8%	0.8%	0.7%
Number of Training Days per Person	10.9	14.1	15.0

Training Expenditures

KRW **117.4** billion

Expenditure for Employee Benefits

Expenditure for Employee Benefits

Unit : KRW 100 M

2010	14,326
2011	17,224
2012	24,818
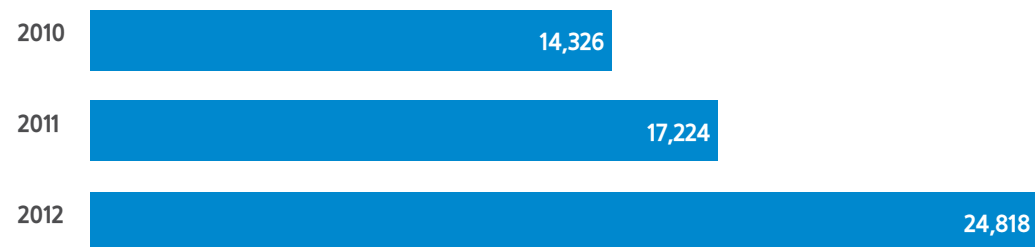
Social Contributions

CSR Investments

In 2012, Samsung Electronics spent a total of KRW 245 billion on its social contribution activities such as culture & arts, academic exchanges, and social causes (KRW 51.4B, 59.2B and 86.1B respectively) among others.
In 2011, Samsung launched a dedicated CSR fund that fosters shared value partnerships. The fund's initial endowment totaled KRW 100 billion. In 2012, the company added another KRW 600 million was added to the fund. Given the size of last year's initial investment in the partnership fund, the total amount of CSR investments declined in 2012. Despite this, most other social contribution areas saw increases in the amount of corporate support, as shown below:
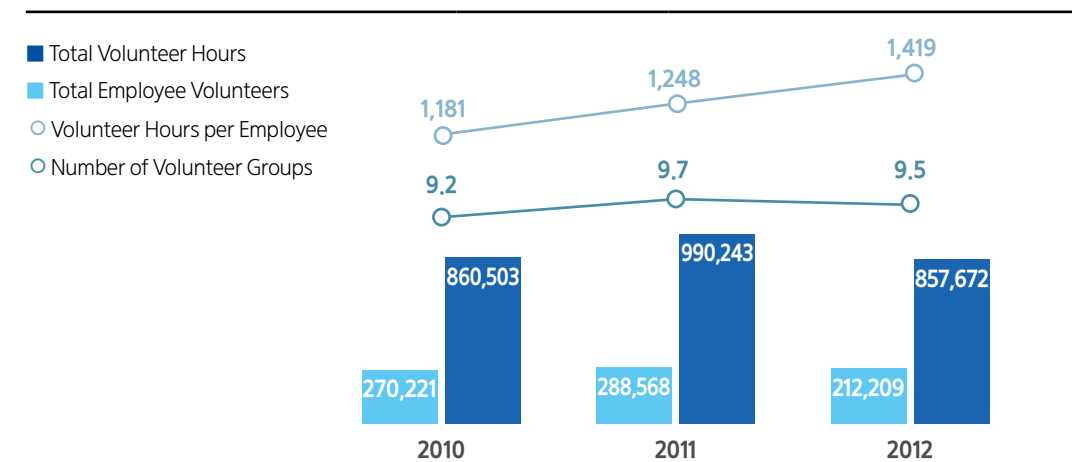
CSR Investments

KRW **245.4** billion

CSR Expenses

Unit: KRW 1 M

	2010	2011	2012
Partnership Fund	–	100,600	600
Social Causes	111,690	95,775	86,108
International Exchanges	31,955	34,889	59,214
Culture & Arts	36,368	30,139	51,443
Academic Exchanges	56,947	27,812	45,002
Environment & Health	146	3,344	653
Sports	2,795	1,135	2,334
Total	239,900	293,694	245,354

Employee Volunteerism

In 2012, Samsung Electronics recorded a total of 212,209 hours or 9.5 hours per employee in volunteer services, demonstrating that a culture of giving back is growing rapidly at the company.

Average Volunteer Hours per Employee

9.5 hours

Employee Volunteerism (Korea)

- ■ Total Volunteer Hours
- ■ Total Employee Volunteers
- ○ Volunteer Hours per Employee
- ○ Number of Volunteer Groups

	2010	2011	2012
Number of Volunteer Groups	1,181	1,248	1,419
Volunteer Hours per Employee	9.2	9.7	9.5
Total Volunteer Hours	860,503	990,243	857,672
Total Employee Volunteers	270,221	288,568	212,209

Hope for Children Program in 2012

50 countries

Expanding Hope for Children Program

Samsung Electronics broadly expanded its signature social contribution program, the Samsung Hope for Children Program, from 30 countries in 2011 to 50 in 2012. In 2013, the company plans to implement the program in a total of 55 countries.

Shared Growth with Suppliers

Supplier Training

In 2012, Samsung Electronics continued to provide its numerous suppliers with quality training services on a great variety of topics. Especially noteworthy was Samsung's supplier training program on business ethics, which is designed to prevent unethical exchanges between the company and its suppliers. The number of trainees declined slightly in 2012 due to the separation of the LCD business sector from the company.

Total Number of Supplier Trainees in 2012

5,261persons

Training Services for Supplier Employees

Unit: persons

		2010	2011	2012
Korea	Management	2,922	3,963	4,380
	Technology	285	161	99
Overseas	Operation Management	368	597	377
	Innovative Techniques	847	330	196
	Professional Techniques	935	228	209
Total Number of Trainees		5,357	5,279	5,261

The Future Leadership Program

Launched in 2004 for the children of its suppliers' top management, the Future Leadership Program is one of the key supplier initiatives that Samsung Electronics provides.
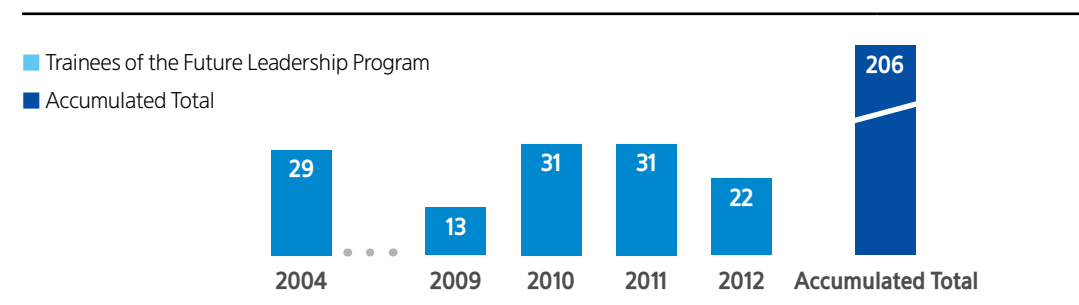
The training program consists of hands-on training in a number of Samsung divisions and visits to the company's overseas subsidiaries. The program provides Samsung an invaluable opportunity to train future leaders while promoting future operational excellence among its key suppliers.

The Future Leadership Program Trainees

206people

The Future Leadership Training Program

Unit: persons

- Trainees of the Future Leadership Program
- Accumulated Total

2004	2009	2010	2011	2012	Accumulated Total
29	13	31	31	22	206

VOC

Processing Rate of Voice of Customer (VOC) Claims

100%

VOC Processing Rate

Unit: % & cases

		2010	2011	2012
VOC Received (cases)	Korea	699	596	606
	Overseas	3	117	6
VOC Processing Rate (%)		100	100	100

Open Innovation

Open Innovation offers new small and medium enterprises (SMEs) chances to become suppliers for Samsung Electronics. Launched in 2011, the program encourages innovative ideas and technology development among candidate companies. In 2012, the company received almost 1,000 applications for Open Innovation. Samsung Electronics will continue to seek new prospective SMEs through this program to promote shared growth.

Open Innovation Applications

Unit: cases

	2011	2012
Number of Applications	651	955
Number of Adopted Tasks	23	19

Supplier CSR self-assessment

1,791

Supplier Compliance

Self-Audits by Suppliers

Unit: No. of Suppliers

	2010	2011	2012
Korea	28	793	647
Overseas	216	1,154	1,144
Total	244	1,947	1,791

Number of Suppliers Samsung Audited

Unit: No. of Suppliers

- Korea
- Overseas
- Total

|	2010	2011	2012
Total	545	169	249
Korea	280	3	-
Overseas	265	166	249
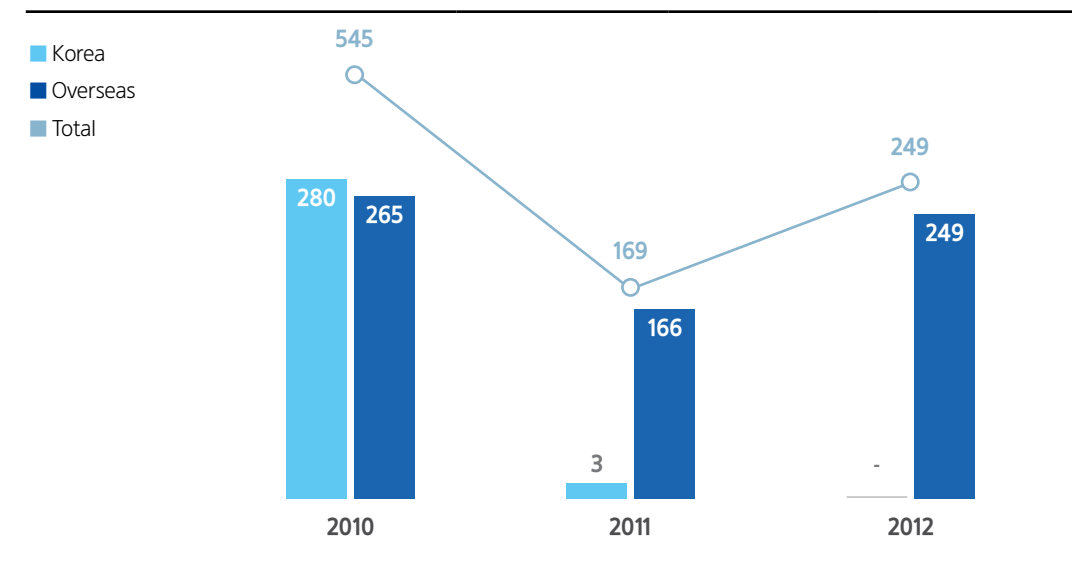
Green Management

Investments in Green Management

In order to consider economic profitability and environmental sustainability through green management, Samsung Electronics continuously monitors its green management investment costs. The company uses the information when planning to reduce environmental impact of its business activities and improve environmental achievements. Samsung Electronics is making investments in green management as follows:

Investments in Green Management

Unit: KRW 100 M

Environmental Investments

KRW**491.5**billion

■ Investment in green facilities ■ Site operation expenses ■ Total
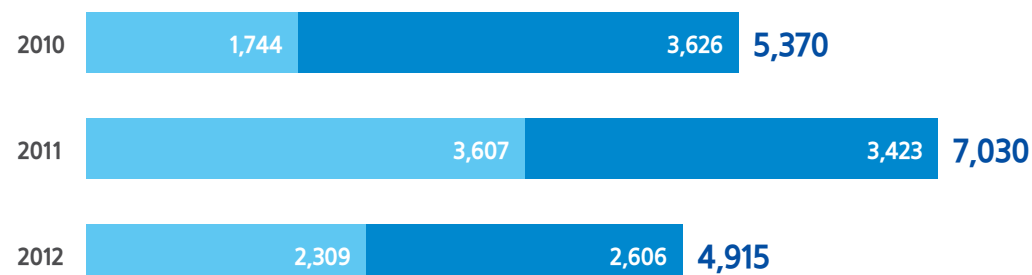
2010	1,744 / 3,626	5,370
2011	3,607 / 3,423	7,030
2012	2,309 / 2,606	4,915

*The 2010 and 2011 figures include those for the LCD division while those for 2012 do not as the division was separated from Samsung Electronics to become Samsung Display Co., Ltd. in 2012

Greenhouse Gases

Total GHG Emissions

In 2012, Samsung Electronics' absolute GHG emissions were reduced largely as a result of the restructuring undertaken in April 2012, i.e. separation of the LCD business division and integration of the LED division. GHG emissions in 2011 amounted to 3.13 tons of CO_2 per KRW 100 million in sales, while the figure for 2012 was 2.54 tons of CO_2, showing a 19% decrease over 2011 with the structural reorganization reflected therein. Each operation site is taking a variety of reduction measures such as introduction of process gas reduction facilities, enhancement of the energy efficiency of production facilities, and introduction of highly efficient facilities in order to meet their emissions reduction targets.

Korea
2.54
ton of CO_2 / KRW 100 M

Global
2.34
ton of CO_2 / KRW 100 M

GHG Emissions Intensity

Unit: ton of CO_2 / KRW 100 M

Location	Description	2010	2011	2012***
Korea*	Goal	5.65	4.62	2.87
	Performance	5.11	4.46 (3.13***)	2.54
Global**	Performance	4.15	3.70	2.34

* Korea KRW-based emissions calculation formula: Total CO_2 emissions(1) ÷ (HQ-based sales / price index(2))
  (1) Total GHG (converted into CO_2) emissions from manufacturing sites in Korea
  (2) The Bank Of Korea's PPI for the years (with the 2005 PPI being 1)
** Global KRW-based emissions formula: Total global CO_2 emissions ÷ (annual global sales / price index(2))
*** The figures reflect the structural reorganization, consisting of separation of the LCD business division and incorporation of the LED division, undertaken by the company in April 2012.

GHG Emissions(Scope 1,2)

Unit: 1,000 tons of CO_2

Area	Scope	2010	2011	2012**
Korea	Scope 1	4,057	3,924	1,943
	Scope 2	5,552	6,031	4,061
	Total	9,609	9,955	6,004
Global	Scope 1	4,155	4,045	2,098
	Scope 2	6,500	7,259	5,388
	Total	10,655	11,304	7,486

* The GHG emissions for 2009 onward were altered in June 2011 as required by the national guidelines on the GHG reduction goal management system. The changes were verified by a third party. The recent figures differ from the numbers given in earlier sustainability reports accordingly.
** The figures for 2012 reflect the structural reorganization, consisting of separation of the LCD business division and incorporation of the LED division, undertaken by the company in April 2012.
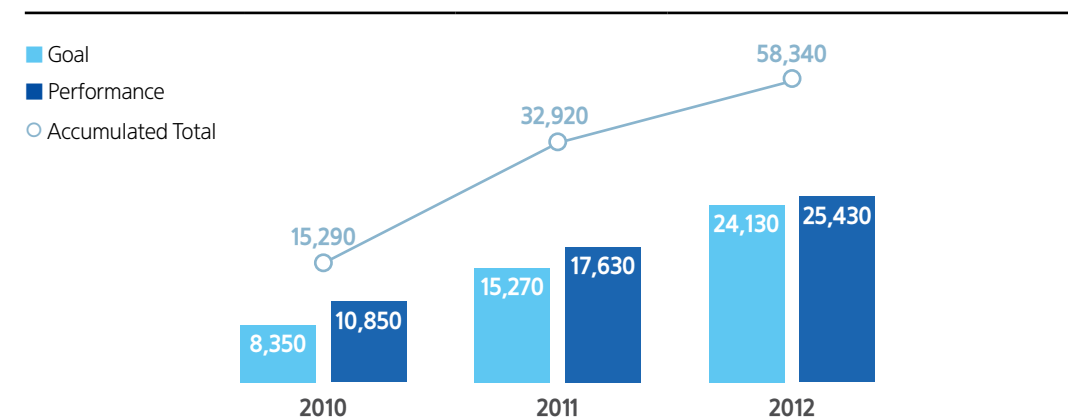
Six Major GHG Emissions (Global)

Unit: 1,000 tons of CO_2

	2010	2011	2012
CO_2	7,012	8,378	5,943
CH_4	2	2	2
N_2O	212	220	278
HFCs	117	108	134
PFCs	915	859	1,015
SF_6	2,397	1,738	115
Total	10,655	11,304	7,486

Reductions in GHG Emissions during Product Use (Accumulated Total)

25,430K tons

GHG Reductions at the Phase of Product Use (Global)

Unit: 1,000 tons of CO_2

■ Goal
■ Performance
○ Accumulated Total

	2010	2011	2012
Goal	8,350	15,270	24,130
Performance	10,850	17,630	25,430
Accumulated Total	15,290	32,920	58,340

* The calculation of the carbon reduction goal is based on the assumption of an annual increase of 10% in the company's sales since 2008.
** The calculation range: all products sold worldwide (parts excluded)

Scope 3 Emissions

GHG Emissions from Logistics by Transportation Mode (Global)

Unit: 1,000 tons of CO_2

Description		2010	2011	2012**
Global	Air	1,250 (17%)	2,017 (24%)	2,952 (29%)
	Sea	6,071 (82%)	6,320 (75%)	7,086 (70%)
Korea	Rail/Road	111 (1%)	104 (1%)	87 (1%)
Total Emissions		7,432	8,441	10,125

GHG Emissions from Logistics by region (Global)

Unit: 1,000 tons of CO_2

Region	2010	2011	2012**
Latin America	784	1,980	3,942
Europe	2,078	1,646	1,626
North America	2,055	1,345	1,386
Asia	648	1,698	1,245
CIS	929	717	760
The Middle East	485	533	564
Africa	343	406	468
Oceania	110	116	134
Total Emissions	7,432	8,441	10,125

* Final destination based statistics
** The figures for 2012 reflect the structural reorganization, consisting of separation of the LCD business division and incorporation of the LED division, undertaken by the company in April 2012.
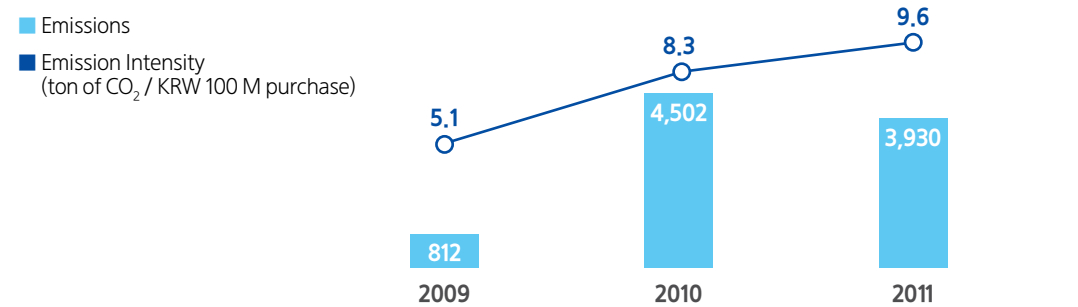
Emissions from Employees' Business Trips (Korea)

Unit: tons of CO_2

Description	2010	2011	2012*
Airplane	94,220	105,520	120,621
Car	5,621	5,849	6,219
Taxi	521	529	513
Train	384	411	415
Bus	239	288	274
Total Emissions	100,985	112,597	128,042

* The figures for 2012 reflect the structural reorganization, consisting of separation of the LCD business division and incorporation of the LED division, undertaken by the company in April 2012.

Suppliers' Emissions

Unit: 1,000 tons of CO_2

■ Emissions
■ Emission Intensity
(ton of CO_2 / KRW 100 M purchase)

	2009	2010	2011
Emission Intensity	5.1	8.3	9.6
Emissions	812	4,502	3,930

* Suppliers' GHG emissions in 2012 will be made available in the second half of 2013.
* The scope of the supplier survey has been changed as follows: 40% in 2009, 63% in 2010, and 65% in 2011 in terms of global purchase volume.
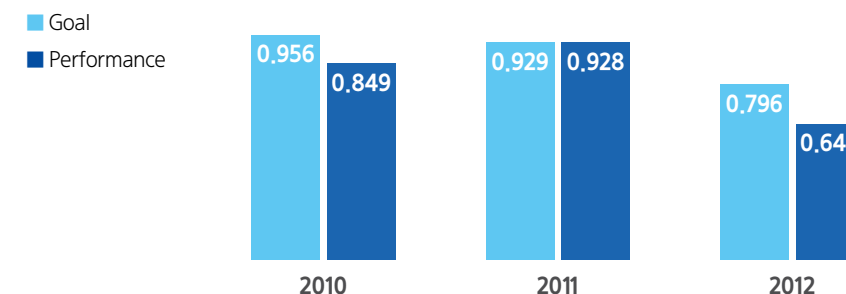
Energy Cost Rate

Samsung Electronics has been trying to bring down the ratio by 2.5% every year since 2009 in order to meet its target of 0.77% at the end of 2013. In 2012, it exceeded its annual target. The company's constant efforts to conserve energy include the optimization of the operation of its manufacturing and utility facilities, the introduction of highly efficient facilities, and the recovery of waste heat.

Energy Cost Rate (Korea)

0.644 %

Energy Cost Rate (Korea)

Unit: %

■ Goal
■ Performance

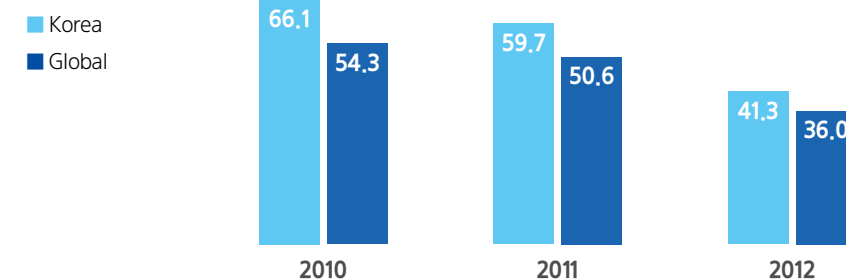|	2010	2011	2012
Goal	0.956	0.929	0.796
Performance	0.849	0.928	0.644

* Energy Cost Ratio(%) = Operation site energy costs in Korea / HQ turnover*100
** The figures for 2012 reflect the structural reorganization, consisting of separation of the LCD business division and incorporation of the LED division, undertaken by the company in April 2012.

Energy Consumption

Unit: GJ/ KRW 100 million

■ Korea
■ Global

	2010	2011	2012
Korea	66.1	59.7	41.3
Global	54.3	50.6	36.0

* KRW-based energy conversion formula: Energy consumption(1) ÷ (HQ-based turnover / price index(2))
  (1) Total energy (GJ) consumption
  (2) Total energy (GJ) consumption
** KRW-based global energy conversion formula: total global energy consumption ÷ (global integrated sales / price index(2))
*** The figures for 2012 reflect the structural reorganization, consisting of separation of the LCD business division and incorporation of the LED division, undertaken by the company in April 2012.

Electricity and LNG Consumption

	Description	2010	2011	2012
Korea	Electricity (GWh)	11,894	12,925	8,697
	LNG (1M Nm3)	170	197	172
Global	Electricity (GWh)	13,435	15,047	10,926
	LNG (1M Nm3)	197	237	217

Accomplishments in Eco-Product Development

As of the end of 2012, Samsung Electronics raised its Eco-Product development ratio to 99% and improved its product efficiency by 31%, on average, compared to 2008. These accomplishments are attributable, in part, to its implementation of an Eco-Product rating system and its promotion of the development of low-carbon products since 2009. Meanwhile, the company has obtained a number of major eco- and carbon-labels both at home and abroad thanks to its outstanding accomplishments in the improvement of electronic product energy efficiency. Samsung Electronics has secured an unparalleled competitive edge in the government procurement markets of many countries. Furthermore, through its unique eco-management initiatives, the company has continued to reinforce its eco-friendly corporate image.

Good Eco-Product Rate

99 %

Good Eco-Device Rate

88 %

Eco-Product Development Rate

Unit: %

KPI	Description	2010	2011	2012	2013
Good Eco-Product Ratio	Goal	90	96	97	100
	Performance	91	97	99	-
Good Eco-Device Ratio	Goal	70	80	85	100
	Performance	72	85	88	-

Energy Efficiency Improvement Ratio

Unit: %

KPI	Description	2010	2011	2012	2013
Energy Efficiency Improvement Ratio	Goal	15	23	31	40
	Performance	16	26	31	-

※Energy Efficiency Improvement Ratio indicates the average energy efficiency compared to its improvement rate, which is applicable to eight major products of 2008

Green Procurement

Samsung Electronics signed the Voluntary Agreement on Green Purchasing with the Korean Ministry of the Environment (MOE) in 2005 as part of the first wave of companies to do so. As a company that has declared itself a green producer, Samsung Electronics does its very best to realize its commitments to green production through product stewardship and to green consumption by every means possible. The company has also established the 'hazardous substance management procedure' to ensure that it always purchases parts and materials free of hazardous substances as assured by the implementation of its own eco-product certification system for its suppliers.

Green Procurement in Korea

Unit: KRW 1 M

	2010		2011		2012	
	No. of Items	Amount	No. of Items	Amount	No. of Items	Amount
Parts with Reduced Hazardous Substances	Many	68,216,339	Many	75,115,246	Many	77,671,452
Green Products (Environmental certification, GR certification, etc)	409	86,538	445	38,590	362	55,733
Total	Many	68,302,877	Many	75,153,836	Many	77,727,185

Accomplishments in Global Take Back & Recycling

In 2012, Samsung Electronics collected and recycled about 320,000 tons of electronic waste. As shown below, the take back quantity dropped by around 4% in Europe in 2012 in line with marked sales decreases in the region. However, with the launch of take back and recycling programs in Australia and India in July 2012, the take back volume is expected to grow continuously from 2013.

Recycling Amount (Global)

325,545 tons

Global Take Back & Recycling Quantity

Unit: tons

Region	2010	2011	2012
Europe	219,948	245,838	230,492
Asia	60,923	54,233	53,089
North America	22,773	39,347	41,964
Total	303,644	339,418	325,545

Recycling Statistics (Korea)

Unit: tons

Category	2010	2011	2012
Products	57,218	51,940	49,677
Packaging	4,787	5,045	4,993

Recycling Statistics by Product (Korea)

Unit: tons

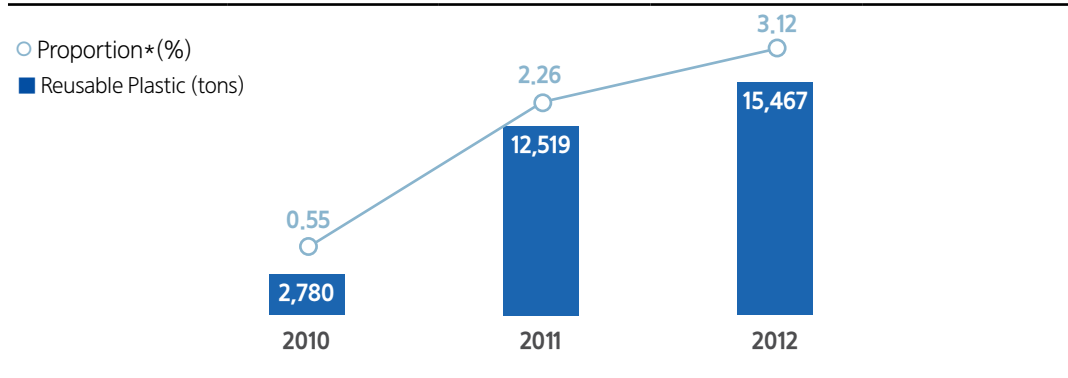| Description	Refrigerators	Washing Machines	Displays	Others	Total
Recycling Quantity	21,791	9,336	14,734	3,816	49,677

Reutilization of Resources (Korea)

Unit: tons

Recycled Resources	Scrap	Non-ferrous	Synthetic resins	Glass	Waste	Others	Total
Quantity	15,879	5,744	10,836	8,730	4,860	3,628	49,677

Recycled Plastic

Samsung Electronics is planning to increase the proportion of recycled plastic in its total use of resin to 3.4% by the end of 2013 and to 5% by 2015 in order to promote more aggressive resource recycling and improve resource efficiency. Recycled plastic is used mostly in washing machines, refrigerators, air conditioners and vacuum cleaners. The use of recycled plastic has recently been expanded to the company's overseas operation sites, too. Recycled plastic has begun to be partially used in mobile phones and monitors. In 2013, the use of recycled plastic will be further expanded from home appliances to IT products like mobile phone chargers and printers.

Recycled Plastic

- ○ Proportion*(%)
- ■ Reusable Plastic (tons)

2010	2011	2012
0.55	2.26	3.12
2,780	12,519	15,467

* 'Proportion' means the ratio of recycled plastic in the total quantity of resin used.

Global Eco-Product Certification

2,926 Cases

By the end of 2012, Samsung Electronics had received environmental certification marks for a total of 2,926 of its product models, the highest number for any company in the global electronics industry, from the world's top-ten environmental certification organizations in such countries as Korea, the United States, Sweden and China.

Global Environmental Certification Marks Received
as of the end of 2012

Region/Country/Group	Korea	China	USA	EU	Germany	Total
	809	632	380	267	99	
2012	Sweden	Northern Europe	Canada	Taiwan	UL/CSA	2,926
	557	101	59	5	17	

Carbon Footprint Labeling

Certification in Korea

Samsung Electronics has proactively participated in KEITI's carbon labeling schemes. As of the end of 2012, the company had received KEITI certification for 47 models in 12 product groups including such products as mobile phones, monitors, PCs, and air conditioners, and parts like LED and semiconductor memories. 'Low-carbon product certification' is given by KEITI to those products whose carbon emissions have been reduced compared to previous models. Samsung Electronics has received the certification for seven models in four product groups.

Global Certification

In 2011, Samsung Electronics received a certification from The Carbon Trust of the UK for its Galaxy S2. It has since received certification for its Galaxy Note and Galaxy S3, its flagship smartphone. In 2012, the company received Japan's Carbon Footprint label for its Galaxy Note2 for the very first time in the electronics industry.

Green Certification in Korea

Green Certification is awarded by KIAT(Korea Institute for Advancement of Technology) under the auspices of the MOTIE to eco-technologies and eco-business that have contributed to energy and resource conservation and GHG emissions reduction. It is one of the Korean government's key initiatives for low carbon green growth.
By the end of 2012, Samsung Electronics had received 21 green technology certificates and one green business certificate for its establishment of a large-scale decomposition and treatment facility for discharge PFC gases from semiconductor processes.

Environmental Health & Safety (EHS) Certification

All of the company's operation sites have received certification from international EHS management systems such as ISO 14001 and OHSAS 18001. Samsung maintains its world-class EHS management by continually fulfilling all requirements for post-evaluations and re-certification audits.
In 2012, Samsung Electronics received the ISO 50001 certification for its energy management systems at six domestic and four overseas operation sites. The company is planning to secure certification of all of its global operation sites by 2015.

ISO 14001 Certification

100%

EHS Certification Status

Region	Description	Site	Rate(%)
Korea	ISO 14001	6	100
	OSHAS 18001	6	100
	ISO 50001	6	100
Global	ISO 14001	34	100
	OSHAS 18001	34	100
	ISO 50001	10	29

Through its Environment Chemicals Integrated Management System (e-CIMS), Samsung Electronics also checks its suppliers' EMS certification status as well as any use of hazardous substances before making a decision to purchase from them. In doing so, Samsung encourages its suppliers to adopt systematic EHS processes and to ensure that no hazardous substances are used in their products without proper management.
As of April 2013, 587 suppliers out of more than 3,500 partner companies have received ISO 14001 certification and are implementing systematic EHS processes.

Water Resource Management

In 2012, Samsung Electronics' industrial water consumption declined sharply due to the separation of the LCD sector, which accounted for 48%* of the company's entire industrial water consumption. municipal water and groundwater consumption experienced slight increases due to added employees, cafeterias and sanitation facilities.

Water Consumption (Global)

68,636 K tons
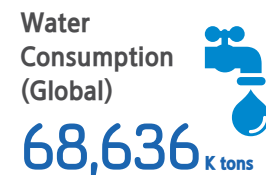
Water Withdrawal

Unit: 1,000 tons

Description	Category	2010	2011	2012
Korea	Industrial Water	91,225	103,562	49,003
	Municipal Water	5,145	5,834	6,014
	Groundwater	180	205	235
	Total	96,550	109,601	55,252
Global	Industrial Water	91,225	103,562	49,003
	Municipal Water	13,457	17,325	18,806
	Groundwater	607	780	827
	Total	105,289	121,667	68,636
Consumption Intensity (tons/KRW 100 M)	Korea	86	91	39
	Global	68	74	41

Waste Water Generation

Description	Region	2010	2011	2012
generation (Unit: 1,000 tons)	Korea	87,639	97,370	43,291
	Global	91,183	102,906	49,289
Wastewater intensity (tons/100 M)	Korea	78	81	31
	Global	59	62	29

Water Recycling

Description		Recycled Water		Recycled Ultra-Pure Water		
		Recycled Quantity (Unit : 1,000 tons)	Recycling Rate (%)	Supply Quantity (Unit : 1,000 tons)	Recovery Quantity (Unit : 1,000 tons)	Recovery Rate (%)
Korea	2012**	34,225	61.9	29,226	13,917	47.6
	2011	81,863	74.7	117,321	59,289	50.5
	2010	72,832	75.4	121,170	67,693	55.9
Global	2012**	42,104	61.3	40,988	21,510	52.5
	2011	90,068	74.0	128,554	66,676	51.9
	2010	79,012	75.0	127,636	72,812	57.0

* Water usage rate of LCD sector in 2011
** The split of the LCD sector and incorporation of the LED sector are reflected in the figures unless otherwise noted

Waste Recycling Rate (Global)

94%

Waste Management

In 2012, Samsung's waste decreased 19% as a result of separation of its LCD sector. Also, the company recycled most waste materials generated by its global workplaces (94%). Namely, Samsung recycled both wastewater processing remnants and waste incineration ash. As a result, the company reduced the amount of waste it sent to landfill by 43%* relative to 2011.
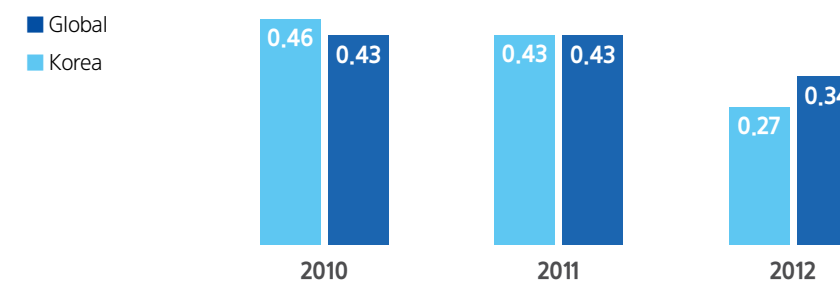
Generation

Unit: tons

Region	Category	2010	2011	2012**
Korea	Recycling	489,492	490,123	364,588
	Incineration	17,173	12,255	9,277
	Landfill	14,252	22,009	5,899
	Total	520,917	524,387	379,764
Global	Recycling	604,266	645,942	543,233
	Incineration	22,742	16,786	16,627
	Landfill	36,144	49,143	19,614
	Total	663,152	711,871	579,474

* Performance of LCD sector in 2011 is exempted from the calculation
** The split of the LCD sector and incorporation of the LED sector are reflected in the figures unless otherwise noted
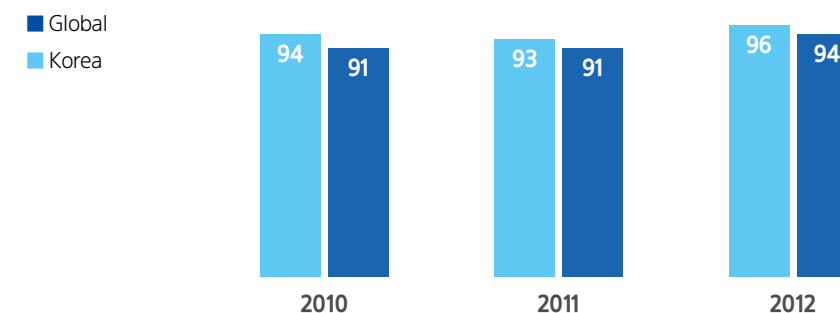
Waste Intensity (Generation/Sales)

Unit: ton/KRW 100 M

■ Global
■ Korea

	2010	2011	2012
Global	0.46	0.43	0.27
Korea	0.43	0.43	0.34

Recycling Rate

Unit: %

■ Global
■ Korea

	2010	2011	2012
Global	94	93	96
Korea	91	91	94

**Air Pollutants
SOx (Korea)**

0.008 tons

Management of Pollutants

In 2012, Samsung Electronics established a two-step waste water treatment system. The system, set up to proactively account for the expansion of Samsung's product lines, seeks to curb increases in both wastewater discharge and contaminant emission. As a result of implementing this system, both the concentration of contaminants and the amount of waste produced has fallen.

Samsung's semiconductor operation sites also adopted an inorganic waste recycling system in 2008. In 2011, the company developed waste recycling technology to further improve upon installed systems. In 2012, Samsung established a revamped recycling system built from the ground up.

Generation of Air Pollutants (Korea)

Unit: tons

	2010	2011	2012**
No$_x$ *	468	409	275
So$_x$	0.059	0.006	0.008
Dust	40	44	21
NH$_3$	10	6	1
HF	12	14	8

Generation of Water Contaminants

Unit: tons

Region	Category	2010	2011	2012**
Korea	COD	584	755	149
	BOD	110	210	92
	SS	56	91	21
	F	244	345	175
	Heavy metals	1.6	21.6	20.2
Global	COD	685	876	306
	BOD	110	210	92
	SS	130	184	84
	F	274	430	241
	Heavy metals	2.2	25.3	20.6

* Special Act on the Improvement of Air and Environment for Seoul Metropolitan Area is applied to the calculation (boiler emission added)

** Figures reflect Samsung's April 2012 structural reorganization, consisting of the separation of the LCD sector and the incorporation of the LED sector

Hazardous Materials Quantity (Korea)

■ Total Quantity (1,000 tons)
■ Intensity (ton/KRW 100 M)

	2010	2011	2012
Total Quantity	252	333	304
Intensity	0.22	0.28	0.22
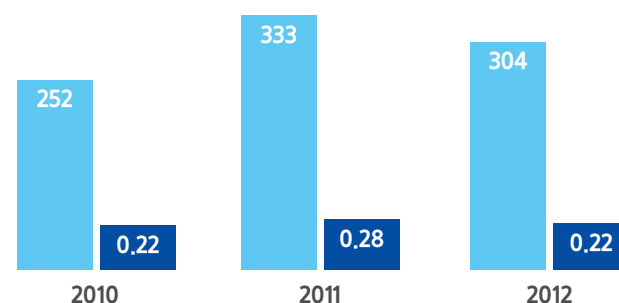
For more on Samsung's green initiatives, please refer to the Samsung Electronics Environment Report, available at the following URL
http://www.samsung.com/us/aboutsamsung/sustainability/sustainabilityreports/sustainabilityreports.html

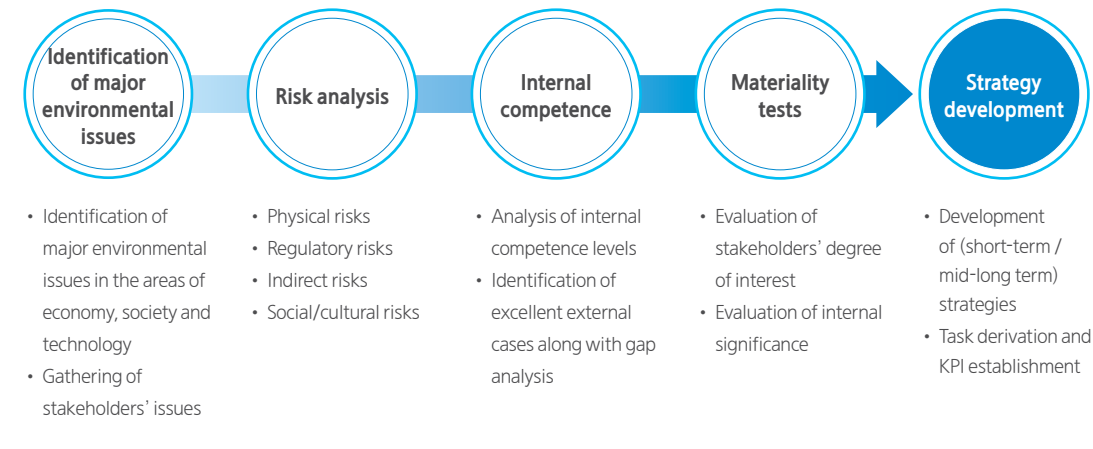# Samsung Electronics Environmental Report

Contents

Green Management Framework

Green Management Strategies

Development of Strategies

In its pursuit of sustainability through green management, Samsung Electronics has identified some major issues through internal and external environmental analysis. Furthermore, through studies on diverse risk factors, it has enhanced its internal competence and developed its green management strategies into the following process:
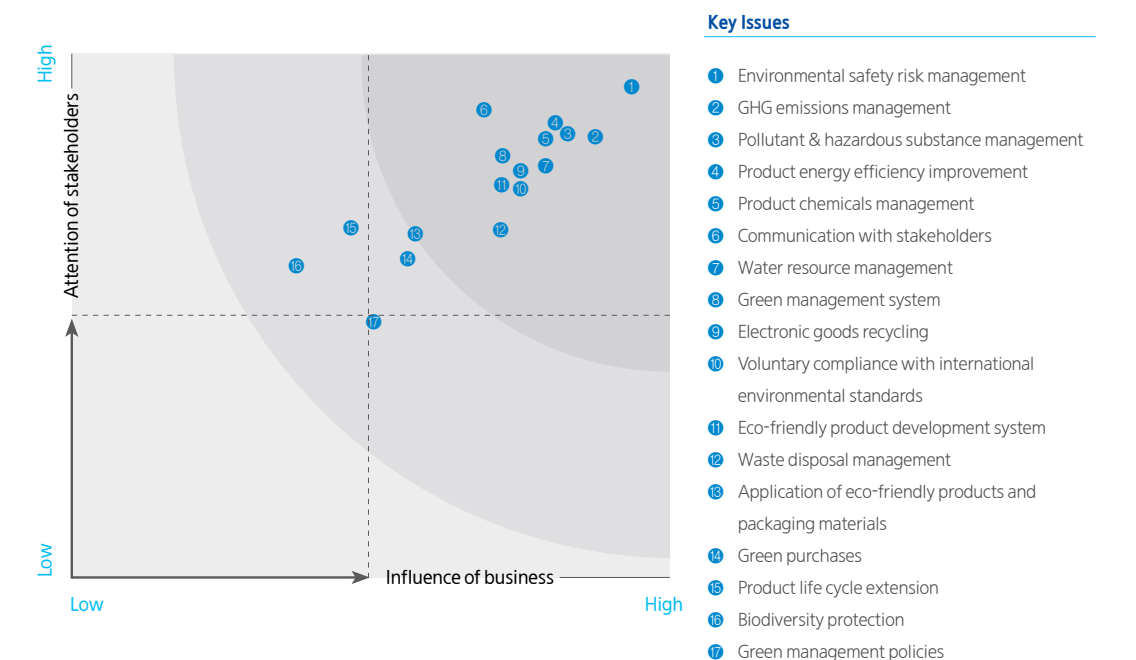
Strategy Development Process

Identification of major environmental issues → Risk analysis → Internal competence → Materiality tests → Strategy development

Identification of major environmental issues
- Identification of major environmental issues in the areas of economy, society and technology
- Gathering of stakeholders' issues

Risk analysis
- Physical risks
- Regulatory risks
- Indirect risks
- Social/cultural risks

Internal competence
- Analysis of internal competence levels
- Identification of excellent external cases along with gap analysis

Materiality tests
- Evaluation of stakeholders' degree of interest
- Evaluation of internal significance

Strategy development
- Development of (short-term / mid-long term) strategies
- Task derivation and KPI establishment

Key Risks and Management Activities

Type	Key Issues	Management Activities
Physical risks	Rise in price of raw materials and oil	· Installation of high energy efficiency facilities · Development of energy use reduction policies
	Intensified water shortage	· Implementation of water resource management strategies and water-related risk management structure
Regulatory risks	Implementation of national energy and greenhouse gas reduction policies	· GHG reduction activities at operation sites · Energy efficient product development and sales
	Strengthening of product-related regulations	· Regular monitoring of activities related to, and compliance with, regulations on energy, hazardous materials, and recycling
Indirect risks	Changes in market and industry	· Development of Eco-Products and strengthening of green marketing
	Increased competition for eco-technologies	· Development and utilization of eco-friendly materials · Release of innovative Eco-friendly products
Social/cultural risks	Changes in consumer preferences	· Expansion of consumer green marketing · Environmental communication with local community residents
	Increased stakeholder demands	· Increased stakeholder communication and response to demands · Responsive information disclosure

Materiality Test

Samsung Electronics has implemented materiality tests for the purpose of systematically managing major issues that affect its management activities. Critical issues identified while evaluating critical issues and its impact on business management in conjunction to the stakeholders' interest include environmental safety risk management, GHG emissions management, pollutant and hazardous substance management, and improvements in product energy efficiency. Communication with stakeholders and the management of product chemicals were also pinpointed as crucial areas. Samsung Electronics will reflect all of these findings in its establishment of long-term goals and the identification of improvement tasks across all aspects of the environment.

Green Management Materiality Matrix

Attention of stakeholders (High / Low) vs Influence of business (Low / High)

Key Issues
1. Environmental safety risk management
2. GHG emissions management
3. Pollutant & hazardous substance management
4. Product energy efficiency improvement
5. Product chemicals management
6. Communication with stakeholders
7. Water resource management
8. Green management system
9. Electronic goods recycling
10. Voluntary compliance with international environmental standards
11. Eco-friendly product development system
12. Waste disposal management
13. Application of eco-friendly products and packaging materials
14. Green purchases
15. Product life cycle extension
16. Biodiversity protection
17. Green management policies

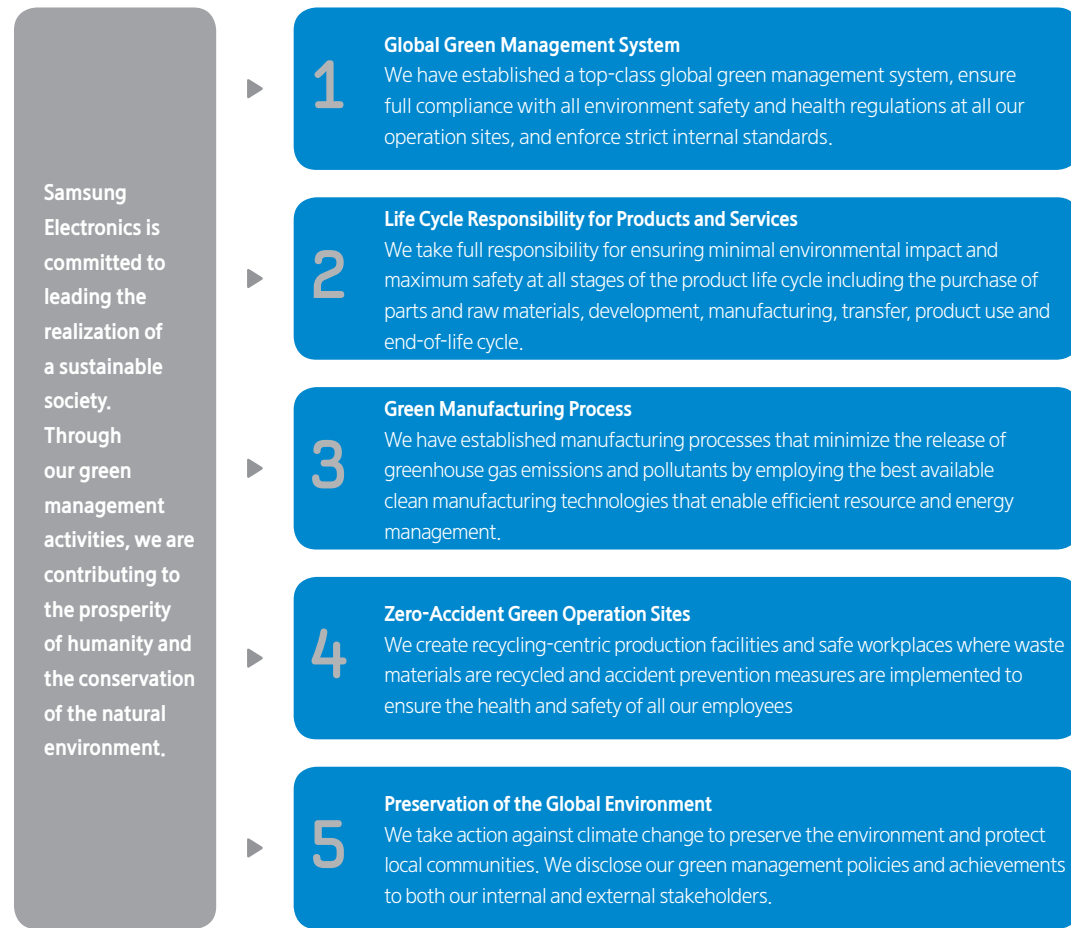## Green Management Vision and Mid-term Goals

Vision and Slogan

Our green management strategy enables us to grow sustainably and invest in the future of both humanity and nature. Samsung Electronics established its green management vision based on our underlying philosophy that we have a duty to help build a prosperous society and preserve the environment through business activities that respect people and nature. Our green management activities are reinforced under our slogan of 'PlanetFirst.'

Basic Philosophy, Vision, and Slogan of Green Management

Basic Philosophy ▶ Contribute to building a prosperous society and preserving the environment through business activities that respect people and nature

Vision ▶ Creating New Value through Eco-innovation

Slogan ▶ 'PlanetFirst' represents Samsung Electronics' commitment to sustainable development and social responsibility through eco-driven business and management activities.

Green Management Policies

<table>
<tr><td rowspan="5">Samsung Electronics is committed to leading the realization of a sustainable society. Through our green management activities, we are contributing to the prosperity of humanity and the conservation of the natural environment.</td><td>**1**</td><td>**Global Green Management System**
We have established a top-class global green management system, ensure full compliance with all environment safety and health regulations at all our operation sites, and enforce strict internal standards.</td></tr>
<tr><td>**2**</td><td>**Life Cycle Responsibility for Products and Services**
We take full responsibility for ensuring minimal environmental impact and maximum safety at all stages of the product life cycle including the purchase of parts and raw materials, development, manufacturing, transfer, product use and end-of-life cycle.</td></tr>
<tr><td>**3**</td><td>**Green Manufacturing Process**
We have established manufacturing processes that minimize the release of greenhouse gas emissions and pollutants by employing the best available clean manufacturing technologies that enable efficient resource and energy management.</td></tr>
<tr><td>**4**</td><td>**Zero-Accident Green Operation Sites**
We create recycling-centric production facilities and safe workplaces where waste materials are recycled and accident prevention measures are implemented to ensure the health and safety of all our employees</td></tr>
<tr><td>**5**</td><td>**Preservation of the Global Environment**
We take action against climate change to preserve the environment and protect local communities. We disclose our green management policies and achievements to both our internal and external stakeholders.</td></tr>
</table>

Mid-term Plan (Eco-Management 2013)

In 2009, Samsung Electronics announced EM 2013 (Eco—Management 2013), its mid-term green management plan, at its green management declaration ceremony. The plan calls for the fulfillment of two key objectives: a 50% reduction in GHG emissions in terms of KRW-based sales, and a 100% launch of eco-friendly products that are eligible for global eco marks. Samsung Electronics is pushing hard for the success of nineteen detailed tasks in three major areas: Green products (Products), Green operation (Operation Sites), and Green communication (Communication).

EM2013 Core KPIs and Achievements

Area	Indicator	2012		2013 Goal
		Goal	**Performance**	
GHG reduction (Korea)	GHG emissions relative to sales (tons CO_2/KRW 100 million)	2.87*	2.54*	2.38*
Eco-Product development rate	Proportion of Good Eco-Products (%)	97	99	100
	Proportion of Good Eco-Devices (%)	87	88	100

* This is an adjusted figure resulting from the corporate reorganization (which involved the separation of the LCD division from the company and the integration of the LED business into the company) undertaken in April 2012.

Investment in Green Management

In order to consider economic profitability and environmental sustainability through green management, Samsung Electronics continuously monitors its green management investment costs. The company uses the information when planning to reduce environmental impact of its business activities and improve environmental achievements. Samsung Electronics is making investments in green management as follows:

Investment in Green Management

unit: KRW 100 million

Category	Investment Contents	2010	2011	2012
Investment in green facilities	Investments in facilities to prevent air and water pollution and reduce waste (i.e. the installation of underground wastewater treatment facilities at the Suwon operation site, and the replacement of transformers and LED lights at the Gumi operation site)	1,744	3,607	2,309
Site operation expenses	Expenses paid to operate pollution prevention and treatment facilities (power consumption, chemical, labor, accreditation, etc.)	3,626	3,423	2,606
Total		5,370	7,030	4,915

* The 2010 and 2011 figures include those for the LCD division while those for 2012 do not as the division was separated from Samsung Electronics to become Samsung Display Co., Ltd. in 2012

External Recognition

Samsung Electronics' continuous launch of eco-products and its efforts to reduce GHG emissions are very highly recognized in the international arena.
In 2009, Samsung Electronics was incorporated into the DJSI (Dow Jones Sustainability Index). In 2012, among the 3,000 largest global companies, it was rated as the top environmental performer in the semiconductor division. In recognition of the transparency of its GHG management statistics, it was incorporated into the CDLI (Carbon Disclosure Leadership Index) for the fourth year in a row in 2012, a first for a Korean company.
Samsung Electronics was honored with twenty-nine awards from around the world for its eco-friendly products and accomplishments in green management in 2012.

2012 Recognition of Excellence in Environmental Management

Name	Month	Contents
Kyunghyang Shinmun Sustainability Index	May	Ranked 3rd in environmental protection among Korea's 100 biggest companies
Best Global Green Brands ranking (Interbrand)	July	Ranked as the 25th eco-friendly brand among the world's 50 best eco-friendly brands
ESG Evaluation by the KCGS (Korea Corporate Governance Service)	Aug	Awarded 'class A' among Korea's listed companies in the area of environmental protection
Dow Jones Sustainability Index (DJSI)	Sep	Ranked No. 1 among 3,000 Dow Jones companies in the semiconductor sector against for environmental preservation
CDP (Carbon Disclosure Project)	Sep	Incorporated into the CDLI for four years in a row, a first for a Korean company
Newsweek Green Ranking	Oct	Ranked 7th in the technology sector among the world's 500 largest companies
The JoongAng Ilbo Green Ranking	Oct	Ranked No. 1 in the IT industry among Korea's 100 biggest companies for two consecutive years

2012 Environmental Awards

Region	Name	Host	Month	Contents
Global	SEAD Global Energy Efficiency Award	Clean Energy Ministerial	Oct.	The most efficient TVs in America, Europe, Australia and India (UE26EH4000, UE40EH5000)
Korea	Excellent Eco-label Company	Korea Environmental Industry & Technology Institute	Apr.	The Minister of Environment's award for excellent eco-label companies
	Korea STAR Award	Ministry of Knowledge Economy	May	Reusable refrigerator packaging material
	Green Star Certification Award	Korea Management Association	June	Washing machine, Refrigerator, Kimchi Refrigerator, Air conditioner
	Energy Winner Award	Consumers Korea	June	Totally 10 energy efficient products (TV, Monitor, Notebook, Refrigerator, etc)
	Korea Consumer Well-being Index Certification Award	Korean Standards Association	Aug.	Galaxy brand ranked 1st in the mobile phone sector
	Green Product of the Year	Green Purchasing Network	Oct.	Recognition for three consecutive years
	National Green Tech Award	Ministry of Knowledge Economy	Dec.	Prime Minister Award (20nm NAND flash memory technology)
U.S.A.	CES Eco-design Award	Consumer Electronics Association	Jan.	Notebook, Printer, Memory, LED lamp
	BLI Outstanding Achievement Award	Buyers Laboratory Inc	Jan.	Monochrome Printer Line of the Year
	Energy Star Award	Environmental Protection Agency	Mar.	Partner of the Year for two consecutive years
	TreeHugger's Best of Green Awards	TreeHugger	Apr.	Evergreen(SGH-A667) mobile phone
	Industry Pioneer Award	IERCE	May	Recognition for notable achievement for responsible recycling
	Environmental Leadership Award	City of Fresno	May	Recognition for excellence in promoting responsible recycling
	BGCA Partnership Award	Boys and Girls Club of America	Oct.	Recognition for supporting BGCA as energy efficiency education
	State Electronics Challenge Award	Northeast Recycling Council	Oct.	Recognition for promotion of responsible recycling for large institutions
U.K.	Which Energy Saver Award	Which Magazine	Sep.	Selected as the most energy efficient TV(55ES8000)
	Green Apple Award	Green Organization	Nov.	Solar powered notebook
Germany	iF Material Award	International Forum Design Hannover	Feb.	Eco-friendly material used in outer case of mobile phone
Italy	Friends of the Earth Award	Friends of the Earth	May	Energy efficient technology like the LED TV, LED ramp
	Lumen Award	Assodel	Oct.	Awarded in the energy efficiency category(55ES8000)
France	The Communication of Fair Biz Award	Ministry of Environment	Apr.	Recognition for recycling scheme of toner cartridge
China	Top Green Company Award	Daonong Center for Enterprise	Apr.	Recognition for green management in China
	Energy Conservation Award	Energy Conservation Association	May	Awarded for three consecutive years

Region	Name	Host	Month	Contents
China	Energy Efficiency Star Award	Ministry of Industry and Information Technology	Sep.	Selected as high efficiency products (UA55ES6100, PS60E530A6R)
	Sustainable Development Award	The Economic Observer	Oct.	Recognition for the excellent eco-friendly products
	Green Medal Award	Business News	Nov.	Recognition for using the advanced technology in green products' research
Aisa	Asia Packaging STAR Award	Asian Packaging Federation	Oct.	Reusable refrigerator packaging material

CES Eco-Design Innovations Awards

In January 2013, four Samsung Electronics' products (notebook PC, printer, memory, and LED lamp) were awarded Eco-Design Innovation Awards at the CES 2013, the largest consumer electronics show in North America.

Product	Model	Eco-friendly characteristics
	Notebook (Series 9)	• Eco-Mode feature • Power-saving parts and high-capacity battery
	Printer (CLP-365W)	• Application of low-temperature printing toner • Support of eco-button printing mode
	Memory (DDR3 64GB LRDIMM)	• Memory module for low- power server • Reduced energy consumption compared to 50nm DDR3 RDIMM
	LED Lamp	• Remote-controllable power-saving LED lighting fixture • 75% energy reduction compared to an 60W incandescent lamp

Energy Star's 'Sustained Excellence' Award

For the first time in its history as a consumer electronics company, Samsung Electronics was awarded 'ENERGY STAR of the Year -Sustained Excellence', the highest honor, at the 2013 Energy Star Awards ceremony co-hosted by the EPA (Environmental Protection Agency) and the DOE (Department of Energy) of the United States. The awardees are chosen from among companies that have received 'ENERGY STAR Partner of the Year' on more than two occasions. Samsung is said to have been selected for its outstanding contributions to reducing GHG emissions through its launch of high-efficiency products and continuous efforts to reduce energy consumption in its manufacturing processes.

Green Management Implementation Structure

Consultation Organizations

Samsung Electronics has set up several green management consultation organizations and clarified their roles, responsibilities, and authority. The CS & Environment Center, under the direct control of the CEO, sets up green management strategies and monitors the progress of the company's key tasks; helps each operation site to establish policies to cope with climate change and to control GHG emissions from all of their work processes; and supports suppliers' efforts to implement green management. The center also controls all the company's green management activities including Eco-design, hazardous substance management, compliance with energy regulations, and E-Waste recycling. Meanwhile, the Environment & Safety Center takes a leading role in the implementation of green operations at the company's business sites across the world in close collaboration with the environmental safety departments of the operation sites. It also analyzes environmental safety risks at all its global operation sites and carefully follows changes in the global environmental regulations as well as different countries' national policies regarding environmental protection. To that end, it designates two employees (one leader and one assistant) at each operation site to take full charge of environmental issues including compliance with regulations and the promotion of eco-friendly activities.

Corporate Green Management Consultation Group

Name	Tasks	Head	Frequency
Environmental Safety Council	Discussions and decision making with regard to environmental safety policies	CFO	Biannual
Eco-Product Council	Establishment of plans and strategies for the development of high-efficiency eco-products	CS & Environment Center	Biannual
Environmental Safety Strategy Council	Strategic discussions about the entire company's environmental safety and healthcare issues	HR Head	Quarterly
Climate Change Working Group	Decisions on practical tasks for coping with climate change, and monitoring of their progress	Head of Environmental Strategies	Five times a year

Employee Training

In order to raise the employees' awareness of the importance of environmental management, Samsung is running a total of 32 green management courses in four major areas, i.e. basics, regulations, duties, and overseas.

On the understanding that green management can succeed only with the active participation of all its employees, Samsung Electronics educates its employees on a continuous basis for the purpose of ensuring that they fully understand the characteristics of the industry in which the company is involved and the significance of green management.

The basic course, which must be attended by all its employees, deals with the company's philosophy and policies. The regulations course covers legally required preventive measures against accidents and safety hazards. It is also intended for all employees as well as the personnel in charge of environmental safety at every operation site.

The duties course ensures that the employees charged with product environment and environmental safety at operation sites are equipped with expert knowledge about their duties. Finally, the overseas course is designed to educate the personnel at overseas product, sales subsidiaries, including local recruits, about all the environmental safety requirements and regulations with which they must comply.

Basics Course

Regulations Course

Duties Course

Environmental Achievement Management

Achievement Management and Employee Compensation

G-EHS System

Samsung Electronics operates the G-EHS (Global Environment Health Safety System) to systematically manage environmental safety information including the company's goals and achievements concerning the reduction of GHG emissions, compliance with product environment regulations, and environmental safety accident prevention. As a way of enhancing its competence, Samsung Electronics ensures that all the information on the company's green management efforts is shared among all the relevant departments, and that all the company's performances and accomplishments are monitored through the G-EHS.

Meanwhile, Samsung Electronics invigorates its green management by providing diverse compensation packages to organizations and individuals in recognition of their outstanding contributions to green management.

Each year, Samsung Electronics presents 'SAMSUNG GROUP Green Management Awards' to those of its operation sites and suppliers that have made outstanding achievements in the area of green management. Also, through the 'Samsung Electronics Annual Awards,' the company recognizes the contributions made by the company's organizations and individuals in the area of green management with prizes and additional points on their performance appraisals.

Environmental Cost Management

Samsung Electronics calculates its environmental effects and accomplishments in monetary terms, and discloses the results to all its stakeholders.

The information includes the analysis of cost effectiveness of green management in terms of economy and environmental protection; this is instrumental to the company's decision-making process.

The environment department at each operation site manages the funds required for environmental facilities and their operation. The environment strategy team at the CS & Environment Center tallies the costs and expenses of each operation site annually and presents the calculation of the entire company's total yearly costs and expenses.

The environmental costs of each operation site are tallied according to the guidelines of the Ministry of Environment. The information is revealed to stakeholders upon request. The environmental budget of every operation site is calculated and implemented in accordance with the rules associated with the entire company's management planning process.

Environmental Audit

Samsung Electronics carries out internal and external environmental audits in order to determine the current status of its green management and fix any potential problems.

The company examines the status of hazardous substance and energy management at each operation site annually. Through the eco-partner certification system, it regularly assesses its supply chain's environmental management status and makes any necessary improvements

When building or expanding its overseas production facilities, the company thoroughly reviews their impact on environmental safety. Each year it gets independent agencies to examine the entire facility infrastructure to ensure that the facilities qualify for the extension of their ISO 14001 and OHAS 18001 certificates.

Information Disclosure

Samsung Electronics' Official Website
http://www.samsung.com/us/aboutsamsung/sustainability/
environment/environment.html

Through the publication of its annual sustainability report, Samsung Electronics discloses its green management strategies, goals and accomplishments in such areas as GHG emissions, eco-products, eco-friendly operation sites and communication with its stakeholders.
It makes all the above information available on its website so that stakeholders can consult it easily.
Samsung Electronics participates in the CDP (Carbon Disclose Project). It reveals all of its activities related to climate change response to its stakeholders. The fact that Samsung Electronics participates in the CDP means that it proactively discloses all the measures it takes to cope with climate change.
Set up in 2000 as a non-profit organization, the CDP assesses and analyzes the climate change response activities carried out by companies incorporated into the FTSE 100 Index and the progress they make. It has revealed the results to institutional investors around the world since 2003.
In 2012, through the CDP, a total of 655 global institutional investors, which together are estimated to be managing US$78 trillion in investment funds, were supplied with information on major global companies' actions on climate change and the progress they have made to date.

Support of Suppliers' Green Management

Support of the EMS (Environmental Management System)

Founded in 1981, the Samsung Supplier Council meets quarterly to deal with green management at its directors' meetings and subcommittee meetings. Through the e-CIMS (environment-Chemicals Integrated Management System), Samsung Electronics checks whether a supplier in question is EMS-certified and uses hazardous substances in its production process or not. The company eventually ensures that the supplier's products never contain any hazardous substances through its systematic approach to the issue.
Out of approximately 3,500 suppliers, 587 suppliers have obtained ISO 140001 certificates and are implementing systematic environmental management as of April 2013.

Partner Companies' Acquisition of the EMS (ISO 14001) Certification

Region	Korea	China	Asia	Others	Total
No. of Certified Companies	207	174	141	65	587

Green Purchases

Recognizing the importance of green production and consumption, Samsung Electronics established guidelines for the preferential purchase of eco-products and internal regulations for green purchase in 2007.
With the addition of the principle of preferential purchase to the company's existing product purchase regulations, Samsung Electronics urges its operation sites to purchase eco-friendly office supplies while recommending its employees to buy eco-products for their personal use. For the full details of green purchase, please refer to 'Green Purchase' on page ENV26, ENV27.

Management of hazardous Substances (Eco-Partner Certification)

Samsung Electronics implements an internal eco-partner certification system to minimize negative impacts in its suppliers' parts and materials. It helps them to continue to qualify as its eco-partners through diagnosis programs and education. Samsung Electronics tests all the raw materials of its more than 800 suppliers.
For details of Samsung Electronics' eco-partners, please see 'Management of Supply Chain Product Chemicals' on page ENV29.

Support for Reductions in GHG Emissions

Samsung Electronics supports its suppliers' efforts to reduce their GHG emissions in a variety of ways.
In 2012, it participated in the Energy Saving Collaboration Project between Large company and SMEs of their suppliers supported by the MOTIE. Samsung Electronics carried out energy diagnoses of five of its suppliers and presented them with more than 30 energy consumption reduction tasks.
The company will continue to support its suppliers' efforts to reduce their energy consumption.
For further details of the company's efforts to reduce its suppliers' GHG emissions, please refer to 'Suppliers' Emissions' on page ENV20.

Ban on the Use of Conflict Minerals

As a member company of the EICC, Samsung Electronics participates in the ban on the use of conflict minerals.
The company takes part in the EICC's major programs including the development of methods of investigating the use of conflict materials and the certification program for smelting factories. It urges its suppliers and other companies in Korea which are using the four major conflict materials to stop using them.
For details of the ban on the suppliers' use of conflict materials, please follow the links:
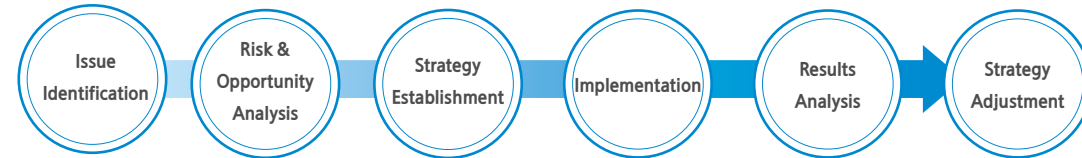http://www.samsung.com/us/aboutsamsung/sustainability/suppliers/conflictminerals/

Climate Change Mitigation

Climate Change Strategies

Risks and Opportunities

Response Processes

With respect to the risks and opportunities involved with climate change, Samsung Electronics has set up a six-stage response process ranging from the identification of major issues to the adjustment of its strategies.

Issue Identification → Risk & Opportunity Analysis → Strategy Establishment → Implementation → Results Analysis → Strategy Adjustment

Analysis of Risks and Opportunities

Samsung Electronics conducts multi-faceted evaluations of the risks and opportunities involved in climate change. It determines the significance of the pertinent issues and rates their priorities under the following five criteria:

Criteria of Risk and Opportunity Analysis

Criteria	Details
Significance to stakeholders	Concerns of stakeholders such as customers, evaluators and NGOs.
Industry (competitor) benchmarking	Peers and competitors' reaction to the issue
Degree of impact on the company	Impacts on companywide policy, strategy, goal, and others, as well as direct financial impacts (i.e. short/medium/long-term financial impacts)
Company's internal competence	Having reasonable control over the issue, and degree of readiness in capital (HR & asset) to deal with related issues
Risk probability	Probability of events and amount of time left before potential enforcement of a regulation

Risk Management

Through its risk analysis process, the following climate change risks have been identified and the company has taken the appropriate countermeasures as follows:

Risk Management Activities

Category	Types of Risk	Risk Management Activities
Regulatory risks	• Management of emission goals and compliance with disclosure obligation • GHG emissions trading scheme • Regulations on product energy efficiency and labeling requirements • Uncertainty about new regulations	• Operation of GHG emissions reduction management system and third-party verification • Operation of GHG emissions trading scheme and establishment of the related system • Enhanced research on energy efficiency and increased energy mark acquisition • Strengthened monitoring system of worldwide environmental regulations
Physical risks	• Typhoons and yellow dust • Flooding and drought	• Risk identification and manual updates through regular, special and external investigations of operation site facilities
Other risks	• Reputational risks • Changes in consumer behavior	• Strategic response to the Eco-Product Exhibition and evaluations • Development of products by drawing on insights from consumer research

Capitalizing on Opportunities

Samsung Electronics has identified the following opportunities associated with climate change through its opportunity analysis process, and carried out the following opportunity creation activities:

Opportunity Creation Activities

Category	Opportunities	Opportunity Creation Activities
Regulatory Opportunities	• GHG Emissions trading scheme Product efficiency regulations and standards	• Promotion of CDM for operation sites and products and acquisition of GHG emissions rights • Launch of high-efficiency products enhanced
Physical Opportunities	• Rising demand for air conditioners due to surging average temperatures • Rising demand for improvements in water and indoor air quality	• Reinforcement of system A/C business • Aggressive launch of air purifiers and development of water treatment technologies
Other Opportunities	• Boosted brand values of low-carbon companies and their products • Increased necessity to reduce energy costs	• Expanded acquisition of low-carbon certification and labeling • Expanded application of BEMS (Building Energy Management System)

Management System

Samsung Electronics has organized its climate change response system as follows:

Climate Change Response System

Organization	Tasks	Head	Meeting Frequency
Environmental Safety Council	Establishment of strategies to tackle climate change and making of decisions concerned	CFO	Biannual
Eco-Product Council	Establishment of development targets and implementation strategies for new highly efficient low-power products	Head of the CS & Environmental Center	Biannual
Environmental Safety Strategy Council	Addressing major issues and strategies involved in climate change responses	Head of the HR Team	Quarterly
GHG/Energy Committee	Determination of specific implementation tasks for climate change response and management of the progress thereof	Head of the Environmental Strategy Team	Five times a year

Goals and Strategies

Climate Change Response Strategies

Samsung Electronics has set the GHG emissions reduction targets for its operation sites relative to KRW-based sales and those for the product use phase as its key goals. It pursues the goals in accordance with its implementation strategies. Samsung Electronics also manages the GHG inventory of its indirect sector (Scope 3) including employees' business trips, logistics, and suppliers' business activities. It fully supports suppliers' efforts to reduce their energy consumption.

Climate Change Response Strategies

Category	Strategies
GHG reduction at operation sites	• Installation of F-gas treatment facilities at semiconductor production lines
Energy management at operation sites	• Application of energy certification for new semiconductor facilities (since 2011) • Introduction of the Energy Management System (ISO 50001) to all global operation sites in 2013 • A 13% reduction in the energy cost ratio in 2013 compared to 2008 (1.01% → 0.88%)
GHG reduction at the product usage phase	• A 40% reduction in average product power consumption in 2013 compared to 2008 • Meeting the goal of less than 0.5W in standby power for all its products by 2013
Management of the GHG Scope 3 inventory	• Management of the GHG inventory from logistics, employees' business trips, and suppliers' business activities (since 2009)
Support for suppliers	• Energy diagnosis and consultation on suppliers' energy reduction efforts (since 2012)

GHG Reduction KPIs

Samsung Electronics is inevitably faced with certain restrictions on its efforts to reduce the absolute quantity of its GHG emissions because its turnover has been increasing by more than 10% each year in recent years. Thus, as its first GHG reduction KPI, it has selected the reduction of GHG emissions per unit sales. Although the absolute quantity has increased somewhat, Samsung Electronics is contributing to lessening increases in global GHG emissions by reducing its GHG emissions to generate the same value added by more than 50% in 2013 compared to 2008.

GHG Reduction Accomplishments

In 2012, Samsung Electronics' GHG emissions relative to KRW-based sales were 2.54 tons of CO_2 per KRW 100 million, or 15% less than the yearly target of 2.87 tons of CO_2. Until 2012, accumulated reductions in GHG emissions at the phase of product use were 58.34 million tons or 14% more than the targeted quantity of 51.08 million tons. The target for 2013 (EM2013), originally set in 2009, was almost accomplished in 2012.

GHG KPIs and Accomplishments

KPI	Description	2010	2011	2012**	2013**
Korea GHG emissions reductions relative to sales* (ton CO_2/KRW 1 million)	Goal	5.65	4.62	2.87	2.38
	Performance	5.11	4.46	2.54	-
	Reduction (%, compared to 2008)	31	40	47	50
Global accumulated reductions at the product use phase (unit: 10,000 tons)	Goal	1,169	2,695	5,108	8,468
	Performance	1,529	3,292	5,834	-

* Korea KRW-based emissions formula: Total CO_2 emissions(1) ÷ (HQ-based sales / price index(2))
  (1) Total GHG emissions (converted into CO_2) from Korean manufacturing sites
  (2) Producer price indices (PPI) released by the BOK for the years (basis value: 1 in 2005)
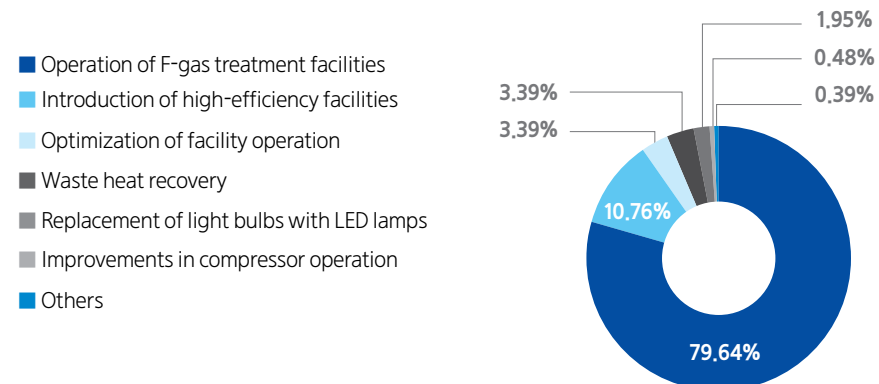** The figures reflect the structural reorganization, including separation of the LCD business division and incorporation of the LED division undertaken in April 2012.
※ 2008 KRW-based base value: 7.44 tons of CO_2/KRW 100 million prior to reorganization and 4.75 tons of CO_2/KRW 100 million after reorganization.

2013 GHG Reduction Plans

In order to meet its GHG reduction goals for 2013, Samsung Electronics is implementing a variety of GHG reduction measures including the operation of F-gas treatment facilities, the introduction of high-efficiency facilities, and the replacement of lighting fixtures with LED lamps.

2013 GHG Reduction Plan

- Operation of F-gas treatment facilities
- Introduction of high-efficiency facilities
- Optimization of facility operation
- Waste heat recovery
- Replacement of light bulbs with LED lamps
- Improvements in compressor operation
- Others

1.95%
0.48%
0.39%
3.39%
3.39%
10.76%
79.64%

Breakdown of Corporate GHG Emissions

2012 GHG Emissions Breakdown

unit: 1,000 tons of CO_2

Employees' Business Travel 128

Production 7,499
Logistics 10,125
Product Use 25,980

Scope 1& 2 Management

Scope 1 &2 Management Processes

Emissions Management System

Samsung Electronics has selected the global operation sites and buildings for which operational control management is practically possible as the objects of its GHG management. The selected sites and buildings include six manufacturing sites and 54 R&D facilities and buildings in Korea, and 28 production facilities and 76 non-manufacturing facilities for sales, logistics, or R&D overseas. The GHG emissions of all of these sites are tallied by the G-EHS, the company's environmental management system. The HQ department in charge keeps track of the performance of each operation site and, in the event that the reduction goal is not met, works on countermeasures together with the site in question. The GHG reduction goals and performances are updated on a monthly basis and shared through the G-EHS by all those concerned including the personnel at the operation sites, HQ staff and the company's top management executives.

Emissions Calculation Standards

GHG emissions in different countries are calculated according to the provisions of the GHG management guidelines of each country. Matters which are not covered by the national guidelines are determined by international standards such as the IPCC Guidelines and ISO 14604.

Scope 1 & 2 Emissions

In 2012, Samsung Electronics' absolute GHG emissions were reduced largely as a result of the restructuring undertaken in April 2012, i.e. separation of the LCD business division and integration of the LED division.
GHG emissions in 2011 amounted to 3.13 tons of CO_2 per KRW 100 million in sales, while the figure for 2012 was 2.54 tons of CO_2, showing a 19% decrease over 2011 with the structural reorganization reflected therein.
Each operation site is taking a variety of reduction measures such as introduction of process gas reduction facilities, enhancement of the energy efficiency of production facilities, and introduction of highly efficient facilities in order to meet their emissions reduction targets.

GHG Emissions Intensity

Unit: ton of CO_2 KRW 100 million

Location	Description	2010	2011	2012***
Korea*	Goal	5.65	4.62	2.87
	Performance	5.11	4.46 (3.13***)	2.54
Global**	Performance	4.15	3.70	2.34

* Korea KRW-based emissions calculation formula: Total CO_2 emissions(1) ÷ (HQ-based sales / price index(2))
  (1) Total GHG (converted into CO_2) emissions from manufacturing sites in Korea
  (2) The Bank Of Korea's PPI for the years (with the 2005 PPI being 1)
** Global KRW-based emissions formula: Total global CO_2 emissions ÷ (annual global sales / price index(2))
*** The figures reflect the structural reorganization, consisting of separation of the LCD business division and incorporation
  of the LED division, undertaken by the company in April 2012.

GHG Emissions(Scope 1,2)

Unit: 1,000 tons of CO_2

Area	Scope	2010	2011	2012**
Korea	Scope 1	4,057	3,924	1,943
	Scope 2	5,552	6,031	4,061
	Total	9,609	9,955	6,004
Global	Scope 1	4,155	4,045	2,098
	Scope 2	6,500	7,259	5,388
	Total	10,655	11,304	7,486

* The GHG emissions for 2009 onward were altered in June 2011 as required by the national guidelines on the GHG reduc-
  tion goal management system. The changes were verified by a third party. The recent figures differ from the numbers
  given in earlier sustainability reaports accordingly.
** The figures for 2012 reflect the structural reorganization, consisting of separation of the LCD business division and incor-
  poration of the LED division, undertaken by the company in April 2012.

Six Major GHG Emissions (Global)

Unit: 1,000 tons of CO_2

	2010	2011	2012
CO_2	7,012	8,378	5,943
CH_4	2	2	2
N_2O	212	220	278
HFCs	117	108	134
PFCs	915	859	1,015
SF_6	2,397	1,738	115
Total	10,655	11,304	7,486

Third Party Verification of GHG Data

The third party verification agency for Samsung Electronics is the Korean Foundation for Quality (KFQ). The objects of verification includeKorea and global GHG emissions. The period is from 2007 to 2012. .

The Third Party Verification Certificate for 2012 GHG Emissions

GHG Reduction Activities

To meet both its own internal goals and those assigned by the Korean government, Samsung Electronics undertook almost 700 projects to conserve energy and reduce process GHG emissions worldwide in 2012. It reduced its GHG emissions by a total of 980,000 tons compared to BAU (Business as Usual).
Eighty-seven percent of the reductions came from semiconductor process gas treatment facilities. Thirteen percent came from the reduced consumption of electricity and LNG due to the introduction of highly efficient facilities, the reuse and recycling of waste heat and the improvement of operation methods.

GHG Reductions through Improved Efficiency of Air Dryer Facilities

Typically, 4% of compressed air is lost in the production of compressed air required for facility operation. To solve the problem, Samsung Electronics improved its pneumatic system with the introduction of a non-purge type of dryer among other elements, thereby saving a total of 6,132MWh of electricity and reducing GHG emissions by 2,859 tons.

GHG Reductions through the Introduction of F-Gas Treatment Facilities

In order to treat F-Gas, one of the six major greenhouse gases, used in semiconductor etching and vacuum evaporation processes, Samsung Electronics has installed F-Gas treatment facilities at each of its production lines since 2007. Recently, the company installed an integrated type of facility for new or expanded production lines. As a result, the company reduced GHG emissions by 850,000 tons in 2012.

GHG Reductions through Replacement with LED Lamps

In 2012, Samsung Electronics replaced the lighting fixtures at its operation sites and major office buildings in Korea with high-efficiency LED lamps. The replacement initiative also covered lamps outside facilities and buildings. Overall it saved about 5,160MWh of electricity and reduced GHG emissions by about 2,406 tons in 2012.

Scope 3 Management

Scope 3 Management Processes

### Emissions Management System

Samsung Electronics aims to identify the potential impact of climate change on its supply value chain and manage the associated risks, while taking advantage of potential business opportunities from such circumstances.
For its Scope 3 management range, the company has selected the emissions generated by its global suppliers' operation sites, product use, product and part logistics, and employees' business travel in Korea and overseas. It is currently planning to expand the range of Scope 3.
Suppliers' GHG emissions are measured through the activity data which they supply to the company. Emissions generated by logistics and business trips are supplied by internal systems for automatic calculation by the G-EHS.
GHG emissions during product use are calculated with the information on product energy consumption on the one hand and the product usage scenario on the other. The company adjusts its GHG reduction goals according to the improvements made in energy efficiency every year.

Scope 3 Management Range

Raw materials → Parts → Manufacturing → Logistics → Consumer use → Waste · recycling

Employees' business travel
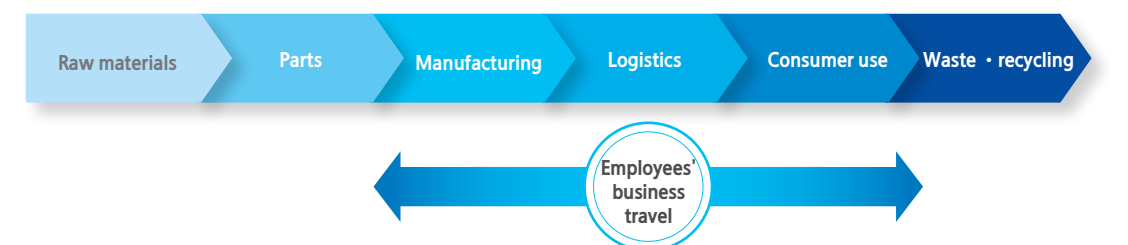
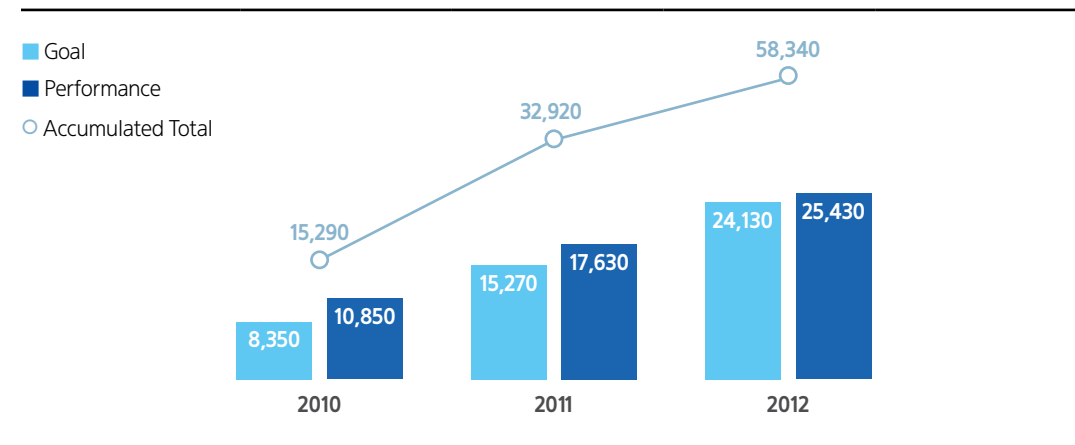## GHG Emissions from Product Use

Samsung Electronics defines the indirect GHG emissions from electricity consumed during product use as 'GHG emissions at the phase of product use.'

The company converts the annual improvement effects of each product in terms of energy efficiency into GHG emissions reductions. Although its product sales increase every year, GHG emissions during product use have decreased due to improvements in the energy efficiency of Samsung Electronics' products. In 2012, Samsung Electronics improved its average product energy efficiency by 30% compared to BAU in 2008 and reduced GHG emissions by a total of 25,420 tons. Since 2009, it has indirectly reduced GHG emissions by an accumulated total of 58.34 million tons.

Emissions Calculation Standards: Corporate Value Chain (Scope 3) Accounting and Reporting Standard of World Resources Institute (WRI)

GHG Reductions at the Phase of Product Use

Unit: 1,000 tons of CO_2

- ■ Goal
- ■ Performance
- ○ Accumulated Total

	2010	2011	2012
Goal	8,350	15,270	24,130
Performance	10,850	17,630	25,430
Accumulated Total	15,290	32,920	58,340

* The calculation of the carbon reduction goal is based on the assumption of an annual increase of 10% in the company's sales since 2008.

** The calculation range: all products sold worldwide (parts excluded)

Example of GHG Reductions during Product Use

In January 2013, Samsung Electronics received approval from the United Nations Framework Convention on Climate Change (UNFCCC) for the UN's Clean Development Mechanism (CDM) project based on the sales of its highly energy efficient refrigerator range in India.

The CDM project is based on the tradable permit system authorized by the U.N. Once a country or company voluntarily makes investments in GHG reductions, obtains approval from the United Nations, and reduces its greenhouse gas emissions accordingly, the U.N. recognizes the amount as a CER (Certified Emission Reduction).

Samsung Electronics is recognized as having launched highly energy efficient products continuously, reduced consumers' energy bills, and contributed to reducing GHG emissions in communities through its voluntary investments. Samsung Electronics is planning to secure about 2.63 million tons of CER over the next ten years: It will compare the energy efficiency of all two-door refrigerators sold by various companies in India to that of Samsung Electronics' refrigerators sold in the country since 2010. It will then convert the electricity consumption saving into its GHG emissions reductions.

GHG Emissions from Logistics

Samsung Electronics monitors GHG emissions produced by product, materials and parts logistics.

The company's logistics emissions are rising every year owing to the marked expansion of its global business, including a burgeoning number of subsidiaries and increasing production and sales around the world.

In 2012, its logistics emissions increased by 20% over 2011 to 10.12 million tons. Yet the emissions relative to KRW-based sales decreased by 2% in the same period.

To reduce its logistics emissions and improve load efficiency, the company continues to launch ever lighter and slimmer products, endeavors to use low-carbon means of transportation, and develops optimal transportation routes.

Standards for Emissions Calculation: Corporate Value Chain (Scope 3) Accounting and Reporting Standard, World Resources Institute (WRI)

GHG Emissions from Logistics by Transportation Mode (Global)

Unit: 1,000 tons of CO_2

Description		2010	2011	2012**
Global	Air	1,250 (17%)	2,017 (24%)	2,952 (29%)
	Sea	6,071 (82%)	6,320 (75%)	7,086 (70%)
Korea	Rail/Road	111 (1%)	104 (1%)	87 (1%)
Total Emissions		7,432	8,441	10,125

GHG Emissions from Logistics by region (Global)

Unit: 1,000 tons of CO_2

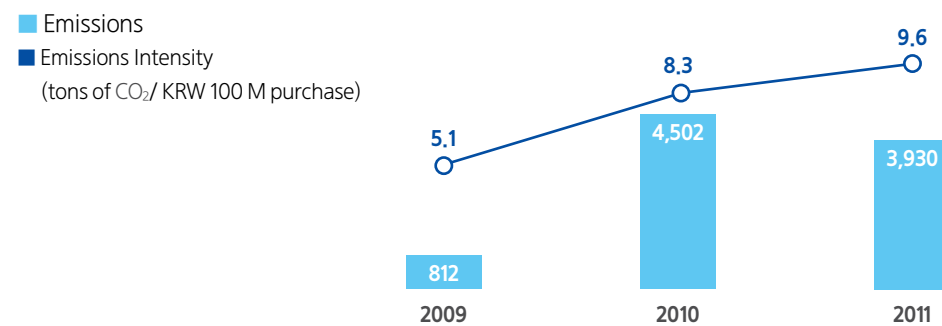| Region	2010	2011	2012**
Latin America	784	1,980	3,942
Europe	2,078	1,646	1,626
North America	2,055	1,345	1,386
Asia	648	1,698	1,245
CIS	929	717	760
The Middle East	485	533	564
Africa	343	406	468
Oceania	110	116	134
Total Emissions	7,432	8,441	10,125

* Final destination based statistics

** The figures for 2012 reflect the structural reorganization, consisting of separation of the LCD business division and incorporation of the LED division, undertaken by the company in April 2012.

GHG Emissions from Employees' Business Travel

GHG emissions generated by employees' business travel are on the rise because of the company's business expansion and efforts to develop new markets.

However, Samsung Electronics has introduced initiatives designed to minimize such emissions. It has set up a companywide teleconference management system (WyzManager) in order to minimize the need for employees to travel overseas; and also encourages employees to use mass transportation for their business travel so as to minimize their contributions to GHG emissions.

In 2012, the company's employees in Korea contributed to generating 128,042 tons of GHG emissions during their business travel.

Emissions from Employees' Business Trips (Korea)

Unit: tons of CO_2

Description	2010	2011	2012*
Airplane	94,220	105,520	120,621
Car	5,621	5,849	6,219
Taxi	521	529	513
Train	384	411	415
Bus	239	288	274
Total Emissions	100,985	112,597	128,042

* The figures for 2012 reflect the structural reorganization, consisting of separation of the LCD business division and incorporation of the LED division, undertaken by the company in April 2012.

GHG Emissions from Suppliers

When calculating a particular supplier's GHG emissions, Samsung Electronics considers the proportion of the supplier's transactions with Samsung Electronics in its total sales volume. Samsung Electronics manages the emissions of more than 2,000 global suppliers that supply parts to the company. At the company's request they enter their activity data into the company's GHG Management System, which then calculates their emissions instantaneously. Those suppliers which responded to the 2012 emissions survey accounted for 65.4% of Samsung Electronics' suppliers in terms of suppliers' transaction volume with Samsung Electronics. Samsung Electronics began to investigate its suppliers' GHG emissions in 2009. As emissions per unit purchase have tended to grow, the company plans to analyze the causes and take measures once more detailed emissions data have been collected from the suppliers. Samsung Electronics supports the efforts of its suppliers to reduce their GHG emissions in a variety of ways. In 2012, the company joined the Energy Reduction Coalition between Large and Small Companies under the support of the Ministry of Trade, Industry and Energy, Korea. Through this coalition, large companies play the role of mentors to small enterprises with regard to energy audit and identification of their energy savings or GHG reduction challenges, with the support of the Ministry. Thus far, Samsung Electronics has conducted energy audit to five suppliers and proposed more than 30 improvement items including chilling pump inverter control and waste heat recovery. The company plans to expand the service to other suppliers and help them make significant progress in the area.

Suppliers' Emissions

Unit: 1,000 tons of CO_2

■ Emissions
■ Emissions Intensity
(tons of CO_2/ KRW 100 M purchase)

5.1   8.3   9.6

812   4,502   3,930

2009   2010   2011

* The suppliers' GHG emissions in 2012 will be made available in the second half of 2013.
* The scope of the supplier survey has been changed as follows: 40% in 2009, 63% in 2010, and 65% in 2011 in terms of global purchase volume.

Operation Site Energy Management

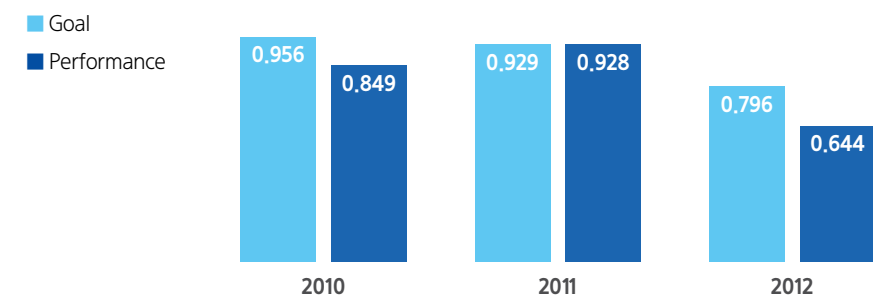## Operation Site Energy Management System

At Samsung Electronics, there is an exclusive department at each operation site that takes charge of its energy demand and supply management as well as its energy efficiency improvement activities. At the company headquarters, the Environmental Strategy Team at the CS & Environment Center gathers information on energy use companywide and analyzes the causes of increases and decreases in energy use on a monthly basis. It also issues data on the quarterly performances of each site. The company also promotes energy savings at operation sites through the bimonthly GHG & Energy Working Group Council Meetings, during which their performances are reviewed and exemplary cases are discussed comprehensively.

Energy KPI and Accomplishments

To reduce energy consumption, Samsung Electronics manages energy cost ratio and energy consumption as its KPIs. As Samsung Electronics' production output continues to grow, so does its energy consumption. The energy cost ratio is used to compare energy costs to sales volume, thus helping to identify changes in energy efficiency. Samsung Electronics has been trying to bring down the ratio by 2.5% every year since 2009 in order to meet its target of 0.77% at the end of 2013. In 2012, it exceeded its annual target. The company's constant efforts to conserve energy include the optimization of the operation of its manufacturing and utility facilities, the introduction of highly efficient facilities, and the recovery of waste heat.

Energy Cost Ratio (Korea)

Unit: %

■ Goal
■ Performance

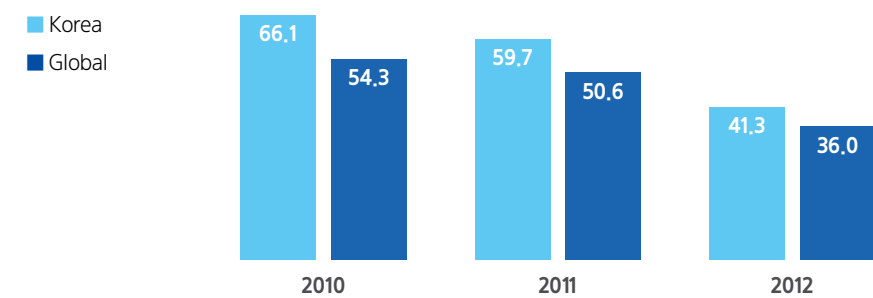|	2010	2011	2012
Goal	0.956	0.929	0.796
Performance	0.849	0.928	0.644

* Energy Cost Ratio(%) = Operation site energy costs in Korea / HQ turnover*100
** The figures for 2012 reflect the structural reorganization, consisting of separation of the LCD business division and incorporation of the LED division, undertaken by the company in April 2012.

Energy Consumption

Unit: GJ/KRW 100 M

■ Korea
■ Global

	2010	2011	2012
Korea	66.1	59.7	41.3
Global	54.3	50.6	36.0

* KRW-based energy conversion formula: Energy consumption(1) ÷ (HQ-based turnover / price index(2))
  (1) Total energy (GJ) consumption
  (2) Total energy (GJ) consumption
** KRW-based global energy conversion formula: total global energy consumption ÷ (global integrated sales / price index(2))
*** The figures for 2012 reflect the structural reorganization, consisting of separation of the LCD business division and incorporation of the LED division, undertaken by the company in April 2012.

Electricity and LNG Consumption

	Description	2010	2011	2012
Korea	Electricity (GWh)	11,894	12,925	8,697
	LNG (1M Nm3)	170	197	172
Global	Electricity (GWh)	13,435	15,047	10,926
	LNG (1M Nm3)	197	237	217

Energy Savings Activities and Accomplishments

Samsung Electronics conserved 140,000TOE of energy in 2012 by optimizing its manufacturing and utility facility operations, installing highly efficient facilities, and adopting waste heat recovery. As a result, it was able to save KRW 62.7 billion in energy bills and further reduce GHG emissions by a total of 300,000 tons.
To ensure systematic energy management at its operation sites, Samsung Electronics has established its own energy management system (EnMS), which monitors energy consumption and promotes energy savings against the established targets. The company is working hard to ensure that all its operation sites around the world obtain the ISO 50001 certification, an international platform for energy management systems, as early as possible.
All of its Korean operation sites acquired ISO 50001 certification between July 2011 and June 2012. For energy equipment and facilities to be used in its operation sites, the company implements its own 'Advance Certification System for Energy Efficiency' to ensure that facility suppliers deliver high-efficiency facilities to its operation sites.

Renewable Energy

Renewable Energy Expansion Plans and Activities

To reduce the use of fossil fuels and the generation of GHG emissions at operation sites and buildings, Samsung Electronics promotes the increased use of renewable energy by installing renewable energy generation facilities and purchasing green electricity and renewable energy certificates among others.
The company is planning to install 1MW of hydropower generation facilities and 1.4MW of photovoltaic power generation facilities at operation sites. It will continue to use more renewable energy in its buildings in North America and Europe, in particular.

Support for Clean Energy Policies [G20 G2A2 (Green Growth Action Alliance)]

Launched at the G20 Business Summit in Mexico in June 2012, the G2A2 has been joined by more than 50 global companies including Samsung Electronics and various financial institutions of the G20 countries, as well as a number of influential international organizations. The G2A2 submitted its policy proposals for the promotion of global green growth to the G20 member governments. The policies for 2012 included the expanded use of renewable energy, the promotion of eco-product trade, improvements in energy efficiency, and accelerated investments in green growth by private companies. At the G20 business summit, Samsung Electronics reiterated its belief that low carbon green growth is both the only way for global companies to sustain their corporate sustainability, and the most promising engine of growth in the 21st century.

G20 Business Summit

Commitment to Renewable Energy

Samsung Electronics joined the US EPA Green Power Partnership for its semiconductor production plant in Austin, Texas and its materials warehouses in Rancho Dominguez, California. In 2012, the company expanded the partnership to its entire operations in the United States including the buildings and production facilities throughout the country.
The company replaced 3.3% (28.5GWh) of its power consumption in the United States with renewable energy through the operation of photovoltaic power generation facilities and the purchase of green electricity and renewable energy certificates.
In 2012, the company also expanded its use of renewable energy in other countries to 28.7GWh, a marked improvement over the 25.6GWh used in 2011.
Furthermore, the company views renewable energy as a sustainable growth engine. It has invested in solar batteries, smart home appliances, geothermal heating, and cooling systems among other technologies. To contribute to the development and spread of smart grid technology, it is participating in the Jeju Smart Grid Demonstration Project which is being promoted by the Korean government.
A smart grid is a modernized next-generation electrical grid that uses information and communications technology to gather and act on information about the behaviors of suppliers and consumers among other types of data, in order to improve the efficiency of the production and distribution of electricity.
Launched in December 2008, the Jeju Smart Grid Project has already established the smart grid infrastructure for such key areas as electricity, telecommunications, automobiles and home appliances. Demonstrations are currently in progress.

Green Buildings

In order to reduce energy consumption by its buildings at home and abroad, Samsung Electronics is expanding the introduction of the BEMS (Building Energy Management System), which identifies waste factors in energy facilities and energy management processes and makes the integrated control of energy facilities possible.
The BEMS gathers and analyzes diverse information on energy management facilities in real time and improves energy efficiency instantly. At the end of the day, the system reduces energy consumption by 5~15% on average
Samsung Electronics plans to obtain major eco-building certificates including LEED (Leadership in Energy and Environmental Design) of the United States for its new R&D center buildings in Korea and abroad. To that end, the company reflects eco-friendly factors such as energy savings and renewable energy in its plans for new buildings and facilities.
In 2012, Samsung Electronics Suzhou China (SSEC) adopted BEMS for its operation sites and reduced their electricity consumption by 32.3% during a single year. Thanks to such outstanding accomplishments, the subsidiary received the Eco-friendly Green Energy Company Certificate from the Chinese government.
Samsung Electronics plans to expand the application of BEMS to its multiple buildings and plants in other countries around the world with the aim of making a significant difference in energy savings and GHG emissions reduction.

Eco-Products

Goals and Strategies

Many countries are enhancing their policies to address environmental issues including the reduction of GHG emissions. Environmental regulations on products across a range of areas including energy (ErP: The Energy-related Products Directive), hazardous substances (RoHS: Restriction of Hazardous Substances Directive & REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals) and recycling (WEEE: Waste Electrical and Electronic Equipment Directive) are continuing to expand, while consumers' concerns and requests about green products keep rising.

To respond to the ongoing expansion and reinforcement of product environmental regulations preemptively and reflect market demands swiftly, Samsung Electronics has set its goals and strategies for the development of Eco-products.

Under its mid-term green management plan EM 2013, Samsung Electronics has set the Eco-Product development ratio and the energy efficiency improvement ratio as its two key KPIs. According to the plan, Samsung Electronics will raise its Eco-Product development ratio to 100% by the end of 2013 and improve its product energy efficiency by a total of 40% over the figure for 2008 within the same period.

Accomplishments in Eco-Product Development

As of the end of 2012, Samsung Electronics raised its Eco-Product development ratio to 99% and improved its product efficiency by 31%, on average, compared to 2008. These accomplishments are attributable, in part, to its implementation of an Eco-Product rating system and its promotion of the development of low-carbon products since 2009.

Meanwhile, the company has obtained a number of major eco- and carbon-labels both at home and abroad thanks to its outstanding accomplishments in the improvement of electronic product energy efficiency. Samsung Electronics has secured an unparalleled competitive edge in the government procurement markets of many countries. Furthermore, through its unique eco-management initiatives, the company has continued to reinforce its eco-friendly corporate image.

Eco-Product Development Ratio

Unit: %

KPI	Description	2010	2011	2012	2013
Good Eco-Product Ratio	Goal	90	96	97	100
	Performance	91	97	99	-
Good Eco-Device Ratio	Goal	70	80	85	100
	Performance	72	85	88	-

Energy Efficiency Improvement Ratio

Unit: %

KPI	Description	2010	2011	2012	2013
Energy Efficiency Improvement Ratio	Goal	15	23	31	40
	Performance	16	26	31	-

※Energy Efficiency Improvement Ratio indicates the average energy efficiency compared to its improvement rate, which is applicable to eight major products of 2008

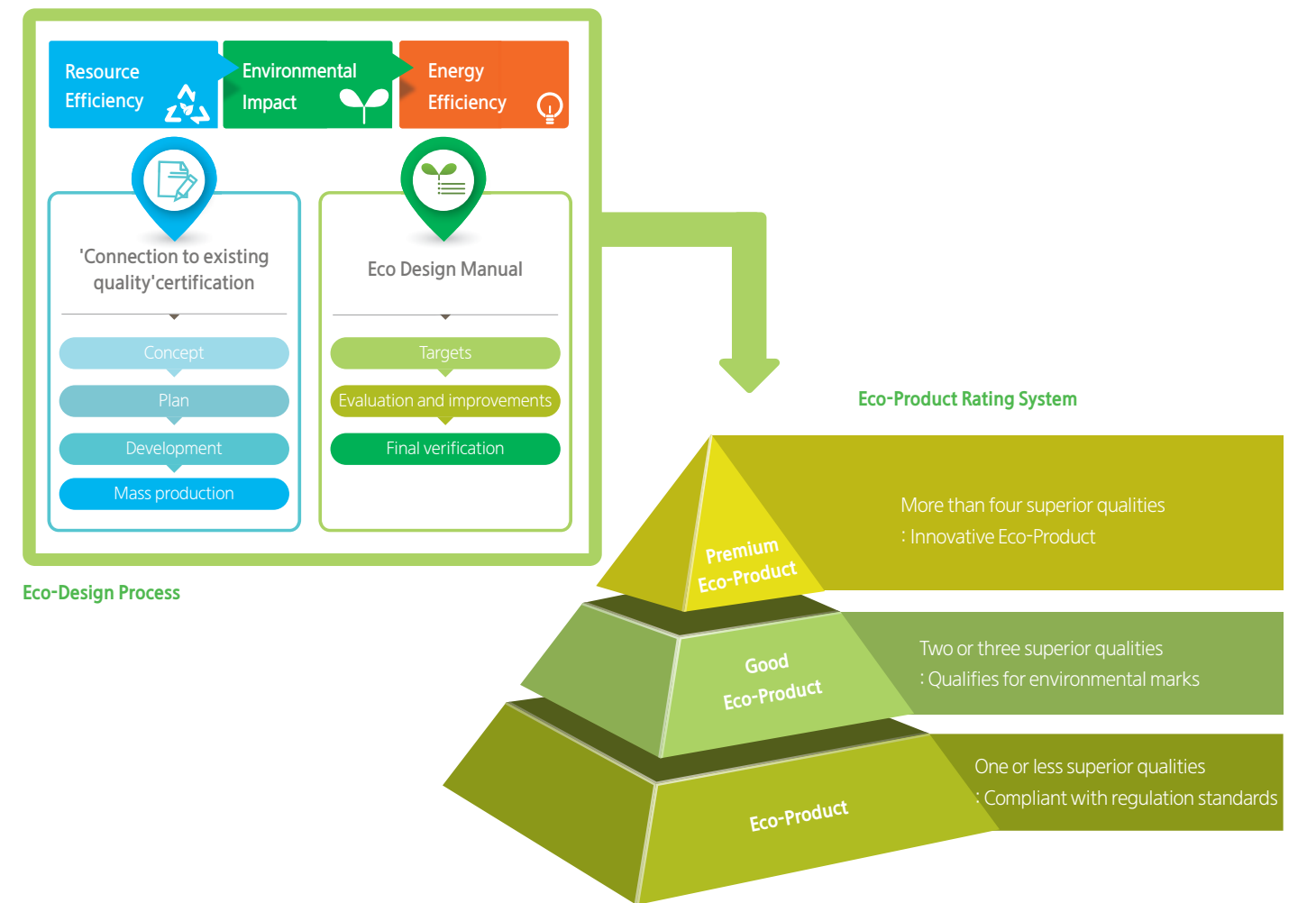## LCA (Life Cycle Assessment) and Eco-Design Process

In 1995, Samsung Electronics began to implement the LCA (Life Cycle Assessment) according to the principle of EPR (Extended Producer Responsibility), which is also referred to as Product Leadership within the company. From then on, the company began to thoroughly investigate the potential impact of the entire lifecycle of new products on the environment in their R&D phase.

In 2004, Samsung Electronics adopted the 'Eco-Design Evaluation Process' and mandated the environmental impact assessment (EIA) of new products under development. In 2008, it established the EDS (Eco-Design System), and has since implemented the 'eco-friendly rating system' for individual development projects.

Eco-Product Rating System

Samsung Electronics evaluates the eco-friendliness of all of its products that are under development and classifies them into three groups: Premium Eco, Good Eco, and Eco. To that end, a product's eco-friendliness is evaluated in three major categories such as resource efficiency, energy efficiency, and environmental hazards. Then, its eco-friendliness is further observed in more than 40 areas such as recyclability; use of single materials and unbleached chlorine-free paper; nonuse of hazardous substances; and reduced power consumption including standby power. Samsung Electronics continues to expand the proportion of premium Eco-Products in its product portfolio.

Eco-Design and Eco-Product Rating Process

Eco-Design Process

- Resource Efficiency
- Environmental Impact
- Energy Efficiency

'Connection to existing quality'certification
- Concept
- Plan
- Development
- Mass production

Eco Design Manual
- Targets
- Evaluation and improvements
- Final verification

Eco-Product Rating System
- Premium Eco-Product: More than four superior qualities : Innovative Eco-Product
- Good Eco-Product: Two or three superior qualities : Qualifies for environmental marks
- Eco-Product: One or less superior qualities : Compliant with regulation standards

Environmental Responsibillity throughout Product Life Cycle

Purchase ▶ Development & Production ▶ Distribution ▶ Use ▶ Disposal

- Purchase
  - Eco-Partner certification system (management of hazardous materials in the supply chain)
- Development & Production
  - Implementation of Eco-Design process & eco-rating system
  - Operation of clean production processes
- Distribution
  - Green logistics
  - Weight reduction in packaging materials
- Use
  - Improved product energy-efficiency
- Disposal
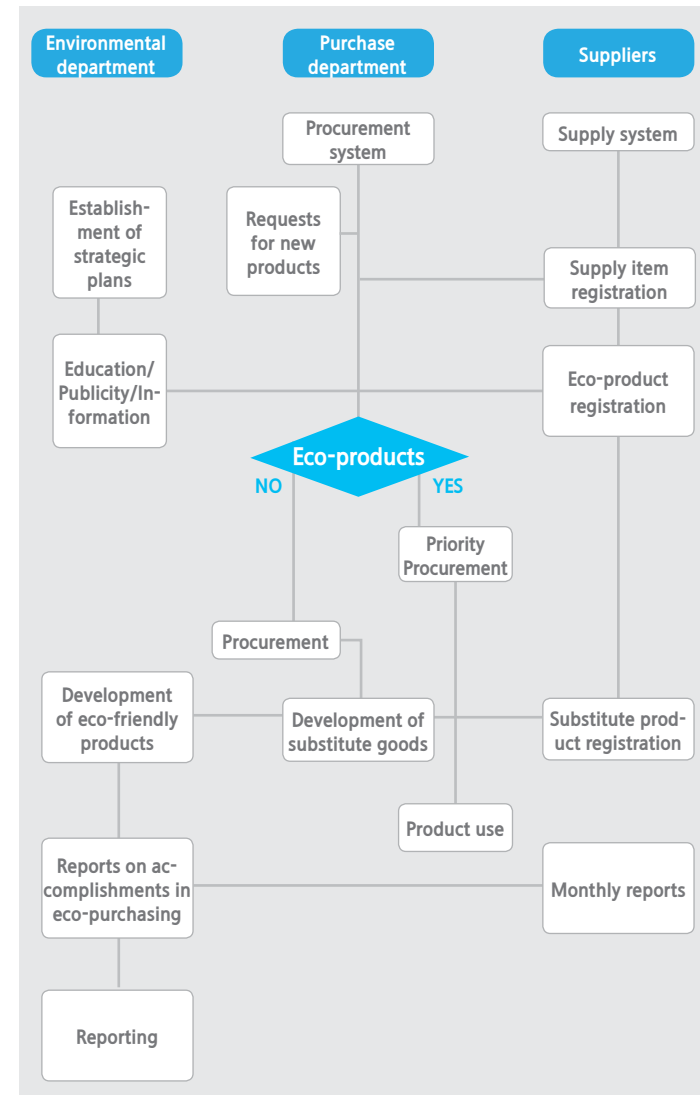 - Establishment of waste collection and recycling system

Green Procurement

Recognizing the importance of the corporation's role in promoting green growth through green production and green consumption, in 2007 Samsung Electronics established guidelines designed to give preference to Eco Products upon purchase of parts and materials from its suppliers. It also prepared its own Environmental Management Manual and Green Purchase Regulations in the same year. The company also set up a system that gives priority to Eco-products upon the company's purchase of office supplies and consumables. Samsung Electronics strongly urges its employees to purchase eco-products in their daily lives. Samsung Electronics signed the Voluntary Agreement on Green Purchasing with the Korean Ministry of the Environment (MOE) in 2005 as part of the first wave of companies to do so. As a company that has declared itself a green producer, Samsung Electronics does its very best to realize its commitments to green production through product stewardship and to green consumption by every means possible. The company has also established the 'hazardous substance management procedure' to ensure that it always purchases parts and materials free of hazardous substances as assured by the implementation of its own eco-product certification system for its suppliers.

Green Procurement Vision

Low carbon green society
- Green procurement
- Green production
- Green distribution

Green Procurement Process

Environmental department / **Purchase department** / **Suppliers**

- Establishment of strategic plans
- Education/Publicity/Information
- Procurement system
- Requests for new products
- Supply system
- Supply item registration
- Eco-product registration
- Eco-products? → NO / YES
- Priority Procurement
- Procurement
- Development of eco-friendly products
- Development of substitute goods
- Substitute product registration
- Product use
- Reports on accomplishments in eco-purchasing
- Monthly reports
- Reporting

Green Procurement in Korea

Unit: KRW 1M

	2010		2011		2012	
	No. of Items	Amount	No. of Items	Amount	No. of Items	Amount
Parts with Reduced Hazardous Substances	Many	68,216,339	Many	75,115,246	Many	77,671,452
Green Products (Environmental certification, GR certification, etc)	409	86,538	445	38,590	362	55,733
Total	Many	68,302,877	Many	75,153,836	Many	77,727,185

Improvements in Product Energy Efficiency

Energy regulations on product power consumption including standby power are being strengthened on a continual basis across the world. Samsung Electronics closely monitors energy regulatory trends in major countries. The company continuously improves its product energy efficiency.

Samsung Electronics launches products with much higher energy efficiency than regulations require across the globe. According to its mid-term green management plan EM 2013, Samsung Electronics will improve the annual energy efficiency of its products by a total of 40% by the end of 2013 compared to the figure in 2008, and reduce GHG emissions during product use by a total of 84 million tons during that five-year period.

Accomplishments in Energy Efficiency Improvement

Between 2008 and 2012, Samsung Electronics reduced the annual power consumption of its eight major products by 31% and reduced GHG emissions by 25.43 million tons at the phase of product use.

The accumulated total of reduced GHG emissions during the same period was 51.08 million tons, and it is expected that the goal for 2013, 84.68 million tons, will be met easily. In 2012, Samsung Electronics launched products with markedly improved energy efficiency such as LED TVs equipped with ambient light sensors, PCs with eco-mode, refrigerators equipped with vacuum insulation, and high-efficiency compressors and drum washing machines armed with highly efficient motors.

Power-saving Eco Ambient Light Sensor

Eco ambient light sensor technology adjusts the brightness of backlighting according to the brightness around a product. When the surrounding brightness is high, the product brightness intensifies, and when the surrounding brightness is low, the product brightness dims.

The sensor installed in an LED TV saves energy consumption by as much as 53%.

Energy Efficient Eco Mode

Eco-mode technology enables computer users to check their power consumption through the watt meter installed in the system and decide if they want to conserve energy. The 'eco mode' conserves energy consumption by as much as 41% compared to 'normal mode' on an annual basis. Assuming that the average computer lifecycle in Korea is four years and the number of computers in use is 5.5 million, eco-computer usage reduces GHG emissions by 180,000 tons per year around the country, which is equivalent to planting 1.6 million trees.

Extension of Product Life Cycle

Samsung Electronics makes continuous efforts to extend product life cycles through improvements not only in terms of product performance but also in terms of product durability. An extended product life cycle eliminates the necessity of additional production, thereby cutting down on GHG emissions and preventing the waste of resources. Examples of the company's successes in extending its product life cycles include the Samsung drum washing machine motor, about which VDE(Verband Deutschle Elektrotrchniker) certified 20-year durability, and the Samsung Evolution Kit for its Smart TVs.

Drum washing machine motor certified for 20-year life cycle

Samsung Electronics received a 20-year life cycle certification for its drum washing machine motor from VDE (Verband Deutsche Elektrotrchniker) of Germany. Established in 1893, VDE ranks among the world's most prominent independent testing organizations for electric and electronic products. The VDE certification center conducts numerous product tests annually and is very well known for its strict product quality testing. Thus the VDE mark is considered to be the symbol of the highest safety standards in the world. To see if there would be any deterioration in the functions and features of the motor over a long period of time, the VDE H/Q carried out testing on the motor for sixteen months under the same conditions in which consumers would use the washing machine. VDE certified the motor for an 'Official Credibility Period of 20 Years' claiming that the Samsung motor would be capable of 4,400 loads of laundry over 20 years based on 4.2 loads a week or 220 loads a year.

The Evolution Kit for Samsung Smart TVs

Typically, consumers replace their TVs every five to six years. Multimedia contents such as online games and video are increasing at an explosive rate every year. Consumers are willing replace their products in order to gain access to upgraded content. Such a short TV life cycle causes unnecessary production and related impacts on the environment.
Samsung Electronics unveiled its Evolution Kit at CES 2013 as the first device of its kind in the world. The main purpose of the kit is to extend the life cycle of TVs.
By simply attaching the Evolution Kit device to the back of a 2012 Samsung Smart TV, consumers can enjoy the latest features that the 2013 Smart TVs have to offer because the key features of the existing TV evolve into the latest ones. Therefore, all old Samsung premium TVs can be upgraded into the newest Smart TVs simply by installing the evolution kit.
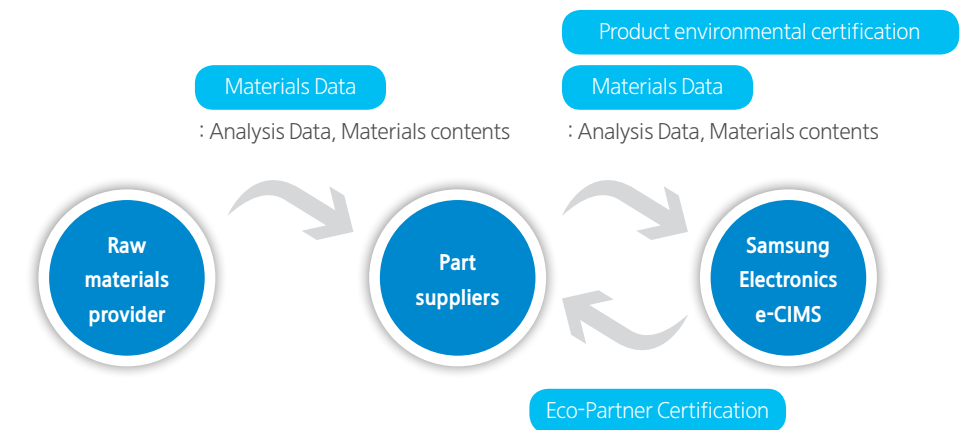
Product Chemicals Management Policies

Samsung Electronics has established a chemicals supply chain management system that strictly controls the chemicals to be used in its products. In addition to mandatory restrictions based on RoHS and REACH, the company has adopted the precautionary principle and voluntarily controls chemicals that are not yet subject to a legal ban but which might harm the environment nevertheless. Samsung Electronics manages both legally restricted substances and voluntarily restricted substances through the Standards for Control of Substances concerning Product Environment (OQA-2049).
In order to prevent 'controlled substances' from entering its products outright, the company strictly tests and controls all the materials and parts delivered to its operation sites.

Chemicals Management in Product

Product Chemical Management in Supply Chain

For the control of hazardous substances throughout its supply chain, Samsung Electronics is implementing the Eco-Partner Certification System for all of its suppliers. The company only deals with those suppliers that have set up their own environmental management systems and passed the environmental tests conducted by Samsung on their parts and materials to be supplied to the company. For a supplier to qualify for the Samsung certification, it must meet the company's requirements concerning the control of hazardous substances in its parts and materials and fulfill the company's requirements concerning the environmental quality management system. The certified suppliers can renew their certification through Samsung's on-site evaluations or their own in-house evaluation procedure depending on the degree of risk involved in the parts and materials to be supplied to Samsung Electronics. To run its Eco-Partner certification scheme more efficiently, Samsung Electronics established the e-CIMS (Environmental-Chemicals Intergrated Management System), which controls hazardous substances incorporated into its global suppliers' parts and materials, in 2009. Through the system, the company obtains information on the material composition of the suppliers' parts and materials along with the data on their use or nonuse of hazardous substances, on the basis of which Samsung Electronics calculates the material composition and chemical contents of its products.

Chemical Management in Supply Chain

Product environmental certification

Materials Data
: Analysis Data, Materials contents

Materials Data
: Analysis Data, Materials contents

Raw materials provider → Part suppliers ⇄ Samsung Electronics e-CIMS

Eco-Partner Certification

Accomplishments in Product Chemicals Management

Samsung Electronics has been running a world-class environmental analysis laboratory capable of analyzing hazardous substances and VOCs (volatile organic compounds) since 2005. The lab has received certification from US UL, Korea KOLAS, and Germany BAM as an internationally recognized analysis institution, thus securing international credibility for its published analysis data.
The analysis lab has standardized the analysis processes for not just regulated substances like phthalates and VOCs, but also for new substances for which regulation is anticipated in the near future. Thus far, it has secured a total of 80 analytical methods. Most notably, in order to comply with the RoHS directive, the lab restricts the use of six major hazardous chemicals (i.e. Hg, Pb, Cd, Cr6+, PBB and PBDE).
Regarding the 138 candidate substances on the EU REACG SVHC (Substances of Very High Concern) list, the company has completed content investigations for all of its products. Samsung Electronics discloses the relevant information on the company website whenever one of its products is found to contain more than 0.1% of a SVHCcandidate substance in terms of weight. In April 2010, the company removed PVC(Polyvinyl chloride) and BFRs(Brominated flame retardant), which are on its list of voluntary restrictions, from mobile phones and MP3 players across the world.
In January 2011, Samsung Electronics began to remove PVC and BFRs from its new notebook PCs. As for its TVs, monitors and home theaters, the company began replacing their PVC content in January 2011.

Eco-friendly Mobile Phone Certified by the Chinese Government

In July 2012, Galaxy S3 was awarded the Voluntary RoHS Certification by the Chinese government (the Ministry of Industry and Information Technology), the first such recognition given to a mobile phone by China's government.

First introduced by the European Union, RoHS is a directive on ecological conservation that bans the use of six hazardous substances, including four heavy metals (lead, mercury, cadmium, and chrome) and two flame retardants (PBBs and PBDEs, i.e. poly brominated biphenyls and polybrominated diphenylethers), in electrical and electronics goods.

With this certification, Galaxy S3 has won the title of the first eco-friendly mobile phone to be certified by the Chinese government.

Eco-Product Development Performance

Eco-Product Development

As well as releasing a great variety of eco-friendly products that reduce resource and energy consumption, Samsung Electronics minimizes the use of hazardous substances and features specialized eco-friendly technologies. In 2012, the company launched the following eco-friendly products:

Product	Model	Eco-friendly Characteristics	Product	Model	Eco-friendly Characteristics
LED TV	LED TV (ES6500)	• Korea Energy Frontier • Australia Super- efficiency • US TV ENERGY STAR 6.0 compliance • EU Energy Efficiency A+		Mobile phone (Exhilarate)	• 80% of the exterior composed of PCM(Post Consumer Material) • BFRs, beryllium, and phthalates Free • UL Environment Platinum Sustainable Product certification
	Monitor (S27B750)	• 17% reduction in power consumption over the previous model • US Monitor Energy Star 6.0 compliance		Mono printer (Polaris)	• Green technology certification • Power saving software • 30% reduction in power consumption
	Blu-ray Display (BD-E5300)	• 24% energy reduction over the previous model • US AV Energy Star 3.0 compliance		Note PC (NP900X3B)	• Ultra-thin & light • BFRs & PVC Free • Registered by EPEAT & Certified by TCO
	Refrigerator (RF263TEAESP)	• MOST EFFICIENT (DOE-30%) • US Energy Star Most Efficient (DOE: 30%) • Application of inverter compressor & vacuum insulation panels		Air conditioner (AF-HD253)	• Korea energy efficiency Class A • High-efficiency inverter
	Washing machine (WF455A)	• Lowest power consumption in North America (90kWh/y) • Low temperature washing technology		Camcorder (HMX-Q20)	• Vegetable-based ink printing manual • High-efficiency adapter

Take Back and Recycling

Take Back and Recycling Policies

Under the principle of 'Individual Producer Responsibility', Samsung Electronics does its utmost to reduce waste and maximize collection and recycling by adopting systematic approaches to the issue at both the design and production phases. Samsung Electronics has set up a 'E-Waste recycling system' for the first time in the electronics industry in Korea. Starting with the Asan Recycling Center established in 1998, the company now runs a total of seven recycling centers in Korea. Most notably, 1,500 sales centers and 20 regional logistics centers in Korea serve as collection agencies to transport end-of-life electronics to recycling centers.
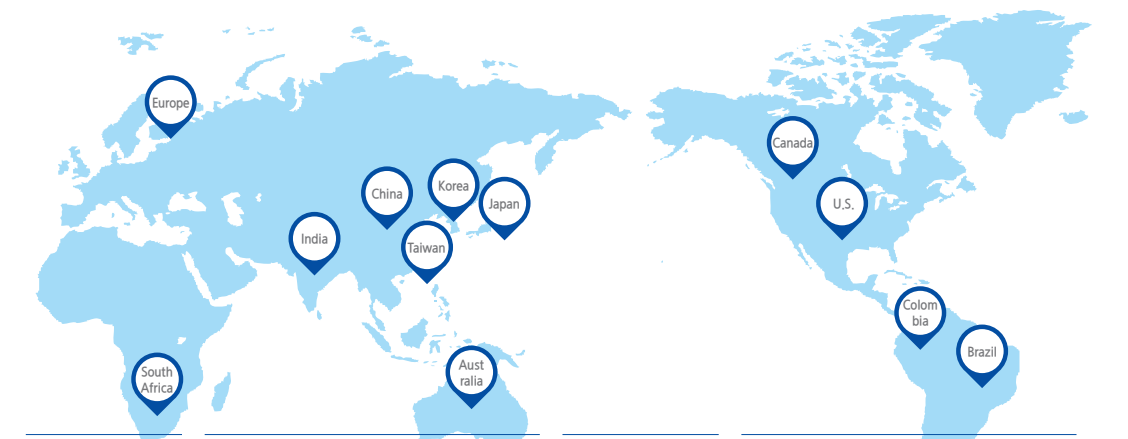
In April 2010, Samsung Electronics joined BAN (Basel Action Network), a non-profit toxic watchdog organization of the United States, as an E-Steward Enterprise for the first time in the Korean industry.

BAN promotes the E-Stewards Certification program to ensure that exports of hazardous electronics waste to developing countries are eliminated. Samsung Electronics fully supports a ban on exporting hazardous waste to the developing world, and sending E-Waste to landfil. Since August 2012, Samsung Electronics has been participating in the Environmental Protection Agency's SMM (Sustainable Materials Management) Electronics Challenge at the Gold Level, the highest in the tiered structure, calling for more effective use of resources and the safe disposal of electronic waste.

Global Take back & Recycling Program

Globally, Samsung Electronics is running e-waste take back programs in more than 60 countries including the United States, Canada, India and many countries in Europe.

Launched in 2008, SRD (Samsung Recycling Direct), a voluntary recycling program in the United States, is running about 700 take back centers in all 50 US states. Over the border in Canada, Samsung Electronics is operating a total of 1,476 collection centers. In India, the company began a voluntary recycling program in 2010, and now runs 235 collection centers. For large household appliances, consumers can request take back simply by calling a Samsung call center. Recycling information is continuously supplied to the public on the company website. In May 2012, Samsung Electronics set up a take back system in Australia, and now collects waste mobile phones, TVs, PCs and printers among other appliances. Detailed information on take back and recycling around the world is available at the following company website: (http://www.samsung.com/us/aboutsamsung/sustainability/environment/takebackrecycling/howtorecyclesamsungproducts.html)

EUROPE
29 countries take-back & recycle

SOUTH AFRICA
service centers offer collection boxes

ASIA
Korea
take-back network among distribution centers and agents, Asan Recycling Center open since 1998

India
collection programs available since December 2009

China
collection available from 2012, recycling to be introduced in the near future

Japan
collection services, participation in recycling consortium

Taiwan
offers national recycling system

OCEANIA
Australia
collects televisions, computers, and printers for recycling, offers cell phone collection programs

THE AMERICA
Canada
16 points of collection

U.S.
Operate voluntary take back program across 50 states

Colombia
collection boxes at service centers

Brazil
collection boxes at service centers

Accomplishments in Global Take Back & Recycling

In 2012, Samsung Electronics collected and recycled about 320,000 tons of electronic waste.
As shown below, the take back quantity dropped by around 4% in Europe in 2012 in line with marked sales decreases in the region. However, with the launch of take back and recycling programs in Australia and India in July 2012, the take back volume is expected to grow continuously from 2013.

Global Take Back & Recycling Quantity

Unit: tons

Region	2010	2011	2012
Europe	219,948	245,838	230,492
Asia	60,923	54,233	53,089
North America	22,773	39,347	41,964
Total	303,644	339,418	325,545

Recycling Statistics (Korea)

Unit: tons

Category	2010	2011	2012
Products	57,218	51,940	49,677
Packaging	4,787	5,045	4,993

Recycling Statistics by Product (Korea)

Unit: tons

Description	Refrigerators	Washing Machines	Displays	Others	Total
Recycling Quantity	21,791	9,336	14,734	3,816	49,677

Reutillization of Resources (Korea)

Unit: tons

Recycled Resources	Scrap	Non-ferrous	Synthetic resins	Glass	Waste	Others	Total
Quantity	15,879	5,744	10,836	8,730	3,628	4,860	49,677

Recycled Plastic

Samsung Electronics is planning to increase the proportion of recycled plastic in its total use of resin to 3.4% by the end of 2013 and to 5% by 2015 in order to promote more aggressive resource recycling and improve resource efficiency. Recycled plastic is used mostly in washing machines, refrigerators, air conditioners and vacuum cleaners. The use of recycled plastic has recently been expanded to the company's overseas operation sites, too. Recycled plastic has begun to be partially used in mobile phones and monitors. In 2013, the use of recycled plastic will be further expanded from home appliances to IT products like mobile phone chargers and printers.

Recycled Plastic

○ Proportion*(%)
■ Recycled plastic (tons)

	2010	2011	2012
Proportion (%)	0.55	2.26	3.12
Recycled plastic (tons)	2,780	12,519	15,467

* 'Proportion' means the ratio of recycled plastic in the total quantity of resin used.

The Use of Eco-friendly Packaging Materials

Shrink Packaging

In May 2010, Samsung Electronics began to use shrink packaging for its drum washing machines. It now uses the technique for refrigerators, microwave ovens and dishwashers.
With shrink packaging, a product is wrapped with a buffer material followed by LDPE shrink film, before compressing the ensemble with heat. This technique reduces the weight of packages by an average of 44% compared to paperboard packaging, thereby reducing transportation costs and cutting down GHG emissions from transportation, too.
It is also estimated that the emissions of air pollutants like formaldehyde and TVOCs (Total Volatile Organic Compounds) are reduced by 77% and 21%, respectively, with the adoption of this innovative packaging technology.

Shrink Packaged Products

refrigerator   washing machine   microwave oven   dishwasher

Recycled Packaging Materials

Since November 2012, Samsung Electronics has been using packaging materials made of porous polypropylene, which can be used more than 40 times instead of just once packaging. By saving tape and Styrofoam, Samsung Electronics has reduced its TVOC use by over 99.7%. It is estimated that this measure alone will reduce CO_2 emissions by 7,000 tons per year, which is equivalent to the effect of planting an additional 60,000 trees.
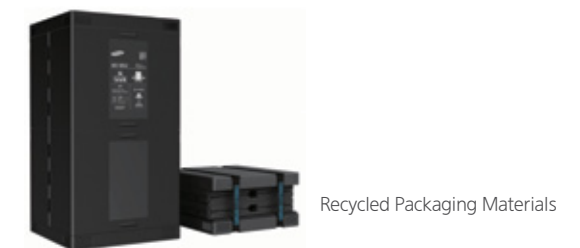
Recycled Packaging Materials

Eco-friendly Vinyl Packaging Materials

Robotic Vacuum Cleaner Battery wrapped with Eco-friendly Vinyl

Vinyl used for packaging tends to end up in streams or ground soils as a serious source of environmental degradation.
Samsung Electronics began to use eco-friendly vinyl packaging materials in December 2012.
The new vinyl product contains oxo biodegradable additives that cause the plastic to fragment into pieces.
Starting with the battery for its robotic vacuum cleaner, Samsung Electronics is planning to expand the use of these packaging materials to other products.

Environmental Certification

Global Environmental Certification

By the end of 2012, Samsung Electronics had received environmental certification marks for a total of 2,926 of its product models, the highest number for any company in the global electronics industry, from the world's top-ten environmental certification organizations in such countries as Korea, the United States, Sweden and China.

Global Environmental Certification Marks Received

as of the end of 2012

Region/ Country/ Group	Korea	China	USA	EU	Germany	Total
	809	632	380	267	99	
2012	Sweden	Northern Europe	Canada	Taiwan	UL/CSA	2,926
	557	101	59	5	17	

Global Carbon Footprint Labeling

Samsung Electronics measures the carbon emissions from all of its production processes, addresses any issues involved immediately, and continues to work hard to minimize them. Typically, GHG emissions from product use take up a bigger proportion than any other in the entire life cycle of an electronic product.
The company's efforts to reduce power consumption and GHG emissions, therefore, start right at the design phase in order to improve product energy efficiency. By securing carbon labeling and low carbon product certification for its products, the company has dominated government procurement markets while consolidating its environmental leadership role in the private sector. Apart from its efforts to develop low carbon eco-products, the company continues to strive for the galvanization of its roles in the Korean carbon labeling system. The company was instrumental in establishing Korea's carbon labeling system as initiated by KEITI (Korea Environmental Industry & Technology Institute) in 2009. At the end of 2012, Samsung Electronics was certified for its ability to implement carbon labeling certification tasks for itself by the organization.

Certification for Preliminary Carbon Labeling Verification Activities

In December 2012, Samsung Electronics was certified by KEITI (Korea Environmental Industry & Technology Institute) for its preliminary verification ability for an eventual carbon labeling by the agency.
Samsung Electronics now measures its own carbon emissions throughout the manufacturing processes of tablet PCs and other mobile devices, for instance, and gets approval for the measurement from the country's certification organization. This arrangement is expected to significantly reduce the time and costs previously borne by the company to obtain carbon labeling.

Certification in Korea

Samsung Electronics has proactively participated in KEITI's carbon labeling schemes. As of the end of 2012, the company had received KEITI certification for 47 models in 12 product groups including such products as mobile phones, monitors, PCs, and air conditioners, and parts like LED and semiconductor memories. 'Low-carbon product certification' is given by KEITI to those products whose carbon emissions have been reduced compared to previous models. Samsung Electronics has received the certification for seven models in four product groups.

Low-carbon Product Certification

Unit: tons CO$_2$/100 M

TVs	Note PCs	Air Conditioners	Semiconductors	
UN55D8000YF	NT202B5B, NT200B5B	ADX200VSHHXA1	2G DDR3 (35nm), 4Gb DDR3 SDRAM	64Gb NAND Flash MLC

LED TV Carbon Emissions (Model: UN55D8000YF)

Unit: %

633kg CO2

Development	Production	Product Use	Disposal
12	1	86	1
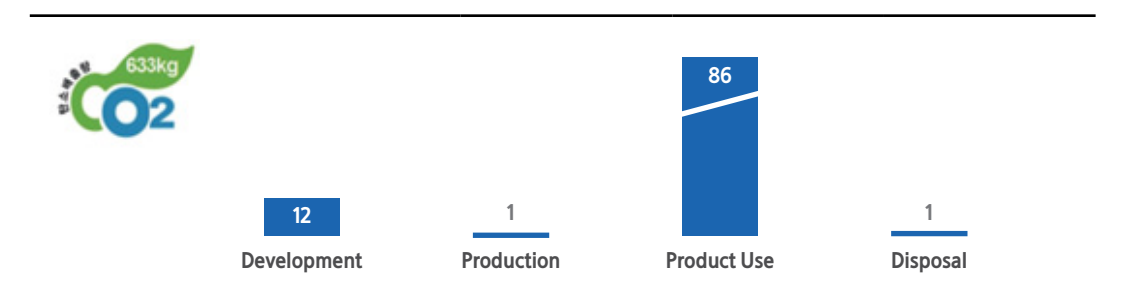
Notebook Carbon Emissions (Model: NT202B5B)

Unit: %

72.8kg CO2

Development	Production	Product Use	Disposal
32	1	64	3
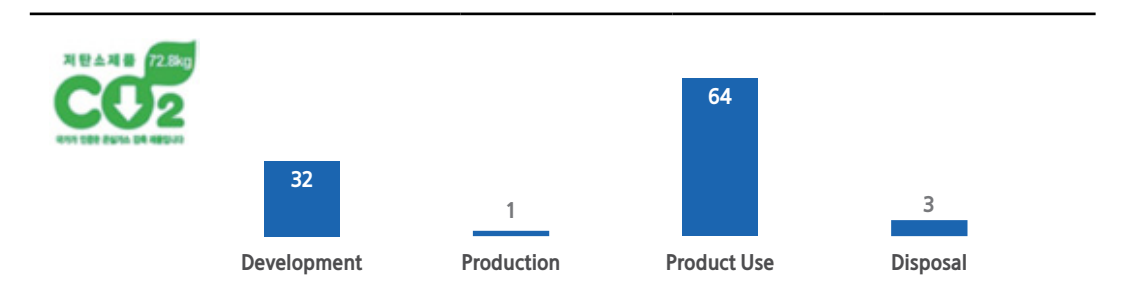
A/C Carbon Emissions (Model: ADX200VSHHXA1)

Unit: %

1	0	80	19
Development	Production	Product Use	Disposal

Global Certification

In 2011, Samsung Electronics received a certification from The Carbon Trust of the UK for its Galaxy S2. It has since received certification for its Galaxy Note and Galaxy S3, its flagship smartphone. In 2012, the company received Japan's Carbon Footprint label for its Galaxy Note2 for the very first time in the electronics industry.

Global Carbon Certification

Description	Certified Items	Date	Certification Contents/Characters
The Carbon Trust, U.K.	Galaxy Note2	Jan. 28, 2013	Reduction of carbon emissions compared to the previous model (Galaxy Note)
	Galaxy S3	Jul. 30, 2012	Reduction of carbon emissions compared to the previous model (Galaxy S2)
	Galaxy Ace Duos	Jul. 30, 2012	Satisfactory level of carbon emissions
	Galaxy Note	Mar. 2, 2012	First certification for a mobile phone (along with Galaxy S2)
	Galaxy S2	Mar. 2, 2012	First certification for a mobile phone (along with Galaxy Note)
Carbon Footprint, Japan	Galaxy Note2	Nov. 30, 2012	First certification for a mobile phone

Galaxy Note2 Carbon Emissions certified by The Carbon Trust (on the basis of British Standards)

■ Manufacturing [1]
■ Logistics
■ Use
■ Disposal

Carbon reduction over the previous model　28%

Total 25.67(kg)
0% / 69% / 17% / 14%

1) Emissions from the manufacturing stage include those from parts manufacturing.

Galaxy Note2 Carbon Emissions certified by JEMAI(Japan Environmental Management Association for Industry)

■ Raw materials collection
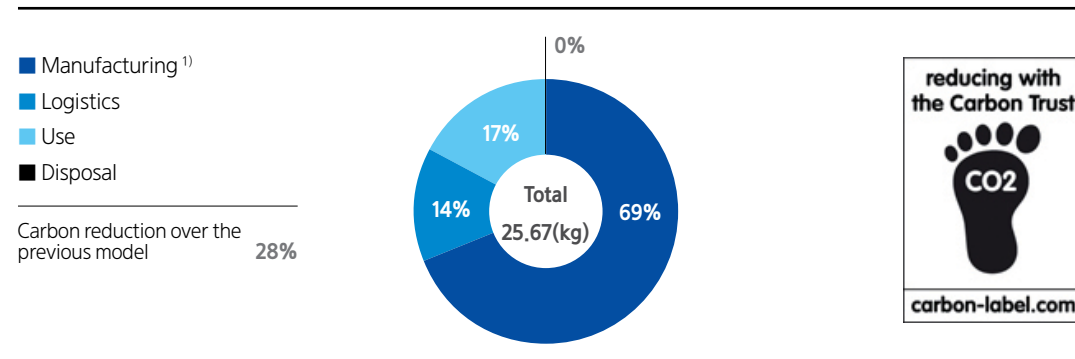■ Production
■ Logistics
■ Use
■ Disposal

0% / 1% / 2% / 18% / 79%

24kg CO2　CR-DH01-12001

Green Certification in Korea

Green Certification is awarded by KIAT(Korea Institute for Advancement of Technology) under the auspices of the MOTIE to eco-technologies and eco-business that have contributed to energy and resource conservation and GHG emissions reduction. It is one of the Korean government's key initiatives for low carbon green growth.

By the end of 2012, Samsung Electronics had received 21 green technology certificates and one green business certificate for its establishment of a large-scale decomposition and treatment facility for discharge PFC gases from semiconductor processes.

Green Operation Sites

Operation-Site Environmental Management System

Policies and Starategies

Samsung Electronics operates its green management system to preserve the global environment, and is involved in related activities such as reducing greenhouse gas emissions, water resource consumption, and the amount of waste generated, as well as increasing resource recycling. Samsung Electronics is establishing response measures for various environmental risks while continuing such efforts to secure sustainability. Based on these activities, harmful effects are minimized and environmental incidents are prevented at the source.

Targets and Assessment of Achievements

The EHS Strategy Council is convened on a regular basis to devise policies aimed at preventing EHS accidents and to assess environment and safety risks. The council reviews and analyzes global environmental guidelines and national policies, and makes decisions on the relevant corporate policies. It also analyzes the green management environmental indices of the company's global workplaces and shares the implementation results and success stories to improve the environmental safety level continuously.

Samsung Electronics has selected the following four key green management environmental indices and focuses on the achievements.

First, the rate of management system certification acquisition indicates whether the detailed setting of targets and activity, and the review process of the company's workplaces are systematically performed. New workplaces aim to acquire the certificate within one year of their establishment by developing the environmental safety management system. Second, the greenhouse gas index* is a representative index of response to global climate change. Samsung Electronics manages the scopes 1-3.

Third, the water resource use index indicates the results of efforts to save water resources at workplaces. The index is designed to achieve water source stability. Fourth, the waste generation quantity index shows the circulation efficiency of the resources used in a given workplace, with the ultimate aim of recycling all waste materials generated by the business place.

KPI Target and Performances

Category	Rate of management system certification acquisition **			Water resource		Waste	
	ISO 14001	OHSAS 18001	ISO 50001	Water intensity (Water withdrawal / Sales)	Rate of recycling	Waste intensity (Waste quantity/ Sales)	
Level of achievement in 2012	100%	100%	29%	41 tons /KRW 100 million	94%	0.34 ton /KRW 100 million	
2015 target	100%	100%	100%	50 tons /KRW 100 million 2009 level	95%	0.38 ton/KRW 100 million*** 2009 level	
Implementation strategies	• Standardizing management system operation • Certificate acquisition for a new entity within one year			• Securing stable water resources • Increasing water reuse	• Developing the resource cycling type system • Increasing the number of recycling items • Suppressing waste generation		

* For greenhouse gas targets, refer to the climate change response.
** Based on 34 manufacturing workplaces (6 in Korea, 28 in foreign countries).
*** The target was recalculated due to the split of the LCD Business Division and the merger of the LED Business Division.

Samsung Electronics carries out continuous activities and investments to secure water resources, preserve ecosystems, prevent resource depletion, and increase resource recycling. In addition, it has successfully met all the relevant legal requirements by developing a pollutant and chemical management system, with no violations recorded in 2012.

Internal/external communication

Samsung Electronics publishes an annual sustainability report, and discloses its environmental safety management information to key stakeholders, including employees and local communities. In addition, Samsung Electronics operates an environmental safety committee to resolve employee issues and handle local community requirements. Company representatives and an environmental safety expert are members of the committee. Committee decisions and implementation results are disclosed transparently, using various communication methods including local community briefing sessions and websites.

Environment and Safety Risk Assessment

Samsung Electronics conforms to the guidelines and global environmental regulations presented by international organizations (such as the UN) and private organizations. In addition, Samsung Electronics preemptively responds to the prevailing environmental, safety, and health regulations, which are becoming more stringent year by year; as well as applies to corporate management.

Risk Analysis and Response Process

Information collection	Risk analysis	Take Action	Monitoring
Understanding external environmental issues	Physical risk	Checking internal capability	Performance check and data collection
Enacting new laws	Regulatory risk	Establishing and implementing the response plan	Establishing regulations and procedures
Reinforcing regulations	Reputation risk		
Stakeholders' requirements			

Risk analysis and response when building or expanding a business site

Phase	Business Planning	Construction	Facility Start-up
Analysis and Response	Analyzing the legal requirements	Analyzing the ecological impact	Obtaining construction and environment permission and authorization
	Understanding the environment/construction regulations	Reviewing cultural assets and habitat distribution	Conducting safety evaluation before start-up
	Understanding the infrastructure status	Meeting the environmental regulations	Checking the infrastructure status
Response Results	Project approval	Construction approval	Start-up approval

Environmental Safety Accident Response System

Samsung Electronics has drawn up a number of emergency scenarios to cope with potential safety accidents such as harmful chemical leaks or spills, environmental pollution, fire and/or explosion, and natural disaster; and verifies the effectiveness of the emergency response system by conducting regular emergency response exercises. Based on these emergency scenarios, an emergency response team is formed and an additional damage is prevented by taking emergency measures. In addition, emergency evacuation drills and emergency exercises are performed regularly to ensure that employees are able to evacuate the site quickly and safely. Upon completion of the response to an incident, its cause is analyzed to prevent the recurrence of similar incidents in the future.

Emergencies Response Procedure

Accident Occurrence	Emergency Measures	Investigation & Cause Analysis	Counter-Measures	Preventive Measures
• Diffusion of situation information • Assessment of accident type • Risk phase analysis	• Formation of risk management committee • Implementation of emergency measures • Implementation of emergency escape /emergency masures	• Secondary accident prevention activity • Accident investigation / cause analysis	• Recovery measures • Goods support • Business continuity plan	• Establishment of recurrence prevention measures • Review of effectiveness of accident response system

Employee Injury Management

Samsung conducts risk assessments according to OHSA18001(Occupational Health and Safety Assessment Series) in all of manufacturing workplace, and continues to improve the work environment. Samsung also conducts regular education programs to increase the awareness of health and safety among its workers and run emergency relief system. While the accident rates happened during work hours remained the same compared with last year, accidents happened during non-work hours such as sports activities takes 71%* of total accidents. Thus, Samsung is establishing safety guidelines for all leisure activities within the company.

Injury Management

Description		Industrial Accident Rate			
		Frequency rate of injury**	Accident rate***	National Accident rate	Manufacturing Accident rate
Korea	2012****	0.452	0.072	0.59	
	2011	0.336	0.067	0.65	0.97
	2010	0.165	0.035	0.69	1.07
Global	2012	0.347	0.063		
	2011	0.262	0.052		
	2010	0.393	0.082		

* 46 non-work related accidents among 65 total employee accidents of Korea in 2012 (71%)
** Frequency rate of injury = (number of disasters/annual work hours)*1,000,000
*** Accident rate = (number of the injured/number of workers)*100
**** The split of the LCD Business Division and the merger of the LED Business Division were reflected.

Environmental safety management system certification

All of Samsung Electronics' manufacturing workplaces have acquired ISO 140001 and OHSAS 18001 certification - the international environmental safety management system; and maintain environmental management through follow-up and re-certification reviews. In addition, six domestic workplaces and four overseas workplaces acquired the international energy management system ISO 50001 in 2012; and all of Samsung Electronics' work places across the world aim to obtain the certificate by 2015.

Status of environmental safety certification

Region	Acquisition rate (no. of workplaces)		
	ISO 14001	OHSAS 18001	ISO 50001
Korea	100% (6)	100% (6)	100% (6)
Global	100% (34)	100% (34)	29% (10)

Certification acquisition status

Area	Work place (Corporate)	ISO 14001		OSHAS 18001		ISO 50001	
		Certificate acquired date	Certification agency	OSHAS 18001	Certification agency	Certificate acquired date	Certification agency
	Suwon	1996-10	UL DQS	2000-11	UL DQS	2012-06	UL DQS
	Gumi	1996-11	UL DQS	2001-10	UL DQS	2011-07	UL DQS
	Gwangju	1996-10	UL DQS	2002-10	UL DQS	2012-05	UL DQS
	Giheung	1996-09	BV	1999-12	BV	2011-11	BV
	Hwaseong	2001-11	BV	2001-11	BV	2011-11	BV
	Onyang	1996-09	BV	1999-12	BV	2011-11	BV
	SAMEX	2000-12	UL DQS	2003-12	UL DQS		
	SAS	2001-01	PRJ	2007-10	PRJ		
	SEM-P	2004-11	UL DQS	2006-06	UL DQS		
	SEDA-P(C)	2009-11	UL DQS	2009-11	UL DQS		
	SEDA-P(M)	2001-02	BV	2006-03	BV		
	SERK	2009-04	UL DQS	2009-04	UL DQS		
	SEH-P	2005-05	BV	2005-11	BV		
	SESK	2003-09	UL DQS	2003-09	UL DQS		
	SEPM	2010-12	UL DQS	2010-12	UL DQS	2012-11	UL DQS
	SEIN-P	2003-04	SUCOFINDO	2003-10	SUCOFINDO	2012-10	UL DQS
Global (34)	SAVINA	2001-12	UL DQS	2002-12	UL DQS		
	SDMA	1999-08	DNV	2002-08	DNV		
	SEV	2009-09	BSI	2009-09	BSI	2012-12	BSI
	TSE	2001-12	UL DQS	2003-11	UL DQS	2012-11	UL DQS
	SEMA	2005-12	DNV	2005-12	DNV		
	SEPHIL	2002-09	SGS	2003-10	SGS		
	SIEL-P(C)	2008-09	BV	2008-09	BV		
	SIEL-P(N)	2000-06	AFNOR	2003-08	AFNOR		
	TSEC	2000-02	BV	2004-10	BV		
	TSOE	2008-02	CQC	2010-02	CQC		
	TSLED	2010-04	BSI	2010-04	BSI		
	SEHZ	2005-05	CQC	2006-03	CQC		
	TSTC	2005-05	UL DQS	2005-05	UL DQS		
	SSKMT	2005-04	SSCC	2005-04	SSCC		
	SSDP	2004-09	UL DQS	2004-11	UL DQS		
	SESC	2004-02	CQC	2004-02	CQC		
	SESS	2004-05	SGS	2004-05	SGS		
	SSEC	2003-11	CQC	2005-06	CQC		

Status of Workplace Environment Management

Water resource management

With the problem of water shortages having emerged as a widespread global issue, Samsung Electronics clearly recognizes its responsibility as one of the world's leading IT companies. As such, it implements enterprise water resource management policies and reduction targets, and prepares and executes response strategies to decrease serious management risks. Furthermore, the enterprise water use status has been monitored for several years. Based on the monitoring results, Samsung Electronics carries out water saving activities, secures stable water supply sources, and makes efforts to maintain them.

Water resource policies

Samsung Electronics recognized the importance of global water resource issues, and therefore established the water resource management policy to minimize management risks due to water shortages and increase communication with its stakeholders.

Basic Philosophy

" Samsung Electronics recognizes the importance of water resources in the sustainability of society and business management, and contributes to its protection as a responsible corporate citizen of global community. "

Code of Conduct

1 **Strive to minimize water risk impact by our business activities**
Analyze the impacts of our products, production activities and services make on water resources and minimize risks by identifying and implementing new technologies.

2 **Instill an awareness of the importance of water resources as a part of our corporate culture**
Integrate the importance of water resource protection and sustainability management into the corporate culture and ensure responsible water resource management by employees with the highest consideration for the impact on local communities and the environment.

3 **Proactively cooperate with public water policies.**
Proactively contribute to the establishment and implementation of water resource management policies by international institutes, the government and local authorities in line with relevant guidelines.

4 **Disclose our policies and activities on water resource management**
Disclose company policies and activities related to water resource use to stakeholders including local communities in a transparent manner.

Water resource status

Using the water resource management tools distributed by the FAO and the WBCSD, Samsung Electronics has identified the water resource risks in its 34 owned manufacturing plants. According to the recommendations of Carbon Disclosure Project, Samsung has analyzed each water resource risk associated with its business sites in countries suffering severe water stress and has developed differentiated emergency countermeasures for each site.

Risk Management

	Description	Risk Countermeasures
Physical Risks	Water quality degradation	• Assurance of water quality throughout Water pre-treatment process
	Floods	• Creation of wetlands, establishment of embankments, and subscription to natural-disaster insurance
	Water supply disruptions	• Building dual main water supply lines and sufficient water storage facilities to prevent disruptions of work
Regulatory Risks	Changes in regulations on water usage & disposal	• Establishment of internal regulations on discharge concentration that are stricter than legally required; increased water recycling to reduce discharge quantity
	Efficiency standards legislation	• Evaluation of water efficiency for new facilities; investments in existing facilities for water efficiency improvements
	Uncertainty over new legislation	• Continuous monitoring of global environmental legislation trends

	Description	Risk Countermeasures
Reputation Risks	Disposal of wastewater	• Continuous monitoring of discharge water and early establishment of environmental management system (EMS) for new manufacturing facilities
	Wastewater leakage, etc.	• Operation of emergency response organizations and enhanced internal and external communication about the company's water resources management

Water resource Management

In 2012, Samsung Electronics' industrial water consumption declined sharply due to the separation of the LCD sector, which accounted for 48%* of the company's entire industrial water consumption. Municipal water and groundwater consumption experienced slight increases due to added employees, cafeterias and sanitation facilities. Samsung Electronics will implement effective water consumption reduction activities to achieve its target of 50 tons/KRW 100 M by 2015.

Water withdrawal

Description		Withdrawal by water intake source (1,000 tons)				Consumption intensity (ton/KRW 100 M)
		Industrial water	Municipal water	Ground water	Total	
Korea	2012**	49,003	6,014	235	55,252	39
	2011	103,562	5,834	205	109,601	91
	2010	91,225	5,145	180	96,550	86
Global	2012**	49,003	18,806	827	68,636	41
	2011	103,562	17,325	780	121,667	74
	2010	91,225	13,457	607	105,289	68

Waste water generation

Description		Generation (1,000 tons)	Waste water intensity (ton/ KRW 100 M)
Korea	2012**	43,291	31
	2011	97,370	81
	2010	87,639	78
Global	2012**	49,289	29
	2011	102,906	62
	2010	91,183	59

 * The proportion of water used by the LCD Business Division in 2011.

** The split of the LCD Business Division and the merger of the LED Business Division are reflected in the figures.

Water resource saving activities

Samsung Electronics' water resource conservation efforts can be divided into two broad types: minimization of water inflow through manufacturing process efficiencies and optimization of water use through retreatment and recycling facilities. In 2012, Samsung Electronics conserved a total of 42,104 thousand tons of water through the following water resource conservation efforts.

Water resource conservation efforts

Optimization of water management processes for utility systems and semiconductor production	Installation of discharge water treatment systems for optimum recycling	Use of discharged water in other processes
• Optimization of the water used for ultrapure water production, web scrubber, cooling tower, and wastewater processing facilities	• Re-processing of acid/alkaline and organic wastewater for the ultrapure water production system • Re-processing of sewage to produce firefighting and landscaping water	• Re-use of ultrapure water for other processes • Re-use of condensed water generated by the outdoor air handling unit, and concentrated water discharged from the cooling tower for the web scrubber

Water Recycling

Description		Recycled Water		Recycled Ultra-Pure Water		
		Recycled Quantity (Unit : 1,000 tons)	Recycling Rate (%)	Supply Quantity (Unit : 1,000 tons)	Recovery Quantity (Unit : 1,000 tons)	Recovery Rate (%)
Korea	2012*	34,225	61.9	29,226	13,917	47.6
	2011	81,863	74.7	117,321	59,289	50.5
	2010	72,832	75.4	121,170	67,693	55.9
Global	2012*	42,104	61.3	40,988	21,510	52.5
	2011	90,068	74.0	128,554	66,676	51.9
	2010	79,012	75.0	127,636	72,812	57.0

* The split of the LCD Business Division and the merger of the LED Business Division are reflected in the figures.

Internal/external communication regarding water resources

Samsung Electronics discloses information on its business places' water resource consumption to key stakeholders including employees and local communities in a transparent manner.

Employees can check the status of the company's water resource management, and Samsung Electronics provides water saving guidelines, and encourages its employees to apply guidelines in daily life. In addition, Samsung Electronics carries out river ecosystem preservation activities together with local NGOs and local school students.

Impact of waste water discharge on public waters

Samsung Electronics discharges all wastewater generated by its work places after processing it at internal processing facilities. The company's internal standard, which is more stringent than the national legal standard, is applied to discharge water, and discharge water is monitored. For some of domestic workplaces located inside industrial complexes and overseas work places, wastewater generated at the work place is processed internally first, and then re-processed by sewage treatment facilities before discharge. In addition, Samsung Electronics looks to increase biological diversity and preserve the environment by carrying out environmental preservation activities around rivers in the vicinity of its business places throughout the world, together with NGOs and local school students.

Workplace	Refined wastewater discharged into river
Suwon	Woncheoncheon Stream
Hwaseong	
Gumi	-
Gwangju	-
Giheung	Osancheon Stream
Onyang	Gokgyocheon Stream

Stream Preservation Activities (Gumi work place)

Water ecosystem preservation and water quality improvement activities

The semiconductor work place monitors the water quality of rivers into which wastewater is discharged and the impact on the ecosystem, and carries out continuous improvement activities in association with local colleges.

Large amounts of steam are generated by the discharged water from the company's business places during the winter season, due to the temperature difference with the surrounding area. As such, discharge water reduction facilities have been installed at various rivers to protect their ecosystems. Furthermore, the exotic fish known as the "Nile mouth breeder", which disturbs certain river ecosystems, has been eradicated by reducing the temperature of discharge water to under 10℃ in the winter season. Also, the secondary damage caused by stream around dewatering outlets has been prevented to improve the river environment. Samsung Electronics will continue monitoring the water quality and water ecosystems of its final discharge rivers, and will continue studying and investing in preserving the ecosystem.

Waste management

As part of its efforts to prevent resource depletion and improve the resource recycling rate by minimizing resource consumption, Samsung Electronics aims to recycle all waste materials generated by its work places.

To achieve this goal, the number of waste materials for recycling is being expanded continuously. Meanwhile, waste processing companies are visited regularly to check that they comply with the regulations and Samsung Electronics' standards, in order to prevent illegal processing and movement between nations.

Due to the split of the LCD Business Division in 2012, waste quantity reduced by 19% in comparison to that of the previous year. Thanks to continuous recycling efforts, 94% of all waste materials generated at work places throughout the world were recycled. In particular, sludge remaining after wastewater processing and ash remaining after waste incineration were recycled. As a result, the quantity of burial waste was reduced by 43%* compared with the previous year.

Samsung Electronics will resolutely implement efficiency enhancement activities in its resource cycling system, in order to achieve the goal of 0.38 tons/KRW 100 Million** waste generation in revenue KRW and a recycling rate of 95%by 2015.

Generation

Unit: tons

Description		Waste generation quantity		
		Non-hazardous waste	Hazardous waste ***	Total
Korea	2012	317,905	61,859	379,764
Global	2012	493,349	86,125	579,474

Waste processing quantity

Description		Waste in proportion to processing methods (tons)				Waste intensity (ton/KRW 100 million)	Rate of recycling (%)
		Recycling	Incineration	Landfill	Total		
Korea	2012****	364,588	9,277	5,899	379,764	0.27	96
	2011	490,123	12,255	22,009	524,387	0.43	93
	2010	489,492	17,173	14,252	520,917	0.46	94
Global	2012****	543,233	16,627	19,614	579,474	0.34	94
	2011	645,942	16,786	49,143	711,871	0.43	91
	2010	604,266	22,742	36,144	663,152	0.43	91

* The result of the LCD Business Division in 2011 is excluded from the figure.

** The target was recalculated due to the split of the LCD Business Division and the merger of the LED Business Division.

*** Calculation by work place due to the different calculation criteria of each country.

**** The split of the LCD Business Division and the merger of the LED Business Division are reflected in the figures.

Recycling Rate

Unit : %

- ■ Global
- ■ Korea

	2010	2011	2012
Korea	94	93	96
Global	91	91	94
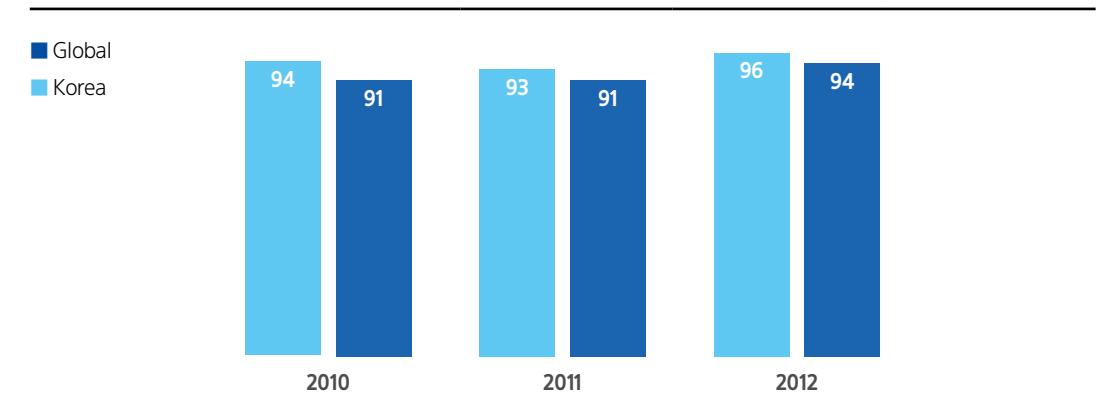
Pollutant management

Samsung Electronics conducts research on environmental pollutant reduction and invests in facilities. Furthermore, in relation to the discharge of environmental pollutants, Samsung Electronics manages pollutants by applying an internal standard that is more stringent than the prevailing legal standards.
The discharge density of all discharge facilities in Korea is monitored 24 hours a day using the TMS (Tele Monitoring System); and an emergency response system is operated to take action at the moment a problem occurs.

Air contaminant management

Samsung Electronics has reduced the quantity of pollutant discharge by replacing its boilers with low NOx burner boilers, installing optimal prevention facilities when increasing new production lines, and continuously performing efficiency enhancement activities at its prevention facilities.

Generation of Air pollutant (Korea)

Unit: tons

Description		Air pollutant discharge quantity				
		NOx*	SOx	Dust	NH₃	HF
Korea	2012**	275	0.008	21	1	8
	2011	409	0.006	44	6	14
	2010	468	0.059	40	10	12

* Recalculated by applying the Special Act on Seoul Metropolitan Air Quality Improvement (The boiler discharge quantity has been added.)
** The split of the LCD Business Division and the merger of the LED Business Division are reflected in the figures.

Managing Ozone Depleting Substances (ODS)

Samsung Electronics does not use CFC substances that have high Ozone Depletion Potential (ODP), among the ozone depletion substances defined by the Montreal Protocol. Instead, it uses HCFC substances in refrigerators, and cooling equipment refrigerants and cleaners in its business places, as they have relatively low ODP. Furthermore, HCFCs will also be reduced by introducing new technologies that use HFCs, which do not deplete the ozone layer, in the near future.

Water pollutant management

The semiconductor workplace has applied the inorganic wastewater re-use system since 2008; and developed an acid/alkaline wastewater recycling technology in 2011, followed by a two-step waste water recycling system in 2012 that reduced overall waste water quantity.

Generation of Water Contaminants

Unit: tons

Description		Category				
		COD	BOD	SS	F	Heavy metals
Korea	2012*	149	92	21	175	20.2
	2011	755	210	91	345	21.6
	2010	584	110	56	244	1.6
Global	2012*	306	92	84	241	20.6
	2011	876	210	184	430	25.3
	2010	685	110	130	274	2.2

* The split of the LCD Business Division and the merger of the LED Business Division are reflected in the figures.
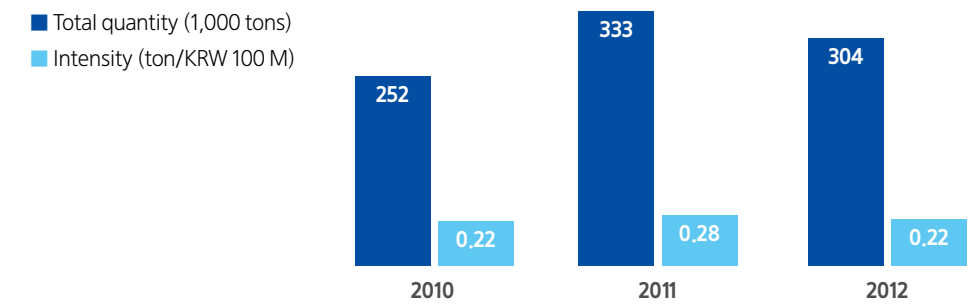
Managing soil contaminants

Samsung Electronics prevents soil pollution by chemicals at the source, by separately storing chemicals used in the production process at non-transmission processed storage facilities.
In addition, the components of burial waste generated at its work places are analyzed and legally processed using a legally-designated handling company. In addition, waste processing companies are visited regularly to check that they are complying with the regulations and Samsung Electronics' standards.

Management of hazardous materials

Samsung Electronics performs EHS pre-evaluation based on the MSDS (Material Safety Data Sheet), Chemical Warranty Letter, and LoC(Letter of Confirmation). Permitted chemicals are strictly monitored in their method of use and place of use while countermeasures are offered for possible incidents. Regular training is provided to the workers responsible for handling chemicals; storage and handling facilities are continuously monitored. In addition, chemicals are used at worksites equipped with safety equipment and the proper protection gear, and separately kept at non-transmission processed storage facilities.

Hazardous Materials Quantity (Korea)

- ■ Total quantity (1,000 tons)
- ■ Intensity (ton/KRW 100 M)

	2010	2011	2012
Total quantity	252	333	304
Intensity	0.22	0.28	0.22

Biodiversity

Biodiversity Conservation: Basic Philosophy and Action Plan

Demand for the protection of biodiversity is increasing since an international agreement on biodiversity protection was signed in 1992. Samsung Electronics is responding to changing demands by raising awareness on the importance of biodiversity. We have created a basic philosophy and action plan on biodiversity protection to promote it in our business activities.

Basic Philosophy of Biodiversity Conservation

" Samsung Electronics recognizes the benefits of healthy ecosystems and rich biodiversity, and we shall minimize negative impacts on biodiversity and actively promote ecosystem protection activities. "

Action Plan on Biodiversity Protection

❶ **Value Recognition**
All employees shall regard biodiversity conservation activities as an important part of green management.

❷ **Assessment and Reduction of impact on Environment**
Analyze lifecycle impact of our products on biodiversity and the ecosystem while making an effort to minimize all negative impacts identified.

❸ **Biodiversity Conservation Activities**
Place a higher priority on environmental management of operation sites with higher biodiversity and implement biodiversity protection activities tailored for each site.

❹ **Communication**
Maintain good communication with stakeholders including employees, local communities and NGOs, and collaborate with them to make contributions in local biodiversity protection initiatives.

Green Communication

Stakeholder Communication

Stakeholder Communication Programs

Samsung Electronics regards communication with all interested parties as the basis of its green management activities. As such, Samsung Electronics has defined six types of stakeholders as customers, suppliers, local communities, government, NGOs, and employees, and conducted an Materiality Test to reflect the opinions of various stakeholders. Based on this assessment, Samsung Electronics analyzed each internal and external stakeholder to find out the level of interest they have in the program and the impact they can make to the business. The results were applied to Samsung's management activities and the results of sustainability management are disclosed transparently to build positive relations with stakeholders.

Key Stakeholders and Communication Channels

Customers
• Customer relationship management (CRM)
• Eco-friendly awareness and satisfaction survey
• Provision of green marketing

Local communities
• Eco-friendly campaign with the participation of local residents
• Foundation of a "one company, one village" sisterhood relationship
• Children's environmental schools
• Hosting of college student CSR forums

Suppliers
• Energy saving partnership
• Support for greenhouse gas inventory
• Training in climate change response

NGOs
• Answering environment-related inquiries
• Response to green ranking
• Sustainability report, information posting on web pages

Employees
• Meeting with the CEO
• Samsung Live articles, Samsung Media
• Internal blogs, 100 Letter Discussion
• Eco-friendly campaign

Government
• Participation in the green consumption promotion policy by the Ministry of Environment
• Participation in the Environment Mark and carbon labeling system

Stakeholder Communication

Eco-Forum for college students

The "College Student Eco-Forum" was held in May 2012 to introduce Samsung Electronics' green management activities and eco-friendly products to 100 invited college students interested in corporate social responsibility and green management obligations. The college students who participated in the forum proposed their opinions about environmental protection and climate change response activities, as well as enterprise activities and the release of eco-friendly products by Samsung Electronics. Samsung Electronics will increase its open communication channels in order to hear the voices of college students and people from all walks of life.

PlanetFirst Summer School for primary school students

The PlanetFirst Summer School was opened for two days in July 2012 by inviting primary school students to participate in outdoor learning and eco-friendly education. Forty primary school students visited the 'Green Tomorrow of Samsung Corporation' located at Yongin, Gyeonggido, where they learned all about the eco-friendly Eco-home, and visited the green energy experience hall operated by the Korea Energy Management Corporation. On the second day, they visited the Delight Eco-Zone at the Seocho Samsung Building, and attended a lecture titled "Eco-friendly software in our daily life." Samsung Electronics plans to carry out various educational and experience programs to increase children's interest in eco-friendliness and raise awareness of green life.

PlanetFirst Talk

The PlanetFirst Talk on technologies that can coexist with nature was held in August 2012 and attended by 60 invited college and high school students. The talk explained why environment-related issues such as energy and greenhouse gas are the subjects of serious discussion in contemporary society, and the importance of green management activities. Students were also invited to freely air their opinions on nature-based technologies.

Membership in and Activities of Associations

WSC (World Semiconductor Council)

Samsung Electronics has taken the lead in the industry's joint efforts to reduce semiconductor processing gas (PFC) emissions and energy consumption by participating in the WSC's ESH TF. In 1999, Samsung Electronics voluntarily declared, along with other WSC members, to reduce its PFC (a representative greenhouse gas in the semiconductor area) emissions by 10% in 2010, compared with 1997, and successfully achieved this goal. Currently, WSC members share PFC reduction cases at the ESH Conference twice a year, and collaborate on efforts to develop effective reduction technologies.

KBCSD (Korea Business Council for Sustainable Development)

Samsung Electronics contributes to the sustainable development of Korean society, including greenhouse gas reduction, by participating as a vice-president company of the KBCSD, a Korean network of the WBCSD (World Business Council for Sustainable Development). In relation to greenhouse gas reduction, Samsung Electronics proposes policies for the efficient reduction of greenhouse gas emissions to the Korean government, and researches methods of expanding the infrastructure for the greenhouse gas reduction cooperation businesses of conglomerate companies and small and medium-sized companies.

G20 G2A2 (Green Growth Action Alliance)

Some 50 organizations, including Samsung Electronics, enterprises and financial institutes of the G20 countries, and international organizations, participate in the G2A2, which was established during the G20 Business Summit held in June 2012. The G2A2 proposes policies for promoting global green growth to G20 governments. Its proposals generally concern increase development and use of renewable energy sources, the promotion of eco-friendly product trading, the improvement of energy efficiency, and the promotion of investment by private enterprises in the green growth sector.

EICC (Electronic Industry Citizenship Coalition)

The EICC was established in 2004 by leading global electronics companies to discuss CSR issues and potential response initiatives. The EICC general meeting was held in Seoul in February 2012. At the regular meeting, first held in Korea with the support of Samsung Electronics, key CSR activities are introduced along with the shared growth policies of the Korean government.

Employee Environmental Communication

Samsung Electronics holds various eco-friendly events and training programs, voluntary services, and campaigns in order to encourage its employees to take an interest and participate in environmental protection activities, and engages in active communication with its employees. In particular, Samsung Electronics declared its determination to protect the ecosystem by holding a declaration ceremony of the "basic concept of biological diversity preservation" at Gwangreung Forest, which was designated as a biosphere reserve by UNESCO in July 2012.

Declaration ceremony of the "Biodiversity Preservation"

Samsung Electronics held a ceremony to declare the "basic concept of biological diversity preservation" at Gwangreung Forest, which was designated as a biosphere reserve by UNESCO in 2012. During this event, in which 100 employees and their families participated, children learned about native plants and autogenous insects during the ecology class. Then, participants removed invasive plants that disturb the ecosystem and clean the streams around the arboretum.

Declaration of the "Biodiversity Preservation"

Biodiversity Conservation Activities

Green Insight lectures

The eco-friendly lecture was held by inviting, the producer of the MBC documentary Tears of the Earth, in order to increase employee's interest in the environment on June 5, World Environmental Day. Some 250 participating employees realized that human greed is destroying the earth's ecosystems, such as the Amazon River and the Antarctic, at high speed; and learned that human beings are a part of nature and thus should coexist with nature, by observing the way of life of primitive tribes and penguins that live in harmony with nature, as examples.

Green Insight Lecture

Spring Festival

The "Spring Festival" was held in May 2012 by inviting about 5,000 employees and their families to a virtual experience related to "climate change and greenhouse gases" and an eco-friendly class for children. Participants learned about the significance of Samsung Electronics' PlanetFirst initiative and experienced first-hand the eco-friendly lifestyle habit.
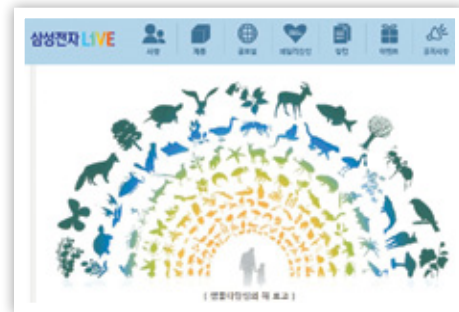

Virtual experience of greenhouse gas

Eco Class

Samsung Electronics Live Channel

Samsung Electronics Live Column

Samsung Electronics Live, an internal online communication channel, is designed to encourage employees to take greater interest in the environment and practice an eco-friendly lifestyle. In 2012, various articles were posted on the channel, including "The importance of water", "PlanetFirst children's green classroom", and "Global warming and biological diversity". Employees are encouraged to read the environment-related information contained in these articles and discuss them online.

Green job creation in Cambodia through UNIDO partnership

Samsung Electronics has been implementing a partnership project in Cambodia by providing US$ 1,350, 000 of support together with UNIDO (United Nations Industrial Development Organization) and KOICA (Korea International Cooperation Agency) since July 2012, in order to train the personnel who will repair electronics and process E-Waste and electronic equipment. Samsung Electronics will prevent environmental pollution caused by the illicit burial of E-Waste and provide jobs to Cambodian youth during this project, which will continue until June 2015. Samsung Electronics plans to educate about 200 engineers in the field of electronics repair services and E-Waste in connection with the Ministry of Labor, Ministry of Environment, and the National Technology Training Institute in Cambodia, by dispatching internal experts to Cambodia. In addition, Samsung Electronics will select and nurture electronic equipment processing companies in five areas including Phnom Penh in Cambodia, and support the employment of the trainees and encourage them to start their own business. More and more electronic appliances are being used in Cambodia every year, but a significant amount of malfunctioning products are needlessly discarded due to a lack of product repair technologies, personnel, and recycling facilities, which further increases environmental pollution. Samsung Electronics proposes E-Waste handling methods to the Cambodian government, using the collection and recycling know-how accumulated, and plans to invite the related parties to visit the related processing facilities in Korea.

Samsung Electronics-UNIDO Partnership

Training engineers to fix E-Waste and electronic equipment

Global Environmental Preservation Activities

Samsung Electronics carries out environmental protection activities all around the world in keeping with its strong sense of responsibility towards the protection of the global environment. In particular, Samsung Electronics is promoting a diverse range of programs, including an environmental purification program and local resident education for developing countries, as well as environmental classes for children from underprivileged social groups.

Korea

Bird Protection

Since 1991 Samsung Electronics has been supporting the "Winter migratory bird-feeding event", "Bird sister school", and "Inviting children from remote islands to Seoul" programs hosted by the Korean Association for Bird Protection, in order to protect Korea's wildlife and natural monuments.
Cleaning and winter migratory bird feeding events have been conducted at the Nakdong River habitat for migratory birds since 2002, with the participation of the environment sister school, the Ministry of Environment, Gumi City, and NGOs dedicated to ecosystem protection. Such events are designed to raise awareness of the importance of the environment among students of the environment sister school.

'World Water Day' Ecosystem Preservation

On March 22, the 'World Water Day', Samsung Electronics conducts various water saving and water ecosystem preservation activities together with local autonomous bodies and NGOs at home (Suwon, Giheung, Hwagseong, Onyang, Gumi, Gwangju) and abroad (China, Thailand).
On the 'World Day for Water' in 2013, Samsung Electronics held a mural painting event for Woncheoncheon Stream;

planted willow trees near the source of the river to create ecological waterways; carried out river purification activities to improve the water quality of rivers situated near to business premises; and promoted an advertisement campaign to protect the Suwon green frog, which is an endangered species.

Green Camp with Family

In October 2012, the Gumi manufacturing site invited 120 employee family members and sister school students to the "Green camp for love of the environment and family" held at the Geumosan Mountain Environment Training Institute, Gyeongsangbukdo. The event was designed to inform local residents and children of the seriousness of climate change and the importance of practicing a low-carbon, green lifestyle. The camp ran various programs designed to promote understanding of climate change, introduce methods of practicing the green lifestyle, and show the participants how to create an ecosystem food chain, as well as a forest experience.

Feeding migratory birds

Source of the river purification activities

Mural painting of the Woncheoncheon Stream

Green Camp

Creating eco-bags

Green Class

China

"One company, one river" and "One company, one village"

The Shenzhen subsidiary in China conducts the "one company, one river" campaign continuously. Some 100 employees helped carry out river purification work every month near the Great Sand River, which has been designated as a protected river by Shenzen subsidiary, the Great Sand Park, Zhongshan Park, and the Mangrove. In addition, as a part of the "one company, one village" activities, eco-friendly education was provided to the students of the sister school as well as to neighboring primary schools. Furthermore, the Suzhou subsidiary in China ran a large-scale eco-friendly advertisement campaign to improve public awareness of the importance of environmental protection in 2012, as a part of the service activities designed to celebrate the 17th anniversary of its foundation. The subsidiary also performed tree planting events and environmental purification activities on major environment-related anniversaries including the Tree Planting Day, World Day for Water, and World Environmental Day.

Shenzen coporate's Clean activities

Children's eco-friendly activities for the "One company, One village" program

Participants in the Suzhou subsidiary 's environmental purification campaign

Central and South America

Amazon School Green Class

The Manaus corporate in Brazil opened a green class at the Amazon School located in the Amazon native village in October 2012. The green class, in which 75 local community students participated, included an essay-writing contest on the theme of climate change and the Amazon, and education about climate change. In addition, the students were introduced to methods of preserving the Amazon rainforest and eco-friendly activities that can be implemented in their daily life.

"Global Action" Event

Fifty employees of the Manaus subsidiary in Brazil participated in the Global Action Environmental event on May 5, 2012, together with 3,500 local residents. The importance of ecological preservation and environmental pollution prevention was discussed during the children's environment class, and an event in which toys were made with waste materials was held.

Amazon School Green Class

Amazon School Green Class

Global Action

South East Asia

Beach Purification in Malaysia

The Malaysia subsidiary carried out a beach purification campaign with the participation of 100 employees at Negeri Sembilan beach, and promoted awareness of the importance of the marine ecosystem and the practice of an eco-friendly lifestyle among tourists visiting the beach.

Tree-planting activity in Thailand

The Thailand subsidiary is planting trees at the Laemcha bang area as it is prone to flooding. This activity is designed to raise awareness among local residents of the importance of the forest ecosystem, and to prevent flooding.

Malaysian beach Clean Campaign

Malaysian beach Clean Campaign

Tree-planting activity in Thailand

Appendices

Europe

Green Class in Hungary

In Hungary, a green class was held eight times to raise awareness among local community residents and children of the importance of recycling and recycling methods. The green class, attended by 300 people, provided education on recycling methods by waste resource type, the significance of recycling, and Samsung Electronics' efforts to reuse E-Waste, and encouraged the participants to put these ideas into practice.

Making Bird nests in Slovakia

A bird nest-making event is held in Slovakia to protect rare birds that make their nests near the manufacturing sites. Employees made bird nests together with local community children and installed them on the roof of the manufacturing site. The children were also educated about the importance of the ecosystem and environmental protection.

Green Class in Hungary

Green Class in Slovakia

Making bird nests in Slovakia

Africa

Solar Power Project of the year

Samsung Electronics has been operating the Solar-Powered Internet School in Africa since 2011. Electricity is supplied to all facilities inside the schoolroom using photovoltaic panels. The Solar-Powered Internet School, which mainly educate youth in rural villages, was selected as the "Solar Generation Project of the Year" at the African Energy Awards in April 2012.

Solar-Powered Internet School

Solar-Powered Internet School

African Energy Awards Ceremony

Sec. 04
Contents

Independent Assurance Report

To the management of Samsung Electronics

We have been engaged by Samsung Electronics (the "Company") to perform an independent assurance engagement in regard to the following aspects of Samsung Electronics' 2013 Sustainability Report (the "Report").

Scope and subject matter

The information for the year ended December 31, 2012 (hereinafter, collectively referred to as the " ability Information") on which we provide limited assurance consists of:

- The Company's conclusion on meeting the principles of Inclusivity, Materiality and Responsiveness in the AA1000 Accountability Principles Standard 2008 ("AA1000APS");

- he "Facts and Figures" information on page 62 ~ 88 in the Report (except for the GHG emissions scope 1, scope 2 data and Energy consumption data, the "Sustainability Data") which is based on the reporting principles set out on "About This Report" (the "Reporting Principles").

With regard to the financial data included in the key figures on pages 62~63, our procedures were limited to verifying that they were correctly derived from the Company's audited consolidated financial statements.

We read the other information included in the Report and consider whether it is consistent with the Sustainability Information. We consider the implications for our report if we become aware of any apparent misstatements or material inconsistencies with the Sustainability Information. Our responsibilities do not extend to any other information.

Assurance work performed

We conducted our engagement in accordance with ISAE 3000(1) and AA1000AS(2). The term 'moderate assurance' used in AA1000AS is designed to be consistent with 'limited assurance' as articulated in ISAE 3000. Our assurance is a Type II assurance engagement as defined in the Guidance for AA1000AS.

(1) International Standard on Assurance Engagement 3000 (Revised) - 'Assurance Engagements other than Audits or Reviews of Historical Financial Information' issued by International Auditing and Assurance Standards

Board
(2) AA1000 Assurance Standard(2008), issued by AccountAbility

Our work involved the following activities:

1. Interviews with the personnel responsible for internal reporting and data collection to discuss their approach to stakeholder inclusivity, materiality and responsiveness.
2. Visits to the Company' headquarters and two domestic offices: to understand the systems and processes in place for managing and reporting the Sustainability Data.
3. Review of a sample of internal documents relevant to output from the risk assessment process, sustainability-related policies and standards, the sustainability Materiality Assessment Matrix and other documents from stakeholder engagement activities
4. Evaluating the design and implementation of the key processes and controls for managing and reporting the Sustainability Data.
5. Limited testing, through inquiry and analytical review procedures, of the preparation and collation of the Sustainability Data.

Respective responsibilities of the management of the Company and Samil PricewaterhouseCoopers

The management of the Company is responsible for establishing assessment criteria that meets the principles of Inclusivity, Materiality and Responsiveness in the AA1000APS, measuring performance based on the "Assessment Criteria", and reporting this performance in the Report.

Our responsibility is to provide a conclusion based on our assurance procedures in accordance with ISAE 3000 and AA1000AS.

This report, including the conclusion, has been prepared for the management of the Company as a body, to assist the management in reporting on the Company' sustainability performance and activities. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the management of the Company as a body and the Company for our work or this report save where terms are expressly agreed and with our prior consent in writing.

Inherent limitations

Non-financial performance information is subject to more inherent limitations than financial information, given the characteristics of the subject matter and the methods used for determining such information. Qualitative interpretations of relevance, materiality and the accuracy of data are subject to individual assumptions and judgments.

A limited assurance engagement is less in scope than a reasonable assurance engagement under ISAE 3000. Consequently, the nature, timing and extent of procedures for gathering sufficient, appropriate evidence are deliberately limited relative to a reasonable assurance engagement. In particular:

- We did not attend any stakeholder engagement activities. Therefore our conclusions are based on our discussions with management and staff of the Company and our review of selected documents provided to us by the Company.
- The scope of our work was restricted to 2012 performance only, as set out in the scope and subject matter section above. Information relating to the year ended December 31, 2011 and earlier periods have not been subject to assurance by us.

Conclusion

Based on the results of the assurance work performed and the Assessment Criteria, our conclusion is as follows:

- On the AA1000APS principles;
  Inclusivity
  - The Company has collected concerns and opinion through stakeholder communication channels that include customers, employees, the government, business partners, local community, stockholder/investor, press and NGOs
  - Nothing has come to our attention to suggest that material stakeholder groups were excluded in these channels.
  Materiality
  - The Company has identified most relevant and significant sustainability issues through process for

identifying material issues.
  - Nothing has come to our attention to suggest that material issues were omitted in this process.
  Responsiveness
  - The Company has included in the Report its response to the material sustainability issues which are defined through process for identifying material issues.
  - Nothing has come to our attention to suggest that there were material deficiencies in the issue management system.

- Nothing has come to our attention that causes us to believe that Sustainability Data for the year ended December 31, 2012 are not fairly stated, in all material respects, in accordance with the Reporting Principles.

Recommendations

From our work, we have provided the following recommendations to the management.

- In the report, economic performance is reviewed at a corporate level, including all domestic and overseas offices/sites and subsidiaries. However, sustainability performance review is limited to the domestic operation of the Company and overseas manufacturing subsidiaries only. In order to ensure that the sustainability management review is comparable to the economic performance review, we recommend the Company broaden the scope of the sustainability management subject to reporting to cover all the domestic and overseas subsidiaries.
- It is recommended to establish the objective and the performance management criteria for the sustainability key performance indicators for continuous improvement. Communication with internal and external stakeholders is required through disclosing these activities and the results need to be reflected upon when managing objectives.
- In addition, it is required to create the environmental and social value beyond compliance, which turns to economic benefits in the long term, and also disclose the details of the progress to stakeholders.

Samil PricewaterhouseCoopers
Seoul, Korea

June, 2013

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	4.14	List of stakeholder groups engaged by the organization.	6.2	Stakeholder Engagement	20~22
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G3.1		Disclosure Items	ISO 26000	Page	Application Level
Economic Disclosure on Management Approach				14~19	
Economic Performance	EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments.	6.8/6.8.3/6.8.7/6.8.9	8~11, 14, 15, 62~67	●
	EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change.	6.5.5	48~51, 78~85	●
	EC3	Coverage of the organization's defined benefit plan obligations.	6.5.5	9, 65, 74	●
	EC4	Significant financial assistance received from government.	-	66	●
	EC5	Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation.	6.4.4/6.8	-	○
	EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation.	6.6.6/6.8/6.8.5/6.8.7	76, 77	●
	EC7	Procedures for local hiring and proportion of senior management hired from the local community at significant locations of operation.	6.8/6.8.5/6.8.7	46, 47, 70, 71	●
	EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement.	6.3.9/6.8/6.8.3/6.8.4/ 6.8.5/6.8.6/6.8.7/6.8.9	34~41, 75~77	●
	EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts.	6.3.9/6.6.6/6.6.7/6.7.8/6.8/ 6.8.5/6.8.6/6.8.7/6.8.9	34~41, 75~77	●
Environment Disclosure on Management Approach				49~52	
Materials	EN1	Materials used by weight or volume.	6.5/6.5.4	ENV 21~23, 33 / 81, 82, 84	●
	EN2	Percentage of materials used that are recycled input materials.	6.5/6.5.4	ENV 23, 33 / 84	●
Energy	EN3	Direct energy consumption by primary energy source.	6.5/6.5.4	ENV 21~23 / 81	●
	EN4	Indirect energy consumption by primary source.	6.5/6.5.4	ENV 21~23 / 81	●
	EN5	Energy saved due to conservation and efficiency improvements.	6.5/6.5.4	ENV 22, 23 / 81	●
	EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.	6.5/6.5.4	ENV 24 / 81	●
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Water	EN8	Total water withdrawal by source.	6.5/6.5.4	ENV 43 / 52, 53, 86	●
	EN9	Water sources significantly affected by withdrawal of water.	6.5/6.5.4	ENV 43 / 52, 53, 86	●
	EN10	Percentage and total volume of water recycled and reused.	6.5/6.5.4	ENV 43 / 52, 53, 86	●
Biodiversity	EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	6.5/6.5.6	ENV 48 / 12, 13	●
	EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	6.5/6.5.6	ENV 44, 48	●
	EN13	Habitats protected or restored.	6.5/6.5.6	ENV 44, 48	●
	EN14	Strategies, current actions, and future plans for managing impacts on biodiversity.	6.5/6.5.6	ENV 44, 48	●
	EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.	6.5/6.5.6	N/A	●

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G3.1		Disclosure Items	ISO 26000	Page	Application Level
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	EN17	Other relevant indirect greenhouse gas emissions by weight.	6.5/6.5.5	ENV 14~20 / 79, 80	●
	EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved.	6.5/6.5.5	ENV 14~20 / 79	●
	EN19	Emissions of ozone-depleting substances by weight.	6.5/6.5.3	ENV 46	●
	EN20	NOx, SOx, and other significant air emissions by type and weight.	6.5/6.5.3	ENV 46 / 88	●
	EN21	Total water discharge by quality and destination.	6.5/6.5.3	ENV 43 / 86, 88	●
	EN22	Total weight of waste by type and disposal method.	6.5/6.5.3	ENV 45 / 87	●
	EN23	Total number and volume of significant spills.	6.5/6.5.3	ENV 47 / 88	●
	EN24	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.	6.5/6.5.3	No waste shipped internationally	●
	EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.	6.5/6.5.4/6.5.6	ENV 44	◑
Products and Services	EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.	6.5/6.5.4/6.6.6/6.7.5	ENV 24~37 / 48~51	●
	EN27	Percentage of products sold and their packaging materials that are reclaimed by category.	6.5/6.5.4/6.7.5	ENV 33, 34 / 84	◑
Compliance	EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	6.5	58	◑
Transport	EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.	6.5/6.5.4/6.6.6	ENV 19, 20 / 80	●
Overall	EN30	Total environmental protection expenditures and investments by type.	6.5	ENV 5 / 78	●
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	LA2	Total number and rate of new employee hires and employee turnover by age group, gender, and region.	6.4/6.4.3	74	●
	LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations.	6.4/6.4.3/6.4.4	46, 47	●
Labor/ management relations	LA4	Percentage of employees covered by collective bargaining agreements.	6.4/6.4.3/6.4.4/6.4.5/6.3.10	-	○
	LA5	Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements.	6.4/6.4.3/6.4.4/6.4.5	-	○
Occupational health and safety	LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs.	6.4/6.4.6	56~59	●
	LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region and by gender.	6.4/6.4.6	56~59	●
	LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.	6.4/6.4.6/6.8/6.8.3/6.8.4/6.8.8	56~59	●
	LA9	Health and safety topics covered in formal agreements with trade unions.	6.4/6.4.6	56~59	●
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	LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	6.4/6.4.7/6.8.5	46, 47, 74	●
	LA12	Percentage of employees receiving regular performance and career development reviews, by gender.	6.4/6.4.7	46, 47, 70	●
Diversity and equal opportunity	LA13	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.	6.3.7/6.3.10/6.4/6.4.3	6, 7	●
	LA14	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation.	6.3.7/6.3.10/6.4/6.4.3/6.4.4	Samsung Electronics offers fair compensation irrespective of gender, ethnicity, religion, social status or age	●
	LA15	Return to work and retention rates after parental leave, by gender.	6.3.7/6.3.10/6.4.4	73	●
Human Resource Disclosure on Management Approach				46, 47, 54, 55	
Investment and procurement practices	HR1	Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening.	6.3/6.3.3/6.3.5/6.6.6	54, 55	◑
	HR2	Percentage of significant suppliers, contractors and other business partners that have undergone human rights screening, and actions taken.	6.3/6.3.3/6.3.5/6.4.3/6.6.6	54, 55	●
	HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	6.3/6.3.5	HRD Programs include Human rights	◑

G3.1		Disclosure Items	ISO 26000	Page	Application Level
Non-discrimination	HR4	Total number of incidents of discrimination and corrective actions taken.	6.3/6.3.6/6.3.7/6.3.10/6.4.3	No violation	◑
Freedom of association and collective bargaining	HR5	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights.	6.2/6.3.3/6.3.4/6.3.5/6.3.8/6.3.10/6.4.3/6.4.5	20	●
Child labor	HR6	Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor.	6.3/6.3.3/6.3.4/6.3.5/6.3.7/6.3.10	22, 54, 55	●
Prevention of forced and compulsory labor	HR7	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor.	6.3/6.3.3/6.3.4/6.3.5/6.3.7/6.3.10	54, 55	●
Security practices	HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.	6.3/6.3.5/6.4.3/6.6.6	54, 77	◑
Indigenous rights	HR9	Total number of incidents of violations involving rights of indigenous people and actions taken.	6.3/6.3.6/6.3.7/6.3.8/6.6.7	No violation	●
Assessment	HR10	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.	6.3.6/6.3.9/6.3.10	2, 54, 55	◑
Remediation	HR11	Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms.	6.3.6/6.3.9/6.3.10	54, 55	●
Society Disclosure on Management Approach				34~41	
Local communities	SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs.	6.3.9/6.8/6.8.5/6.8.7/6.6.7	34~41	●
Corruption	SO2	Percentage and total number of business units analyzed for risks related to corruption.	6.6/6.6.3	68, 69	◑
	SO3	Percentage of employees trained in organization's anti-corruption policies and procedures.	6.6/6.6.3	68, 69	◑
	SO4	Actions taken in response to incidents of corruption.	6.6/6.6.3	68, 69	◑
Public policy	SO5	Public policy positions and participation in public policy development and lobbying.	6.6/6.6.4/6.8.3	22, 23	●
	SO6	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.	6.6/6.6.4/6.8.3	Our code of conduct prohibits contribution to political parties	●
Anti-competitive behavior	SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes.	6.6/6.6.5/6.6.7	-	○
Compliance	SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	6.6/6.6.7/6.8.7	-	○
Local communities	SO9	Operations with significant potential or actual negative impacts on local communities.	6.3.9/6.8/6.8.5/6.8.7	No operation site with significant potential or actual negative impacts on local communities	●
	SO10	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities.	6.3.8	34~41	●
Product Responsibility Disclosure on Management Approach				26~33	
Customer health and safety	PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.	6.3.9/6.6.6/6.7/6.7.4/6.7.5	48~51	●
	PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.	6.3.9/6.6.6/6.7/6.7.4/6.7.5	No violation	●
Product and service labelling	PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.	6.7/6.7.3/6.7.4/6.7.5/6.7.6/6.7.9	48~51	●
	PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.	6.7/6.7.3/6.7.4/6.7.5/6.7.6/6.7.9	No violation	●
	PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.	6.7/6.7.4/6.7.5/6.7.6/6.7.8/6.7.9	20, 32	●
Marketing communications	PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.	6.7/6.7.3/6.7.6/6.7.9	20	●
	PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes.	6.7/6.7.3/6.7.6/6.7.9	20	●
Customer privacy	PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	6.7/6.7.7	20	●
Compliance	PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.	6.7/6.7.6	20	●

● Fully Reported ◑ Partially Reported ○ Not Reported