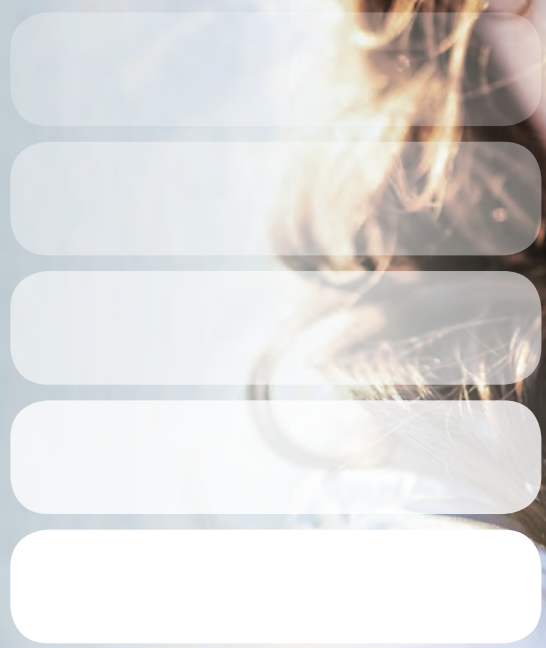


Samsung SDI  
Sustainability  
Report  
2013



# The 11th Report about Sustainability

## future confident

The graphic element connecting 'e' of 'future' and 'c' of 'confident' represents the connection of green technology to value creation and new business opportunity. Also, it symbolizes satisfaction of client and gratification of the next generation. Green color is chosen to implicitly show 'eco'.



Samsung SDI delivers smart solutions for a newly emerging energy world. In so doing, we make children laugh out louder and make this world a greener place. Samsung SDI remains dedicated to a flourishing and sustainable future for all.

Please contact us for further information at :

SM Office, Samsung SDI, 150-20 Gongse-ro, Giheung-gu, Yongin-si,  
Gyeonggi-do, Korea, 446-577  
Tel +82-31-8006-3366 Fax +82-31-8006-3399  
E-mail [sustainability@samsung.com](mailto:sustainability@samsung.com)  
URL [www.samsungsdi.com/cs-center/voice-of-customer](http://www.samsungsdi.com/cs-center/voice-of-customer)

### Samsung SDI presents its 11th sustainability report.

#### Reporting Period

From January 1 to December 31, 2013

Any significant changes prior to this publication in 2014 are specified in this report.

#### Reporting Scope and Boundary

This report covers all domestic and overseas production plants, sales subsidiaries, offices and the R&D center of Samsung SDI, unless due to difficulty in data collection, it is stated otherwise.

This report does not include suppliers and some subsidiaries of Samsung SDI in principle unless stated otherwise.

#### Reporting Framework

This report was prepared in accordance with the GRI (Global Reporting Initiatives) G3.1 Guidelines. Its data was extracted in accordance with GRI G3.1 protocols while internal management standards were applied for matters not stipulated in those protocols.

#### Assurance

To ensure the reliability of this report, a third-party assurance engagement was performed by an independent and objective organization in accordance with the international assurance standards of AA1000AS (2008)\*, AA1000APS (2008)\* and AA1000SES (2011)\*. The assurance outcomes appear in the Independent Assurance Report section of this report (p64-65).

\* AA1000AS (2008), AA1000APS (2008) : International assurance standards that aim to evaluate the reliability and quality of sustainability performance and reporting

\* AA1000SES (2011) : International standards for stakeholder engagement

# contents

---

Samsung SDI	04
CEO Message	06
Governance	08
Risk Management	10
Stakeholders	12
Preparing the Sustainability Report	14

---

## Our Sustainability Approach

01

Reaching New Frontiers through Creativity and Innovation



05

Win-Win Partnership

02

Eco-Value Creation



06

Creation of Customer Value

03

Compliance and Ethical Management



07

Community Involvement and Development

04

Employees & Corporate Culture



---

## Appendix

Economic Performance	60
Social Performance	61
Environmental Performance	62
Verification Statement on GHG Emission	63
Independent Assurance Report	64
GRI Index (G3.1)/ISO 26000	66
Samsung Value System	68

---



# Samsung SDI is an Eco-friendly and Clean Energy Solution Provider.

Samsung SDI operates 10 production plants and four sales subsidiaries, in addition to branches and offices in 12 countries across the globe. Its main production sites are located in Korea, China, Malaysia, Vietnam and Mexico.

Samsung SDI is comprised of several business divisions. These include the Cell, Pack, Automotive Battery Systems, ES (Energy Solution) and PDP business divisions. In November 2013, the Central Research Institute was relocated into the Samsung Material Research Complex and renamed the Battery R&D Center to be responsible for developing core materials for rechargeable batteries as well as next-generation battery technology. Samsung SDI's withdrawal of two production lines in China (the complete withdrawal of the CRT production line at the Shenzhen subsidiary) and Hungary (the PDP module production line withdrawal) prompted an organizational transformation from display to rechargeable battery-driven operations. In accordance with the global hub strategy, Samsung SDI expanded its small-sized rechargeable battery cell and pack production lines at its subsidiaries in Malaysia and Vietnam.

Samsung SDI signed the MOU with the Shanxi provincial government and ARN in January 2014 in order to initiate the construction of an EV battery plant in China. Currently, China is the biggest automobile manufacturer and it is projected that it will be the largest EV market of the future. Samsung SDI merged with Cheil Industries, an affiliate of the Samsung Group that specializes in materials. This acquisition deal was externally disclosed following the decision by Samsung SDI's board of directors on March 31 of 2014. Once approved at the general shareholder meeting on May 30, 2014, the merger will be completed on July 1, 2014.

\* Rechargeable batteries : Lithium-ion rechargeable battery (LIB)

1



## Small-sized Rechargeable Batteries

Powering IT devices, electronic tools and other mobile devices

2



## Automotive Rechargeable Batteries

Powering electric vehicles (xEV)

4



## Display PDP applications

3

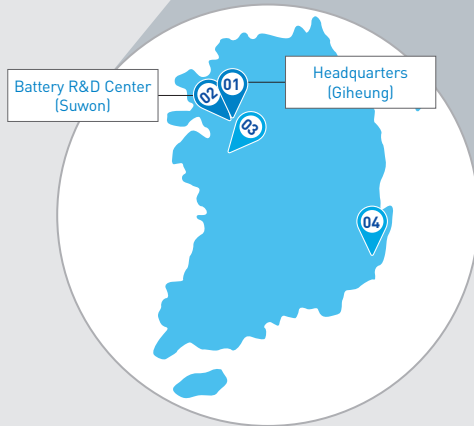


## ESS (Energy Storage System)

Storing electricity and using it when the need arises



## GLOBAL NETWORK



01	Korea	Giheung	Headquarters	
02	Korea	Suwon	Battery R&D Center	
03	Korea	Cheonan	Cheonan Plant	
04	Korea	Ulsan	Ulsan Plant	
05	China	Shenzhen	Shenzhen Subsidiary	SSDI
06	China	Shanghai	Shanghai Subsidiary	SSED
07	China	Tianjin	Tianjin Subsidiary	TSDI
08	Vietnam	Hanoi	Vietnamese Subsidiary	SDIV
09	Malaysia	Seremban	Malaysian Subsidiary	SDI (M)
10	Malaysia	Seremban	Malaysian Energy Subsidiary	SDIEM
11	Mexico	Tijuana	Mexican Subsidiary	SDIM
12	Hungary	Goed	Hungarian Subsidiary	SDIHU
13	U.S.	San Jose	U.S. Subsidiary	SDIA
14	Germany	Munich	European Subsidiary	SDIEU
15	China	Shanghai	Chinese Sales Subsidiary	SDIC
16	Japan	Tokyo	Japanese Subsidiary	SDIJ

\* Korea Battery R&D Center, Chinese Material Laboratory, Taiwanese R&D Center  
 ※ Other branches, offices and R&D locations were not included

### Sales (KRW trillion)

**5.0**

### Assets (KRW trillion)

**10.5**

Liabilities : 3.0 / Equity : 7.5

### Employees (Headcount)

**16,449**

Korea : 8,529 / Overseas : 7,920

### Product Sales

**25.8%**

Small-sized Rechargeable Batteries  
 Market Share

\* Source : B3

**6.2**

PDP (million units)

**3.0**

CRT (million units)

\* The production at the Shenzhen Subsidiary in China was terminated in 2013.

# CEO Message



**Samsung SDI accelerates its transformation into an Eco-Friendly and Clean Energy Solution Provider with a new definition of business, and ushers in a sustainable future by delivering innovative products, value beyond expectations and win-win partnerships with its stakeholders.**



Dear Stakeholders of Samsung SDI all Across the World :

Let me express my heartfelt gratitude for your continuous regard and support for Samsung SDI.

The year 2013 was a year of strenuous endeavors to overcome the global financial crises and recover the economy. Gaining economic vitality has never been an easy task and the prolonged low economic growth continued. Yet, in the face of such uncertainties in the external world, Samsung SDI rose to the challenge of overcoming these harsh business conditions through its robust drive for overall change and innovation .

Samsung SDI solidified its position as a global No. 1 company by further distancing itself from other competitors in the small-sized rechargeable battery market. With the full-fledged shipment of batteries for electric vehicles, Samsung SDI's automotive battery operations exceeded its target in winning contracts last year and this put its automotive battery business on the right track for solid and stable growth. In the ESS segment, Samsung SDI's share in the Japanese residential application market rose significantly and its technology was widely recognized as it became the 1st in the industry to obtain quality certifications in the U.S., Japan and Germany.

Meanwhile, as major and minor safety incidents have occurred in Korean companies and raised alertness, Samsung SDI further reinforced its safety & environment management system. Samsung SDI integrated safety & environment groups in its domestic plants and upgraded their status as a team under the supervision of an executive. It also established a safety-centered organizational culture through the realignment of wide-ranging safety environmental standards and by reinforcing the prevention of chemical accidents. These safety initiatives were also disseminated to suppliers.

The shared growth programs with the suppliers have been also further developed. Samsung SDI became the 1st in the domestic electrical and electronics industry to forge clean production partnerships with its suppliers who possess a global presence. Furthermore, it undertook the Global Green Partnership projects to build stronger capabilities to respond to environmental regulations.

Samsung SDI quantifiably measured and managed the environmental impact of its products and business sites, so as to minimize its environmental footprint throughout the entire life cycle of its products and services. The company developed social contribution programs that are aligned with its business operations and engaged more employees in such social-giving and talent-donation programs. Its sustained commitment to corporate social responsibility was publicly recognized as Samsung SDI became the 1st Korean company to be listed on the Dow Jones Sustainability World Index for ten straight years as of 2013.

In July 2014, Samsung SDI will take on a new challenge through the merger with Cheil Industries, a Samsung affiliate specialized in materials. Samsung SDI redefined its strategy to build on the synergistic effects from this merger. This merger will allow Samsung SDI to break through its limitations as a parts and system provider and to evolve into a truly world-class company in the materials and energy sector.

Samsung SDI vows to always strive to achieve joint-growth with its shareholders together. Samsung SDI will continue to build capabilities for future growth, do its utmost to deliver the greatest-possible customer satisfaction and communicate with the local communities to pursue mutually-beneficial partnerships.

As the company takes a new leap forward towards a sustainable future, we would like to ask for your continued interest in and support for Samsung SDI.

Sang-Jin Park  
President & CEO




# Governance

## Board of Directors

Samsung SDI has a Board of Directors that consists of experts in diverse fields and runs it independently pursuant to Korea's Commercial Act and Securities and Exchange Act. Presently, a total of five directors (two inside and three outside directors) serve on the BOD and the company CEO uses his managerial expertise and responsibility in his role as the Chairman of the BOD.

To guarantee fairness and independence in appointing outside directors, the Outside Director Recommendation Committee recommends candidates from a pool of external experts who demonstrate rich knowledge and experience in business, economy, law and technology. The final appointment decisions are made at the general shareholder meetings. The general shareholder meeting on March 14, 2014 voted in favor of the re-appointment of Sang-Jin Park as an inside director and Sung-Jae Kim as an outside director.

### BOD Composition

Category	Name	Gender	Age	Current Position	Note
Inside Director	Sang-Jin Park	Male	61	President and CEO	Re-appointed
	Young-Sik Kim	Male	56	Head of Corporate Management Office, CFO	No change
Outside Director	Hee-Kyeong Kim	Female	60	Professor of Finance and Insurance, Sangmyung University	No change
	Sung-Jae Kim	Male	61	Professor of Business Management, Hankuk University of Foreign Studies	Re-appointed
	Min-Gee No	Male	59	Non-standing Commissioner at the National Labor Relations Commission	No change

\* As of Mar. 14, 2014

### BOD Committees

The BOD operates four committees: the Management Committee, Audit Committee, Nomination Committee and Related Party Transaction Committee. Specifically, the Management Committee, supervised by the company CEO, has the direct responsibility for Samsung SDI's economic, environmental and social performance.

### Status of Committee Operations

Committee	Purpose	Member
Management Committee	Deliberate and decide on major current business issues	Two inside directors
Audit Committee	Perform audits on business operations, accounting management and the operation of BOD members	Three outside directors
Nomination Committee	Nominate outside director candidates to be appointed at the general shareholder meeting	Two inside directors, Three outside directors
Related Party Transaction Committee	Establish a self-initiated fair trade compliance system and improve the transparency of internal transactions	Three outside directors

Samsung SDI ensures stronger shareholder rights and BOD-driven decision-making to conduct business transparently and responsibly as a way to deliver greater corporate value to its stakeholders.

## Responsibility and Operations of the BOD

The board of directors is responsible for deliberating and deciding on matters stipulated by applicable laws or by the BOD Bylaws, basic management guidelines or other important matters. The board convenes regular quarterly meetings along with ad-hoc meetings on an as-needed basis to address important matters. In 2013, five regular and two ad-hoc BOD meetings were held. The board also avoids any conflict of interest among stakeholders concerning its decision-making by fully examining relevant regulations and gathering feedback from stakeholders in advance. To prevent any conflict of interest and ensure independent BOD operations, directors who have a special stake in the BOD agenda are prohibited from voting.

### Major Decisions Made by the BOD in 2013

Date of BOD Meeting	Agenda	Approval	Attendance of Outside Directors
Jan. 2, 2013	Reporting the merger with SB Limotive Co., Ltd.	Approved	3/3
Jan. 23, 2013	Approving the FY 2013 financial statement and business report	Approved	3/3
Feb. 18, 2013	Convening the 43rd regular general shareholder meeting and three other subjects	Approved	3/3
Mar. 15, 2013	Appointing and compensating directors and eight other subjects	Approved	3/3
Jul. 26, 2013	Making equity investment in SDC patent entity (IKT)	Approved	3/3
Oct. 25, 2013	Signing a [packaged] fire insurance contract	Approved	3/3
Dec. 13, 2013	Approving the securities transactions made with Samsung C&T Corporation Co., Ltd and five other subjects	Approved	3/3

### Executive Performance Assessment

Remuneration for the top management consists of a base salary pre-determined for each job position and performance pay, which is differentiated by individual performance assessment outcomes. Performance assessment covers safety, environment, labor relations, anti-corruption, security and other socially-related aspects from the risk management perspective, in addition to sales, net income, stock prices and other financial outcomes. In addition to these evaluation aspects, Samsung SDI added compliance criteria to its executive performance assessment scheme in 2012.

### Remuneration Policy for the BOD

12 billion KRW was approved as the BOD remuneration limit at the 2013 general shareholder meeting while 3.782 billion KRW was actually paid to the board members. Individual compensation data as well as calculation criteria and methods for directors and auditors are detailed in Samsung SDI's 44th Business Report.

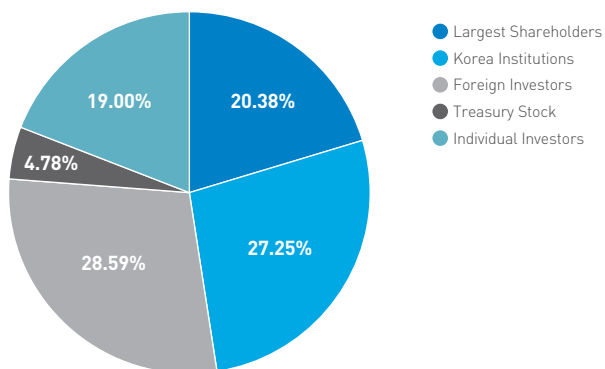


### Shareholders

Samsung SDI is a public company listed on the Korea Exchange (KRX). As of December 31, 2013, the number of issued shares totaled 47,176,237 (45,558,341 common shares and 1,617,896 preferred shares). On a common share basis, Samsung Electronics is the largest shareholder with 20.38%, followed by the National Pension Service and Capital Research & Management with 9.76% and 5.43% respectively. The company CEO reports business outcomes to shareholders and decides on major matters on the agenda with the consent from shareholders at the annual general shareholder meetings. Samsung SDI gathers feedback from shareholders in making important decisions and conducting business while integrating such feedback into overall business operations through an in-depth review of its top management and board members. Furthermore, Samsung SDI allows shareholders to raise derivative suits and inspect its books & records as a way to protect minority shareholder rights and reflect minority shareholders' feedback in making business decisions. In 2013, however, there were no cases of such minority shareholder rights exercised.

### Composition of Samsung SDI Shareholders

\* Based on common shares



### Communication

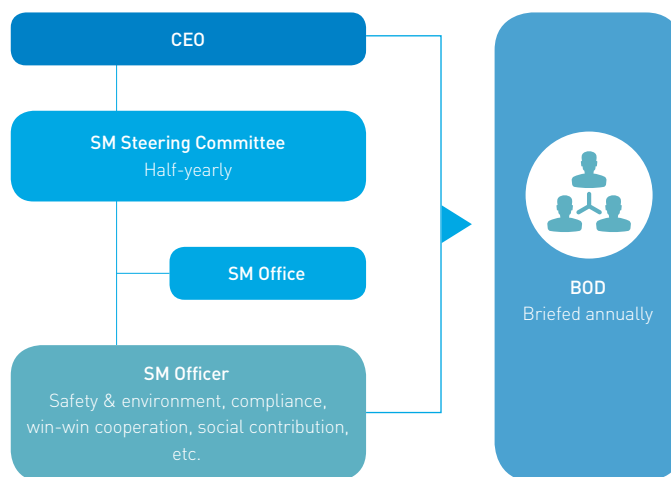
Samsung SDI undertakes proactive communication initiatives to deliver greater shareholder and investor value. Its business outcomes are disclosed quarterly and diverse IR activities are taken. Such activities range from IR road shows in Korea and abroad, attendance at conferences hosted by securities firms to one-on-one meetings. Furthermore, Samsung SDI's website enables shareholders and investors to search for corporate financial information and business results and to submit their opinions as a way to access information and communicate with the company.

\* IR Information : [www.samsungsdi.com/about-sdi/ir/stocks/dividends](http://www.samsungsdi.com/about-sdi/ir/stocks/dividends)

### SM (Sustainability Management) System

Samsung SDI's Sustainability Management (SM) Office functions as a company-wide coordinator for sustainability management planning as well as for respective environment and social sectors. Meanwhile, the company CEO and other executive members serve on the Sustainability Management (SM) Steering Committee, a high-level consultative body, to advance sustainability management. In 2013, the committee was briefed on changes in the external environment and key issues as well as on Samsung SDI's action strategy with regard to sustainability. The BOD is also separately updated on sustainability management: major sustainability management initiatives undertaken in 2013 and major plans set for 2014 were reported to the BOD meeting held in January 2014.

### Samsung SDI's SM (Sustainability Management) System



#### Major Activities of the SM Steering Committee in 2013

- **Reviewing External Evaluation Results of 2012 Sustainability Management**
- **SM Trends and Key Issues in 2013**  
GHG & energy, global environmental regulations on products, conflict mineral regulations, CSR along the supply chain, and changes in sustainability reporting disclosure standards (GRI G4, ESG\*), etc.
- **Sustainability Management Strategy and Action Plans**

\* ESG (Environmental, Social and Governance)

#### Major Issues Reported to the BOD (Jan. 24, 2014)

- **Major Initiatives and Achievements in 2013**
- **Shifting Trends in Sustainability Management**
- **Major Action Plans for 2014**  
Governance, compliance management, green management, win-win business, etc.

# Risk Management

Samsung SDI's BCM (Business Continuity Management) system was designed to minimize uncertainties in business conditions such as the discontinuation of operations due to disasters or incidents. In 2013, the company also developed an ERT (Emergency Response Team) operational system to minimize any possible casualties in the event of an accident and meet the increasing social needs for communication with local communities and other stakeholders.

## BCM System Improvement and Global Dissemination

Samsung SDI's BCM (Business Continuity Management) system is part of the company's management strategy to minimize damage and resume core operations within a target deadline against crisis situations, such as an abrupt discontinuation of operations caused by an unexpected disaster. Since the BCM system was established for small-sized rechargeable battery operations in 2008, it has continuously extended its scope into overseas operations.

In 2013, Samsung SDI's BCM system was overhauled to satisfy the requirements of ISO 22301 and was successfully certified with this international BCM system standard. In June 2013, ISO transition audit from BS 25999 to ISO 22301 was initiated from the domestic battery cell and pack plants in Cheonan, Ulsan and Giheung and then completed at the Shenzhen and Shanghai subsidiaries in July. The BCM system was established at the Vietnamese subsidiary in August and the Malaysian subsidiary in December, both of which were later certified with the ISO standard. Samsung SDI will expand the BCM system across the board to meet the BCM-related requirements of customers and other stakeholders while integrating emergency response systems into its day-to-day operations through sustained training and education.

## ERT Development and Operation

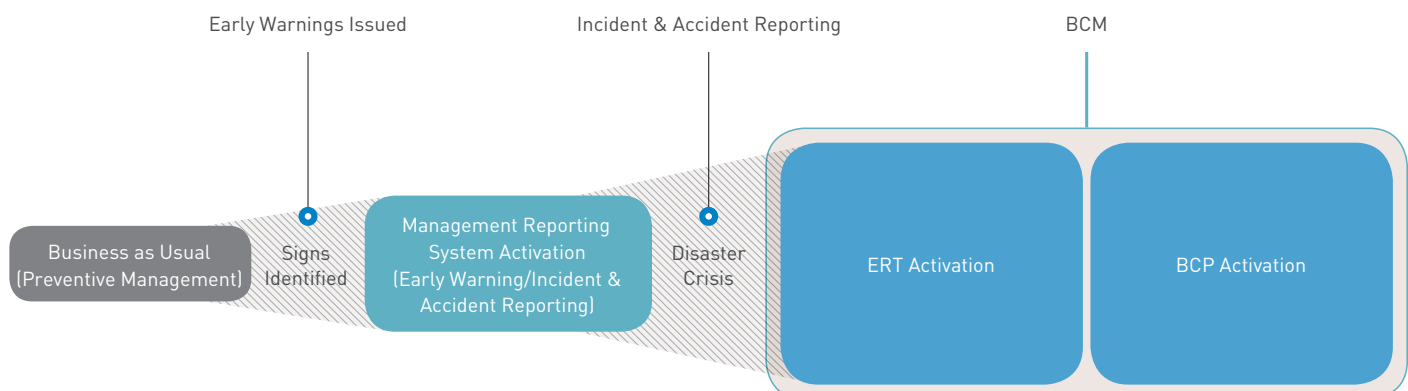
In the unfortunate event of an accident, an emergency response organization should take swift action to allow for basic-level operations such as: providing health and rescue services, water supply, food and electricity, guards and security personnel. Such measures ensure the seamless coordination with employees' families, government agencies, customers and local communities, not to mention saving lives and preventing more damage or loss.

In 2013, Samsung SDI developed an ERT operational system and offered emergency response drills to aid its employees in building capabilities to systematically respond to emergencies. Each plant set risk levels in relation to 11 key risks, including chemical leaks and explosions (toxic gas, hazardous or harmful substances) radiation leaks, epidemics, typhoons and others. These levels considered such factors as: the potential dispersion of such substances when externally exposed, evacuation and permanently-stationed workforce, and facilities (structures and ventilation devices) while developing risk-specific, phased-in response scenarios. Furthermore, to offer seamless support in emergency situations, the company identified the current status and response capabilities of local communities, police & fire stations and other stakeholders, while improving on its response procedures and complaint-handling channel.

ISO 22301 Certification

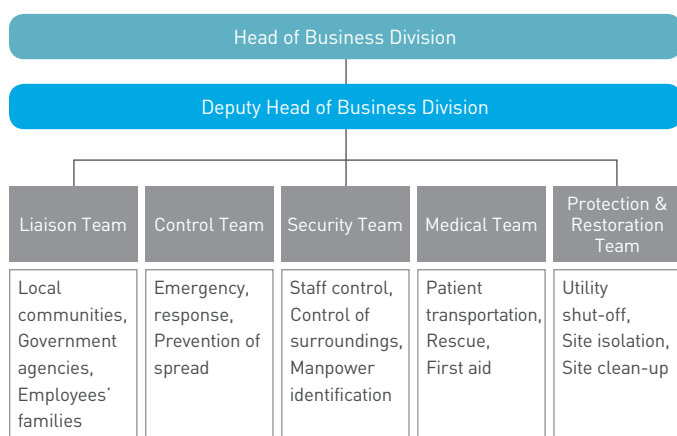


## Samsung SDI's Risk Management System



In July 2013, a joint public-private emergency drill was conducted in conjunction with military units at the Cheonan Plant with 20 local organizations in South Chungcheong Province, including the Cheonan City Government, the provincial Emergency Management Agency and 370 plant employees with an aim to verify Samsung SDI's emergency response system. In a scenario indicating numerous fatalities caused by chemical spills, the 1st step of this exercise examined Samsung SDI's ERT emergency call and initial-stage response activities, followed by the 2nd step that included rescue & disaster recovery activities, the operation of an on-site command post & emergency medical facilities, and training and verification concerning the emergency response activities of government agencies.

**ERT Line of Command**



**Management System by Risk Type**

**Integrated QA\* System (Plant Operation Approval System)**

Samsung SDI's integrated QA system was designed to comprehensively manage any possible risks in investing in new operations or building/expanding product lines. To perfect any issues prior to mass production, extensive inspections are performed from the initial investment approval phase to development, manufacturing, quality, IT system, logistics, lay-out, environmental safety and utilities.

\* QA (Quality Assurance)

**Chief Risk Officer**

Samsung SDI appoints the Chief Risk Officer (CRO), under whom sector-specific responsible executives keep a keen eye on non-financial risks ranging from disasters & accidents, health & safety, the environment to labor relations. Once risks are identified through risk management meetings, countermeasures are defined and improvement initiatives are undertaken.

**Internal Control System**

Samsung SDI's IT-based internal control system aims to improve transparency in business conduct through compliance with applicable laws, internal policies & regulation and procedures. This system primarily covers the operation of an internal accounting control system for the enhanced reliability of financial data and its performance on the verification and evaluation of asset protection and anti-corruption. Such measures ensure that Samsung SDI fulfills its legal responsibility to certify the credibility of its financial and disclosure information.

1. 2. Comprehensive Chemical Spill Response Drill



**Samsung SDI's BCM (Business Continuity Management) Principles**

Samsung SDI, in the face of any situation that may cause the discontinuation of its battery operations, vows to take a customer-driven approach. This will ensure business continuity and allow Samsung SDI to focus all its capabilities on normalizing its operations expeditiously to minimize damage against stakeholders (customers, etc.).

**1. The "discontinuation of battery operations" directly leads to the "discontinuation of customers' operations".**

- Samsung SDI meets customer-set deadlines in delivering key products, even in the midst of disruptions affecting workforce/facility/materials/geographical conditions.
- Samsung SDI pools its resources together to focus on the rapid recovery of its operations and to minimize any possible discontinuation of any of its customers' operations.

**2. Samsung SDI reduces uncertainties.**

- Samsung SDI undertakes risk diversification policies in respective areas when making business investments and developing products.
- Samsung SDI minimizes risk factors by eliminating and resolving them that may threaten its operations.

**3. Samsung SDI embeds BCM into its organizational culture.**

- Samsung SDI operates BCM organizations and offers regular education and training to relevant employees so as to build a BCM-centered organizational culture.
- Samsung SDI regularly tracks and monitors laws and regulations concerning business opportunities to eliminate the possibility of any negative factors disrupting business continuity.

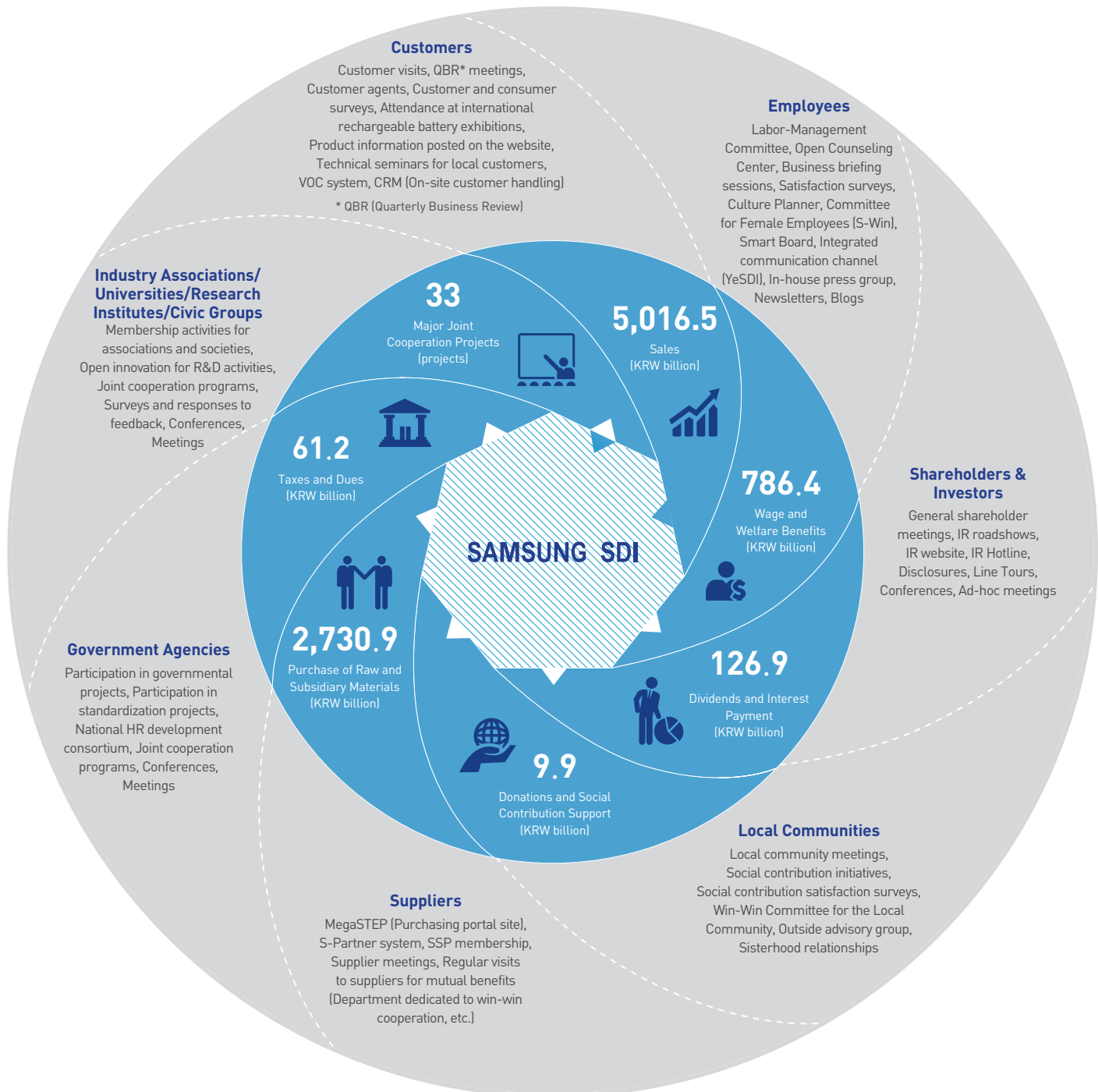
**4. Samsung SDI strengthens trust with its partners through stakeholder communication.**

- Samsung SDI discloses its BCM policy to stakeholders.
- Samsung SDI operates organizations responsible for each stakeholder group to minimize any damage from business discontinuation caused by the lack of communication when BCM is required.

# Stakeholders

Samsung SDI strives to fairly distribute the economic value created in its business conduct and share greater value with wide-ranging stakeholders by striking the right balance between growth and sustainability. In addition, the company is not only committed to stakeholder communication and engagement regarding economic aspects; it places great importance on communicating about social and environmental aspects as well. This allows the interaction between Samsung SDI and its stakeholder's diverse impact and value and to seek shared growth.

## Economic Value Distributed by Stakeholder Group





### Response to and Involvement in Public Policy

As an eco-friendly and clean energy solution provider, Samsung SDI is involved in public policy initiatives undertaken by the government, governmental organizations and associations. Samsung SDI adheres to the principle that success in the rechargeable battery industry is subject to building industry-wide capabilities from the mid/long-term perspective. Public policy aids in the promotion of technological innovation and investment expansion for the rechargeable battery industry while large companies and SMEs jointly develop basic and platform technologies for next-generation batteries.

In August 2010, Samsung SDI was selected as a general supervisor for the lithium-ion rechargeable battery project for the WPM (World Premier Materials : ten key materials set to dominate the global market) initiative supported by the Ministry of Knowledge and Economy. Samsung SDI is working hand-in-hand with other SME participants to further boost its competitive edge in lithium-ion rechargeable battery materials.

### Membership of Associations and other Organizations

At Samsung SDI, political participation is fundamentally prohibited, as stipulated in its management policy. The company, however, ensures that its voice is heard through the organizations and associations with whom it forged business partnerships concerning matters related to its business conduct.

#### Association and Organization

Category	Membership (Position)
Korea Battery Industry Association	Samsung SDI CEO (1st Chairman)
Korea Industrial Technology Association	Samsung SDI CEO (Director)
Korea Smart Grid Association	Head of Samsung SDI's Business Team (Director)
Korea Institute of Energy Technology Evaluation and Planning	Head of Samsung SDI's R&D Center (Director)
Nano Technology Research Association	Head of Samsung SDI's R&D Center (Member)
Korea Photovoltaic Industry Association	Head of Samsung SDI's Business Division (Director)
Korea AEO Promotion Association	Head of Samsung SDI's Purchasing Center (Director)

Furthermore, Samsung SDI is undertaking joint projects and other cooperative initiatives with the Knowledge Economy R&D Strategic Planning Team, Korea Smart Grid Institute, Korea Evaluation Institute of Industrial Technology, Korea Institute for Advancement of Technology, Korea Institute of Science & Technology Evaluation and Planning, and Korea Electronics Technology Institute. Samsung SDI is also a member of the Federation of Korean Industries, Korea Business Council for Sustainable Development, Korea Green Foundation's Manbun Club (environmental fund-raising club) and other sustainability management organizations.



**Diverse Channels to Communicate with Stakeholders :** Samsung SDI launched YeSDI as an integrated employee communication channel in March 2012. Since then, YeSDI has greatly served to facilitate employee engagement and communication.

### On-Site Policy Discussion to Address the Creation of a New Market for ICT\*-Based Energy Demand Management

On August 16, 2013, the 'on-site policy discussion to address the creation of a new market for ICT-based demand management' was held at the Giheung (HQ) with Samsung SDI CEO Sang-Jin Park, Minister of Trade, Industry and Energy Sang-Jick Yoon, CEO of the Korea Energy Management Corporation Jong-Rip Byun, Executive Vice President of the Korea Electric Power Corporation Kyu-Ho Park and officials from LG Chemicals and SK Innovation in attendance. The aim of this meaningful meeting was to discuss ways to encourage proactive participation and investment from the private sector in order to expand new markets. On August 18, the Ministry of Trade, Industry and Energy presented 'ICT-based energy demand management plans.' One of the key points in this presentation is the use of the ESS, EMS (Energy Management System), LED and other ICT components to maximize electricity demand response capabilities and thus increase contributions to a balanced electricity supply and demand. Another key point is the creation of a demand response resource market to allow reduced electricity demands to be traded in the electricity market. This resource market provides a way to make up for shortages that cannot be mitigated simply by constructing more plants to increase the supply of electricity. Such innovative ideas hint at the emergence of a paradigm shift, which takes us away from conventional electricity and energy policies driven by supply expansion, to the addition of a new policy driver of demand management.

\* ICT : Information & Communication Technology

1. 2. From the 'On-Site Policy Discussion to Address the Creation of a New Market for ICT-based Demand Management' Held by Samsung SDI



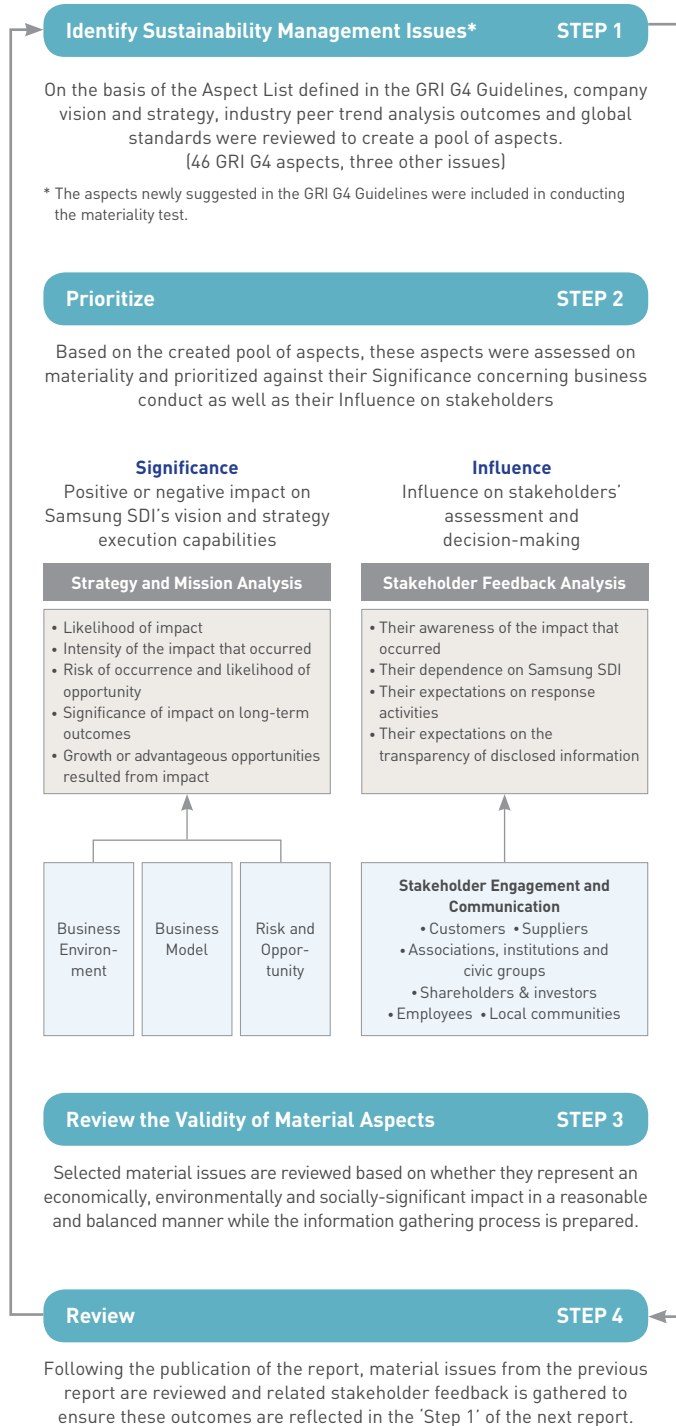
\* Blog : <http://blog.naver.com/sdibattery>

**Use of Social Media :** In line with shifting communication trends, Samsung SDI opened new communication channels on 'Kakao Story' and 'Flickr' in 2013. In all, the company operates six communication channels including those on blogs, Facebook, Twitter and Youtube.

# Preparing the Sustainability Report

Samsung SDI has conducted a materiality test every year to choose the issues to be included in its sustainability report. In conducting this test, GRI-suggested procedures were undertaken to define material aspects and Boundaries while the materiality of each aspect was assessed on the basis of its Significance on Samsung SDI's business conduct capabilities as well as its Influence on stakeholders' assessments and decision-making. Material issues were identified based on the aspect-specific materiality, and these issues served as main guiding principles in determining the contents of this report.

## Materiality Test and Report Content Selection Process



## Analysis of the Materiality Test Outcomes

Analogous to the 2012 report, the materiality test identified customer relations, consumer health & safety, labor relations & organizational culture and shared growth with suppliers as material aspects. Employment, workplace health and safety, and compliance, along with other issues garnering the attention of the Korean society, were recently identified as the most material aspects.

## Highly Material Aspects – Material Aspects

The materiality test identified customer relations, economic performance, purchasing practices & shared growth with suppliers, employment, workplace health & safety and compliance (along with additional issues concerning business growth or garnering national public attention), as recent issues that are highly material to Samsung SDI's sustainability management. Firstly, customer relationship management was chosen as a material aspect since Samsung SDI, as an eco-friendly and clean energy solution provider, is signing increasingly more contracts with automotive rechargeable battery and ESS rechargeable battery customers, who exert greater influence on the company's business conduct accordingly, and thus this aspect was identified as being crucial in achieving Samsung SDI's vision. Secondly, economic performance – direct economic impact of and value created by business operations – is the prerequisite that enables Samsung SDI to realize its corporate vision, undertake strategies and advance sustainable development.

Specifically, financial outcomes are one of the key business priorities, as they determine a company's existence and growth, while corporate economic performance plays an essential role in business reports and other external communication activities. Therefore, this also heavily impacts on investors and other stakeholders in assessing and making decisions regarding Samsung SDI. Thirdly, the aspects of purchasing practices & shared growth are also highly influential in business and stakeholders. Samsung SDI's close relationships with its suppliers and suppliers' competence are important drivers behind Samsung SDI's growth, because shared growth is emerging as a critical issue in Korea due to a continuously growing demand for shared growth. Fourthly, workplace health and safety aspects largely reflect the importance and influence of the prevention of safety accidents as well as preventive health care in domestic establishments. Last but not least, compliance was recognized as a material aspect, since legal violations have a grave impact on external stakeholders, as well as on Samsung SDI; both financially and non-financially.

**Materiality Test Matrix**

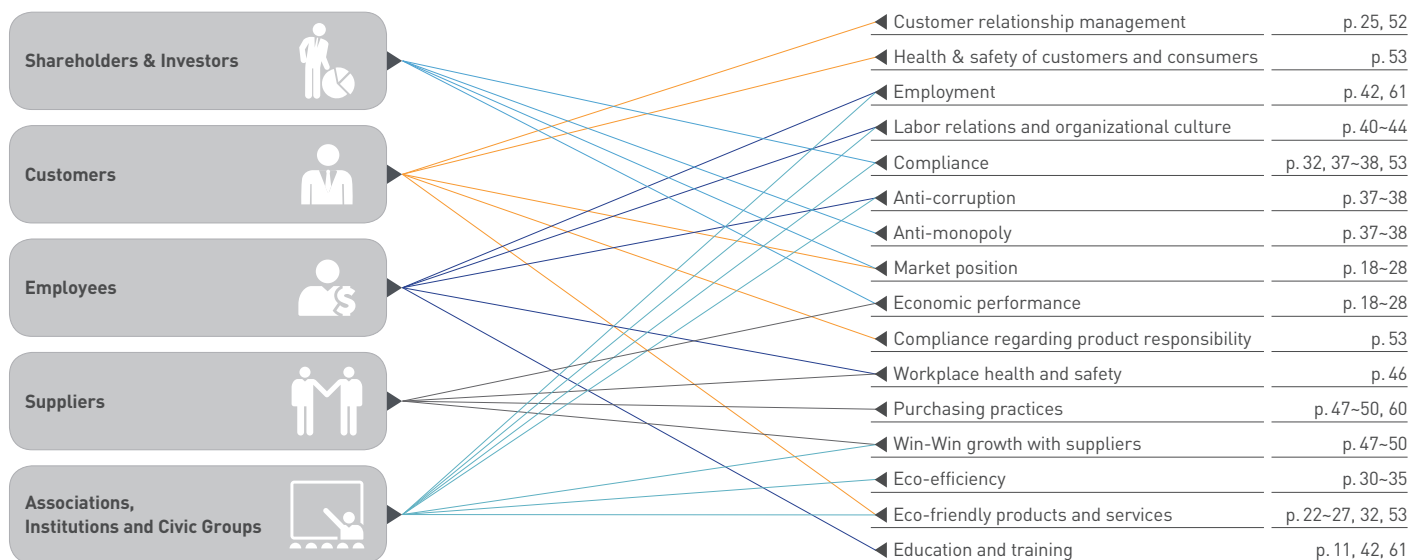


**Relevant or Nonmaterial Aspects**

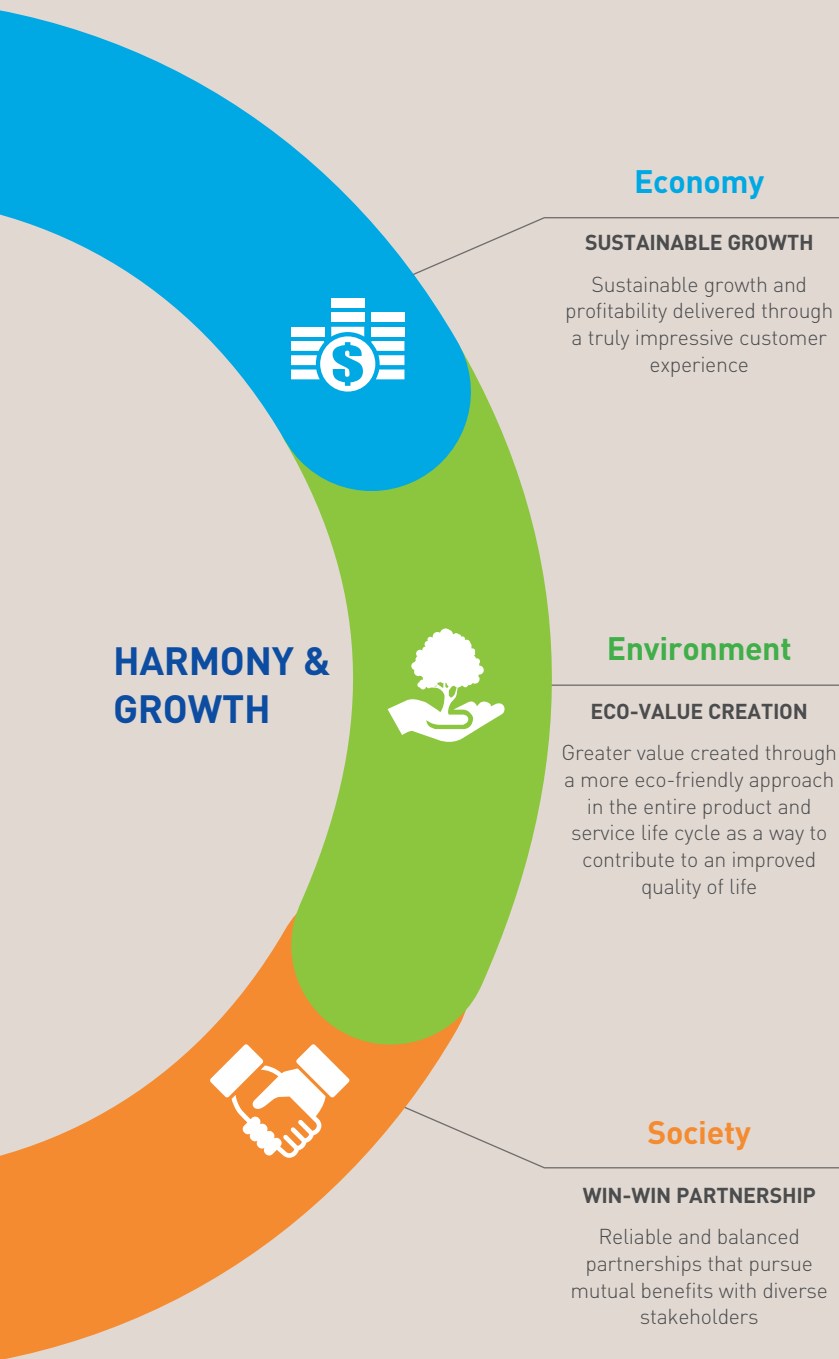
Relevant or nonmaterial aspects also warrant Samsung SDI's interest and management endeavors, as they are significantly or sufficiently material, even though they are rarely likely to occur or do not have grave impact on the company's current business capabilities or stakeholders' decision-making. These aspects include the evaluation of suppliers' environmental and labor practices, child labor & forced labor and others. Suppliers' social impact had been identified as material, as one of the supplier evaluation criteria, while the evaluation of

their environmental and labor practices is becoming increasingly crucial due to Samsung SDI's influence on suppliers, perceptions of Samsung SDI's role in disseminating sustainability management and the growing social trends that extend the scope of sustainability management into supplies. Presently, child labor or forced labor is nonexistent at Samsung SDI and its major suppliers. However, as Samsung SDI is set to expand its presence or launch its business alignment in areas where such risks are highly likely, proactive responses and relevant initiatives are underway and achievements will be outlined in this report.

**Material Aspects by Stakeholder Group**



# Our Sustainability Approach



## RISKS AND OPPORTUNITIES.

Focus Areas	Risks and Opportunities
<b>Economy and Business Management in General</b>	<ul style="list-style-type: none"> <li>• Intense competition among rechargeable battery companies</li> <li>• Continued growth of rechargeable battery operations for new applications</li> <li>• New business opportunities from the expansion of renewable energy</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>• Strengthened environmental regulations and new regulations</li> <li>• Demand for the disclosure of climate change information and the evaluation of corporate value based on such information</li> </ul>
<b>Compliance and Ethics Management</b>	<ul style="list-style-type: none"> <li>• Possible economic losses and reputational risks caused by restrictions imposed due to regulatory violations</li> <li>• Enhanced external credibility and corporate reputations through compliance management</li> <li>• Evolution into a global company that co-exists with stakeholders</li> </ul>
<b>Labor and Human Rights</b>	<ul style="list-style-type: none"> <li>• Growing demand for compliance with local labor regulations and social responsibility</li> <li>• Need to expand key global talents</li> <li>• Growing need to disseminate 'Globalization' in line with expanding global presence</li> <li>• Strengthened social awareness of chemicals and safety accidents</li> </ul>
<b>Supply Chain</b>	<ul style="list-style-type: none"> <li>• Intense competitive landscape among corporate networks</li> <li>• Reputational risks and economic loss risks caused by regulatory violations</li> <li>• Shared value created through shared growth</li> <li>• Risk mitigation and corporate image enhancement by fulfilling social responsibility along the supply chain</li> </ul>
<b>Customers (Product Responsibility)</b>	<ul style="list-style-type: none"> <li>• Stricter product safety and eco-friendly policy</li> <li>• Customer churn caused by safety issues</li> <li>• Growing demand for swift customer response</li> </ul>
<b>Local Communities</b>	<ul style="list-style-type: none"> <li>• Impact on sustainable competitive edge</li> <li>• Stronger internal organizational capabilities</li> <li>• Impact on local communities, customer trust and business expansion</li> </ul>



In today's economy, businesses are faced with 'crisis' warnings all across the globe. Continued low economic growth rates and ensuing decreased consumption and management crises, climate change and abnormal weather conditions, threats against human health & safety and energy & resource shortages are just a few of the numerous signposts forecasting gloom and doom. Samsung SDI, however, sees windows of opportunities amid such threats, such as the chance to deliver sustained growth and profits on the basis of its eco-friendly energy solutions and top-notch competitive edge in rechargeable battery technology. Likewise, there are opportunities to seek mutual benefits with diverse stakeholders and to develop more convenient and eco-friendly products. These hopeful messages for a brighter future constitute the essence of Samsung SDI's sustainability and its future vision.

## 2013 MAJOR ACTIVITIES.

### Major 2013 Activities

- Topped the global small-sized rechargeable battery market in market share
  - Rapidly grew rechargeable battery operations for new applications
  - Undertook stronger initiatives to win contracts in automotive rechargeable battery operations
  - Pioneered new ESS markets
- 
- Reinforced the environmental management organization (Assigned a responsible executive)
  - Undertook product life cycle assessment
  - Was listed on the CDLI\* and CPLI\* of the Carbon Disclosure Project (CDP)
- 
- Fully completed team-specific customized training
  - Took stronger review and corrective action on major issues of subcontracting, fair trade and data privacy
  - Offered efficient assistance to overseas subsidiaries regarding major issues
- 
- Disseminated Glocalization
  - Raised annual average training hours per employee (126 hours)
  - Raised the ratio of locally-hired post heads (49%)
  - Undertook stronger initiatives for the health and safety of employees and the prevention of chemical accidents
- 
- Offered increased support to suppliers in nurturing workforce (1,053 employees/Cumulative number of participants)
  - Facilitate joint technology development (Undertook five private-public R&D projects)
  - Continuously disseminate CSR among suppliers (Evaluated 102 suppliers)
  - Undertook the global green partnership initiative (19 suppliers)
  - Offered AEO certification assistance (Two suppliers)
- 
- Conducted CETs (Customer Environmental Test) for small-sized rechargeable batteries
  - Obtained ISO 26262 FSM\* for automotive rechargeable battery
  - Obtained VDE\* certification for rechargeable batteries for residential ESS products
- 
- Diversified donation activities
  - Expanded responsible organizations and assigned more responsible employees
  - Diversified volunteer activities to increase employee participation
  - Undertook stronger social contribution initiatives by overseas subsidiaries

## FUTURE PLANS.

### Future Plans

- To become a global No. 1 company in the entire rechargeable battery operation p. 18-28
  - To make stronger inroads into emerging markets
  - To take stronger initiatives to win automotive battery and ESS contracts
- 
- To develop more eco-friendly products and services p. 29-35
  - To create sustainable environmental values along the overall supply chains
  - To set and take pre-emptive strategies for climate change adaptation
- 
- To prevent damages from civil/criminal lawsuits and maximize business outcomes through the prevention of legal risks p. 36-38
  - To establish self-initiated compliance culture
- 
- To build stronger HR capabilities for new business operations p. 39-46
  - To create a new organizational culture
  - To disseminate and establish Glocalization
  - To develop chemical and health management processes and systems
- 
- To assist suppliers in building a stronger comprehensive competitive edge p. 47-50
  - To seek mutual benefits in business conduct through shared growth
  - To establish social responsibility along the overall supply chain
- 
- To complete the 1st phase response within 24 hours p. 51-53
  - To develop a CET analytical system for new applications
  - To renew the website for stronger customer communication functionality
- 
- To develop and expand strategic CSR programs p. 54-58
  - To create a distinctive brand for social contribution initiatives
  - To expand and promote employees' CSR activities

\* CDLI (Climate Change Disclosure Leadership Index) : Top 10% companies who scored high in the CDP disclosure (Chosen by CDP Korea)

\* CPLI (Climate Change Performance Leadership Index) : Top 10% companies with exceptional performance in terms of climate change mitigation & adaptation, transparency, etc. (Chosen by CDP Korea)

\* FSM (Functional Safety Management)

\* VDE (Verband Deutscher Elektrotechniker)

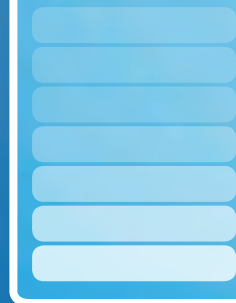
# 1

## Reaching New Frontiers through Creativity and Innovation



Indicator	2013 Performance	2014~2017 Target
LIB (Lithium-Ion Battery)'s Market Position	No. 1 in the Small LIB Operation	Global No. 1 in the entire LIB's business
Small LIB's Global Market Share	25.8% * Source : B3	30% or above (2015)
R&D Expenditures (Ratio)	428.5 billion KRW [8.5%, against the sales]	435.1 billion KRW (2014)

The current battery market is defined by a sluggish growth in demand for LIBs (Lithium-Ion Battery), an intensifying competition among rechargeable battery makers and a growing need for rechargeable automobile batteries. To increase the driving range, these automobile batteries need to deliver higher energy density and a longer battery life. In addition, ESS demonstration needs are increasing in line with the growing share of renewable energy in the energy mix of major countries.



! Disclosure on Management Approach		
<p><b>RISKS &amp; OPPORTUNITIES</b></p> <p>While the growth of prismatic rechargeable batteries becomes sluggish due to the sustained low growth of mobile phones, notebook PCs and other IT devices, the polymer and non-IT cylindrical battery segment enjoys continuous growth. In addition, GHG emission and fuel efficiency regulations grow tighter in many countries, along with changing consumer perceptions. These shifting conditions will boost the growth of the EV (Electric Vehicle) market and LIB-enabled ESS is expected to dramatically grow in line with increasing demands for renewable energy.</p>	<p><b>STRATEGIES</b></p> <ul style="list-style-type: none"> <li>• Strengthen leadership in small-sized rechargeable batteries and technology</li> <li>• Reinforce initiatives to secure more orders for automotive batteries and ESS as well as pack/system business capabilities</li> <li>• Optimize operational efficiency through diversified overseas production bases</li> <li>• Reinforce technological capabilities in rechargeable battery materials</li> </ul>	<p><b>FUTURE PLANS</b></p> <ul style="list-style-type: none"> <li>• Develop greener and innovative products</li> <li>• Create stronger inroads into China, India and other emerging markets</li> <li>• Mass-produce automotive batteries in China in the 2nd half of 2015</li> <li>• Undertake stronger initiatives to win automotive battery and ESS orders</li> </ul>

## Transformation into an Eco-friendly and Clean Energy Solution Provider

Since 2010, Samsung SDI has topped the global small-sized rechargeable battery market for four straight years. Since 2011, rechargeable battery operation sales have accounted for more than 50% of the total sales. This strong market presence, led by rechargeable battery operations, is driving the transformation of Samsung SDI into an eco-friendly and clean energy provider.

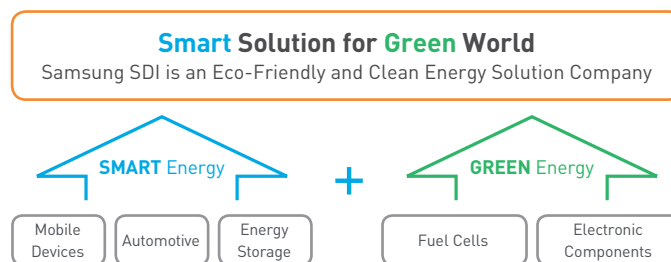
### Fully Launching Medium-to-Large Rechargeable Battery Operations

Based on the global top-notch technology and competitive edge of small rechargeable batteries, Samsung SDI is fully launching medium-to-large rechargeable battery operations that target automotive and ESS (Energy Storage System) batteries. In boosting the global competitive edge in existing small-sized rechargeable battery operations and laying a firm groundwork for the full-fledged growth of new medium-to-large rechargeable battery operations, Samsung SDI has further evolved into an eco-friendly and clean energy solution provider.

**Rechargeable Automotive Batteries :** Despite being a relative newcomer to the automobile battery segment, Samsung SDI is set to become an undisputable leader in the era of EVs (Electric Vehicle). Samsung SDI is the sole automotive battery supplier for BMW's EV i3 and i8 models, in addition to those of major U.S. and European automakers. Furthermore, Samsung SDI has successfully signed contracts primarily with premium automakers, aligning it to fully expand its automotive battery operations.

**ESS :** Growing worldwide demands for electricity shed a new light on the importance of its management, presenting new business opportunities for ESS (Energy Storage System) battery operations. Samsung SDI will use its strengthened edge to firmly commit to the development of world-class capabilities in large ESS battery operations, while extending its scope to total system/solution operations. Recently, ESS has been recognized by a number of nations for having an optimal solution for securing reserve margins by topping up peak electricity demands. Thus, not only is Samsung SDI striving to expand its presence in the domestic market—it is also seeking growth in the advanced markets of Japan, the Americas and Europe, along with emerging markets, such as that in India.

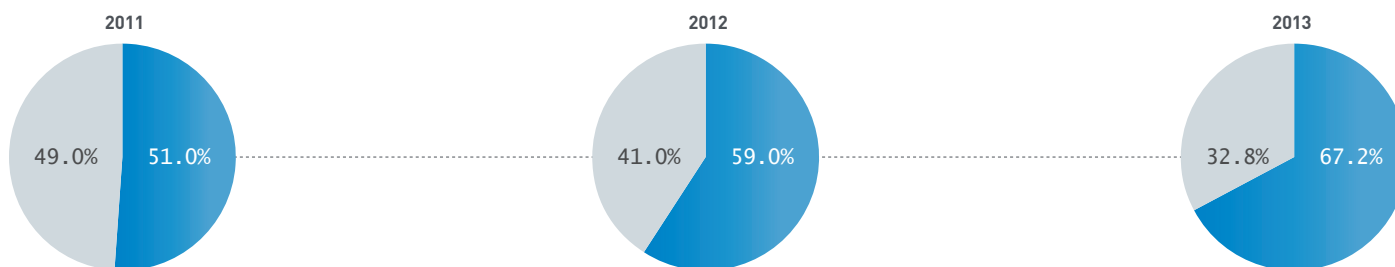
### Samsung SDI's Vision and Business Portfolio



### Change in Samsung SDI's Revenue Breakdown

\* Source : Samsung SDI Corporate Management Office

— Energy Business — Display Business



## Investing for Tomorrow

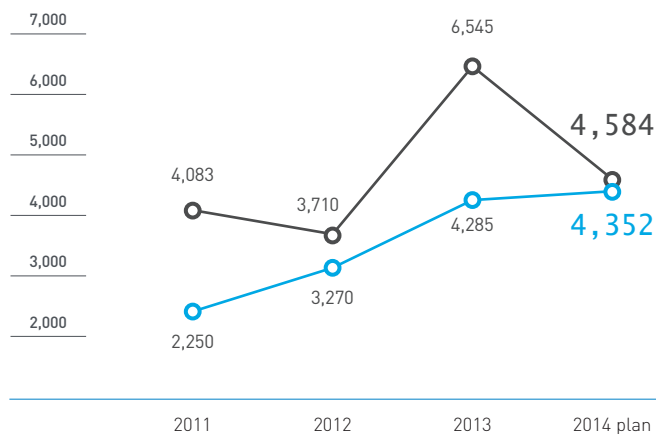
Under the SMART Revolution motto, Samsung SDI continued to invest in its rechargeable batteries and next-generation energy operations in 2013. Total facility investments and R&D expenditures amounted to 1.0830 trillion KRW.

In January 2013, Samsung SDI advanced its transformative innovation initiatives by acquiring SB LiMotive to further solidify its automotive battery operations, while expanding investments in broadening its overseas presence and strengthening its capabilities for small-sized rechargeable battery operations in Malaysia and Vietnam. In 2014, the company will initiate the construction of a rechargeable automotive battery plant in Xian, China to time the company's next-generation energy business segment—the mass production of medium-to-large rechargeable batteries. As Samsung SDI continues its journey in becoming a full-fledged energy company, it will keep increasing R&D investments, even in the face of deteriorating economic conditions. Not only will this boost the competitive edge of existing operations, it will provide a firm foundation from which to advance newly-launched, next-generation business operations.

### Facility and R&D Investment

Unit : KRW billion

● Facility Investment ● R&D Investment

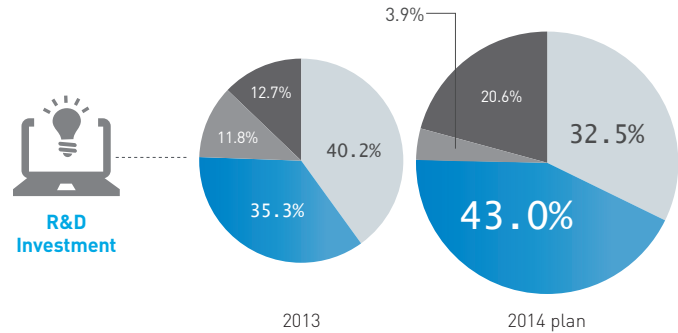
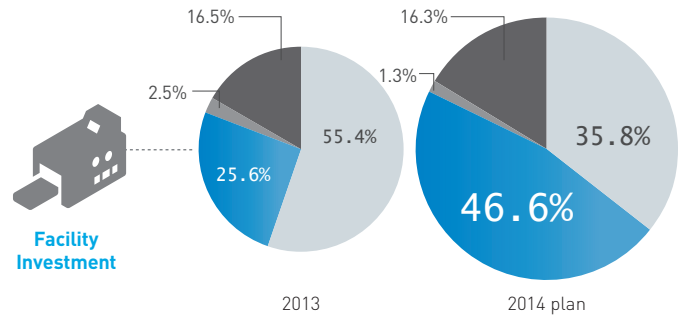


## Leading the Way with Patents

Samsung SDI is building a competitive edge in patent operations to befit its status as an eco-friendly and clean energy solution provider. Presently, the company has filed 23,082 overseas and 22,497 domestic patent applications and 10,454 overseas and 13,659 domestic patents granted. Samsung SDI also ranked high on the list of multiple patent holders at the U.S. Patents and Trademark Office with 324 and 420 patent registrations made in 2012 and 2013 respectively. Samsung SDI not only expands its patent presence in the U.S. but also in major countries across the globe. This further secures its position to respond to an increasingly competitive patent landscape in the eco-friendly and clean energy sector. Meanwhile, Samsung SDI conducts joint research with renowned Korean and overseas universities and research institutes through open innovation. This helps expand its patents for future technology and secure a path through ever shifting technology and market conditions. In 2013, Samsung SDI revised its job-related invention compensation program to offer reasonable compensation for the benefits the company gains from the inventions made by its employees. This greatly encourages a creativity-driven R&D work environment that further commits our employees to generating inventions.

## Ratio Change in Facility & R&D Investments

● Next-Generation Energy Operations (ESS battery, automotive battery)  
 ● Small-Sized Rechargeable Battery ● PDP  
 ● R&D Center & etc.

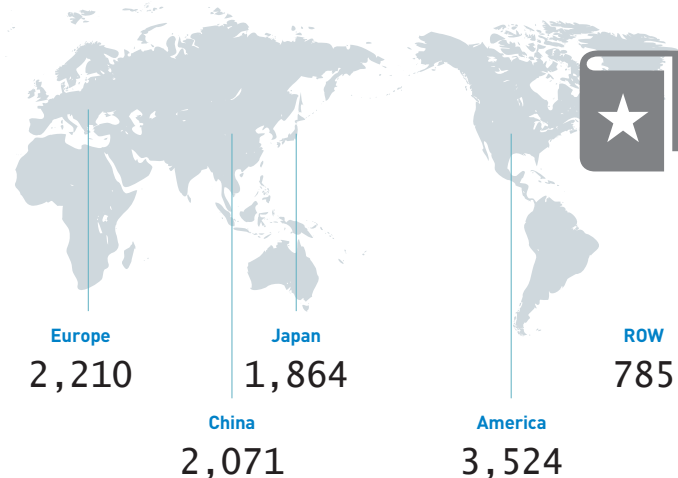


\* R&D Center is categorized into 'Others' in order to divide the investment ratio by business division, differently from last year's report in which it was categorized into 'Next-generation Energy Operations.'

## Overseas Patent Registrations

Unit : No. of registrations

\* As of Dec. 31, 2013





## Battery R&D Center

### Leading in Rechargeable Battery Materials

The recent rechargeable battery market has shifted from manufacturing small-sized to medium-to-large sized batteries that target automotive and ESS applications. Specifically, high energy-density and capacity rechargeable batteries will be crucial in responding to the significant growth expected in PHEV\*s and EV\*s powered by electric motors, while not very significantly in the HEV\*s that are mainly powered by gasoline engines. Increasing Smartphone display sizes and sophisticated functionalities demand greater device power of small-sized rechargeable batteries for IT devices. Larger batteries not only have greater capacity, they also have superior charging efficiency to maximize battery life and reduce charging time. To this end, Samsung SDI is conducting R&D to improve the performance of existing materials and to develop high-capacity, new materials as a way to deliver larger capacity and exceptional charging/discharging characteristics.

- \* HEV (Hybrid Electric Vehicle)
- \* PHEV (Plug in Hybrid Electric Vehicle)
- \* EV (Electric Vehicle)

### Intensive Focus on Next-Generation Battery Materials

In November 2013, Samsung SDI's Battery R&D Center opened in the Samsung Material Research Complex (Maetan-dong, Youngtong-gu, Suwon-si). As the nation's first-ever electronic materials R&D complex, this Samsung Material Research Complex will house Samsung Electronics, Cheil Industries, Samsung Fine Chemicals and other materials-related Samsung affiliates in addition to Samsung SDI. At this complex, specialized research will be conducted on materials, rather than finished products or parts. Samsung SDI's R&D priority will be cutting-edge battery technology, and the Samsung Material Research Complex will become a cradle for developing its innovative battery materials and technology.

1. Moving-In Ceremony in the Samsung Material Research Complex
2. Samsung SDI's Battery R&D Center Building



### Stronger R&D Initiatives for Enhanced Safety

Rechargeable batteries are designed to store high-density energy in small confined areas. Consequently, the possibility of internal short circuits or external shocks, as demonstrated by some smartphones or notebook PCs, increases the risk for fires or explosions. Understandably, consumers are increasingly concerned about the safety of rechargeable batteries. The safety of automotive batteries is especially critical, as their explosion leads to even greater accidents than small-sized rechargeable batteries. This is why Samsung SDI is developing technology that delivers significantly improved battery safety. Samsung SDI is maintaining battery performance standards and stepping up R&D to develop flame-resistant electrolytes, improve separator performance and identify safety mechanisms to respond to the growing capacity of rechargeable batteries.

### Flexible Battery Development

After sweeping the globe by surprise and captivating the interest of millions, the smartphone revolution is finally drawing to a close. People are now finally beginning to wonder, what's next? One of the most promising next-generation mobile technologies to replace smartphones is wearable devices. Such innovative wearables as healthcare wrist bands, smartwatches and wearable glasses that were launched in wide-ranging market segments prove the high-growth potential of flexible batteries. Therefore, Samsung SDI is committed to securing key flexible battery technology for smartwatch bands as a way to tap new markets and increase revenues. To this end, the company is developing materials, structures and evaluation tools to establish the reliability of flexible batteries.

### Automotive Fuel Cell MEA Development

Fuel cell vehicles are emerging as an important and effective alternative to EVs which are challenged in terms of their limited driving range and long charging time. Samsung SDI is developing MEA\* commercialization technology to establish the reliability of this key fuel cell vehicle component.

\* MEA (Membrane Electrode Assembly) : Key parts that are commonly used in the entire application areas of fuel cell technology

### Open Innovation

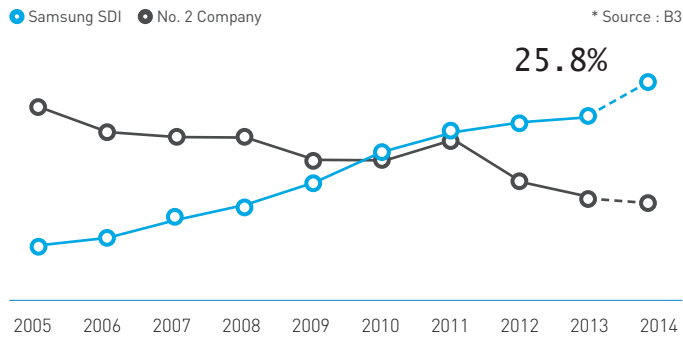
Responding to rapidly shifting market conditions requires constant adaptation and innovation more than ever. Samsung SDI operates a process that efficiently generates R&D outcomes through its cooperation and partnership with domestic and international research institutes that possess a wide array of technology. In 2013, the Open Innovation Group was created under the direct leadership of the head of the Battery R&D Center to be responsible for tracking rechargeable battery-related technology in alignment with other Samsung SDI's R&D operations abroad in Japan, Russia, the U.S. and China. Samsung SDI Battery R&D Center aims to expand its overseas R&D locations and conduct joint R&D projects with domestic/international universities and research institutes to develop forward-looking element technologies and commercialization.

## Small-sized Rechargeable Batteries

### No. 1 in the Global Small-sized Rechargeable Battery Market

In 2013, Samsung SDI's small-sized rechargeable battery operations not only topped the global market but also further distanced itself from coming in anywhere near second place. Samsung SDI has solidified its unbeatable No. 1 position in the market for four straight years—since it first reached the top in 2010—until 2013, according to the Japanese rechargeable battery market research firm B3.

#### Changes in Small-sized Rechargeable Battery Market Share






### Rapid Growth of Rechargeable Batteries for New Applications

Due to the continued growth of tablet PCs in 2013, the notebook PC market posted negative growth. The non-IT new applications, however, grew rapidly with power tools and E-bike (electric bikes) posting 22% and 21% respectively in global market growth rates from 2012. Due to its endeavors in identifying and responding to emerging trends, Samsung SDI was able to double the average growth in the global non-IT rechargeable battery market against 2012. In 2013, non-IT rechargeable battery operations posted remarkable growth: power tool batteries and E-bike batteries skyrocketed by 50% and 62% respectively in 2013 from 2012.

#### Growth of Samsung SDI's Non-IT Rechargeable Battery Operations

\* Others : Vacuum Cleaners, Gardening Tools, etc.  
\* Source : Samsung SDI Global Marketing Office

	Samsung SDI (2013 data versus that of 2012)	Global Market (2013 data versus that of 2012)
Power Tools 	50%	25%
E-Bike 	62%	29%
Others 	70%	.

### Skyrocketing Growth of the Chinese and Other Emerging Markets

Samsung SDI's rechargeable batteries are available in markets worldwide including North America, Europe, Taiwan, Japan, China and Korea. In 2013, Samsung SDI's market presence was primarily expanded in the high-growth areas such as smartphones in China. This led to a whopping 174% growth in rechargeable battery sales in China from the previous year.

#### Small-sized Rechargeable Battery Market Outlook


In 2014, demand for rechargeable batteries is expected to grow by 4% (from last year) reaching 4.5 billion cells. In particular, polymer batteries for smartphones and tablet PCs are expected to grow by 18% and 32% respectively due to increased IT device sales in China. The adoption of cylindrical lithium-ion batteries is also set to expand further for power tools, E-bikes and other new applications. To respond to such shifts, Samsung SDI will solidify its technology leadership in IT rechargeable battery operations as well as non-IT rechargeable battery operations. It will also optimize operational efficiency to realign its sales structure by diversifying overseas production and strengthen its profit-driven business structure through established cost competitive edge. These endeavors will drive Samsung SDI's market share to rise even higher.



+

### Launching Curved Batteries for the World's Highest-Capacity Smart Bands

Samsung Electronics launched 'Gear Fit' which is equipped with the world's highest-capacity 210mAh smart band curved battery developed by Samsung SDI. Samsung SDI became the first in the industry to adopt stacking technology for super-micro battery cells in order to deliver the curved design ideal for wearable devices. The company also developed 'V-bending' technology that increases energy density while significantly improving the capacity of super-micro batteries.



210mAh Smart Band Curved Battery

## Automotive Batteries

### Powering Eco-Friendly Vehicles

The smog that hovered over the large Chinese cities including Beijing and Tianjin last winter caused fine particulates to permeate the northeastern region of China and even find its way into some regions of Korea. Such incidences concerned major countries across the globe and prompt them to reduce air pollution from exhaust and GHG emissions. Since then, EU's CO<sub>2</sub> emissions regulations, EURO (exhaust gas regulations); CAFE (Corporate Average Fuel Economy) and other CO<sub>2</sub> emissions and fuel efficiency regulations have been becoming tighter. Furthermore, the Korean government aims to launch a 'low carbon vehicle grant program' in 2015. These regulatory changes highlight the need for high-efficiency and eco-friendly vehicles and generate interest in automotive batteries that power eco-friendly vehicles. Samsung SDI is developing and manufacturing automotive LIB, one of the key EV components, as a pre-emptive move to respond to this emerging trend.

### Electric Vehicle Industry Landscape

The EV (Electric Vehicle) market gradually reached its fruition in 2013 and major carmakers are expected to launch additional mass-market EVs in 2014. While EVs have primarily been tested in pilot projects only for short-distance transport through buses, taxis and other public transport vehicles in the past, EVs will reach a new level from now on. They will deliver almost the same level of performance as their internal combustion engine-powered counterparts and they will be tested and launched into the market in 2014. Specifically, BMW's EV i3 debuted at the end of 2013, along with major U.S., Japanese and European carmakers launching their own EV models.

Meanwhile, more PHEVs are also expected to be launched from 2014. The majority of HEVs currently available on the market are designed to charge batteries through the alignment of internal combustion engines and their own hybrid systems. In contrast, the PHEVs, HEVs equipped with batteries, are expected to fill the gap between the current market EVs and a more perfected version of future EVs, based on the launching of pure EVs and the expansion of charging stations.

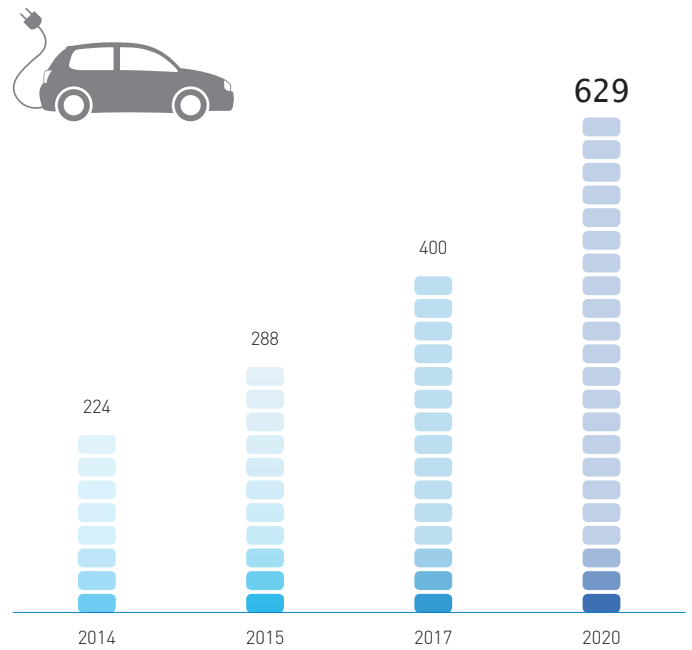
### Market Outlook

In 2013, the demand for EVs is forecast to increase by 35% from the previous year reaching 2.24 million units. Japanese companies will predominantly drive the steadfast growth of HEVs while BMW's i3, i8 and other EV and PHEV models will be mainly launched by European carmakers.

#### Global EV Market Outlook

Unit : 10,000 vehicles

\* EV, PHEV, HEV  
\* Source : B3



#### First Shipment of Mass-produced Automotive Batteries

In May 2013, Samsung SDI's Ulsan Plant hosted a ceremony to celebrate the first shipment of mass-produced automotive batteries. This first shipment was made just 3.8 years after the plant's groundbreaking ceremony was held in September 2009.



Automotive Battery Inspection



### Advancing into the Chinese Automotive Battery Market

China became the world's largest automobile market in 2009 and the Chinese government is highly committed to developing the EV industry to address a surge in oil consumption and offset ensuing environmental issues caused by automobiles. The government set a goal to distribute 5 million EVs and PHEVs by 2020 in its recently-announced new energy-powered vehicle promotion plan.

This prompted Samsung SDI to pave the way to fully tap into the Chinese market, which is projected to become the world's largest EV market in the upcoming years. In January 2014, Samsung SDI signed the third-party MOU with the local government ("Shanxi Province" hereafter) and ARN ("ARN" hereafter) at the Xian city hall in Shanxi Province, China to construct a locally-based automotive battery plant. ARN, Samsung SDI's partner in this project, is China's top manufacturer of automobile engine pistons and cylinders. When this high-profile company combines with Samsung SDI's top-notch battery technology, its accumulated experience in automobile parts operations will generate maximum synergy. Furthermore, Samsung SDI will begin the construction of this Chinese automotive battery plant within the 2nd half of 2014, initiate its operation in the 2nd half of 2015 and develop this plant into the largest automotive battery production base in China. Samsung SDI plans to make a \$600 million investment in its automotive battery operations over the next five years.

Automotive Battery Project MOU Signed by Samsung SDI and ARN



### Samsung SDI's Technological Competitive Edge

Samsung SDI's automotive batteries are widely recognized for their exceptional technology since they are the first of their kind to be mounted on BMW's i3 and Chrysler's F500e. Furthermore, Samsung SDI has a full range of solution technology from battery cells to modules and packs, as demonstrated in its development of a 48V low-voltage system.

BMW's i3 Equipped with Samsung SDI's Automotive Batteries

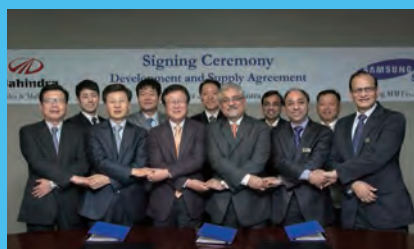


### Endeavors to Increase Automotive Battery Orders

The sustained growth of the EV market is prompting Samsung SDI to obtain more contracts from global major carmakers. Starting with the full-fledged mass-production of EV batteries for European and North American automakers in 2013, Samsung SDI signed EV project contracts with carmakers in Europe, North America, China, India and Taiwan, as well as premium PHEV module makers in Europe and local Chinese carmakers. This not only secures its choice position as an industry leader, but it also brings about a strategic leap within the big picture of Samsung SDI. In 2014, Samsung SDI will solidify its market dominance in Europe and North America while actively tapping emerging markets, including China. In addition, the company plans to secure technological leadership in improving the driving range of EVs, innovating manufacturing processes and upgrading quality management systems. These endeavors will create major breakthroughs in its cost and quality edge. Samsung SDI vows to lead the global EV market through its stronger R&D competitive edge (high energy-density and long-life battery) and differentiated cost competitive edge.

#### Signing the Project Contract between Samsung SDI and Mahindra

In October 2013, Samsung SDI signed a project contract with Mahindra, India's largest sports utility vehicle maker. This will enable Samsung SDI to supply automotive batteries to Mahindra for the next six years from December 2014 and thus assist in strengthening its capabilities in battery pack operations.



Automotive Battery Cell Portfolio of Samsung SDI



48V Low-Voltage Battery Developed by Samsung SDI





### Attendance at Automobile Exhibitions

In January 2014, the NAIAS (North America International Auto Show), the largest auto show in North America, was held in Detroit, the automobile hub of the U.S. Since its inception in 1907, the NAIAS has been recognized for its history and traditions and as an annual event that helps identify global automobile market trends and issues. The show was attended by approximately 40 carmakers (38 companies in 2013) in addition to more than 800,000 visitors. Samsung SDI hosted customer events to strengthen its network with major automobile OEM companies in the U.S. Samsung SDI held Top Meeting, Press Day and Industry Day events with OEMs for four days between January 13th and January 16th, 2014. These endeavors paved the way for Samsung SDI to actively tap into the North American market. Samsung SDI's exhibition included its battery cell portfolio and its next-generation product roadmap, along with cell products to demonstrate the company's competitive edge in battery cell operations. In addition, PHEV modules and HEV packs were displayed as high-voltage products while three types of 12V packs and one 48V pack model were exhibited as low-voltage products that have garnered much recent customer attention. Meanwhile, Samsung SDI also attended the Frankfurt Auto Show in September 2013.

# MOTOR SHOW





## ESS

Abnormal global weather conditions—such as heat waves, floods, heavy snow-falls and cold waves—are creating a disproportional balance of supply and demand. In summer and winter when there are severe fluctuations in electricity demands, the frequency of electricity becomes unstable throughout the entire process from the generation of electricity at plants until the consumption of electricity at end user points. ESS (Energy Storage System) is an economical alternative to resolve this problem as it helps mitigate power losses. Basically, the principle of ESS is to store electricity during the night when prices are low, and then to turn around to use this stored electricity during the day when prices are high. This reduces peak power demands and eventually leads to considerable savings in electricity bills.

### Eco-Friendliness of LIB ESS

As the advantages of LIBs (Lithium-Ion Battery) have been recently highlighted, LIBs are increasingly adopted in newly-installed ESSs and used to replace existing lead batteries. This can be attributed to the eco-friendliness of LIBs. LIBs are more compact and lightweight with a higher capacity for prolonged use and do not generate lead (Pb) or any other harmful heavy metals in the disposal stage, compared to lead batteries and other rechargeable batteries.

### ESS Applications

ESS can be used in a various way for residential, commercial, industrial, and electric purpose. Samsung SDI has its own ESS cell and module design capabilities as well as BMS (Battery Management System) technology and reflect the user needs in the entire process from product development to production and pre-shipment inspections. Samsung SDI's ESS cell and pack mass-production line installed at the Ulsan Plant made its first shipment of residential ESS for Nichicon of Japan in June 2012. Meanwhile, the Itochu Corporation of Japan plans to distribute its ESS (16.8kWh-grade) equipped with Samsung SDI's LIBs to Family Mart and other convenient stores in Japan.

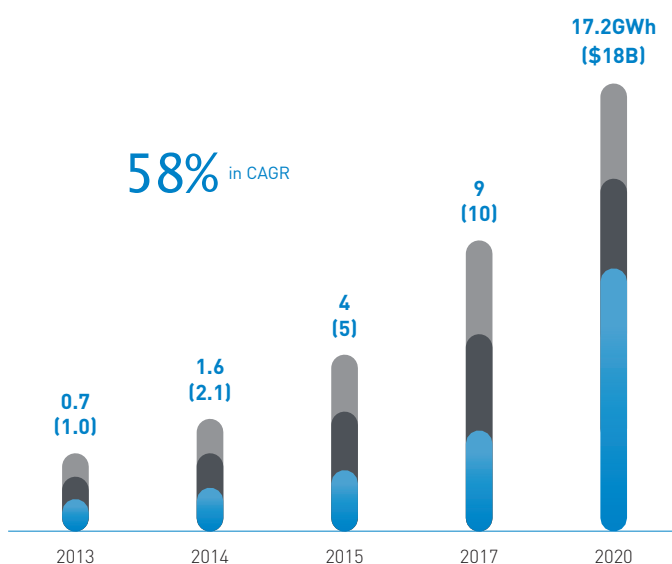
### Global ESS Market Outlook

From 2014 onward, the ESS market is expected to boom in major advanced nations such as Japan, the Americas and Europe and to expand further in India, China and other emerging economies. Specifically, the Korean government is considering installations at new buildings that exceed a certain size. This is just another way to improve the efficiency of electrical energy from the demand-driven perspective. The global ESS market is set for full-fledged growth in alignment with the EV market and smart grid initiatives.

### Demand for LIB ESS


Residential/Commercial Utility UPS

\* Source : Samsung SDI, IHS



### ESS Applications of Samsung SDI


~ 25kWh
25 kWh
100 kWh
1 MWh ~



Base station  
Residential



UPS  
Commercial



Utility

**Small (~25kWh)**

- Residential
- Community
- Small UPS\*

**Medium (25~100kWh)**

- Aligned with PV and wind energy
- Commercial
- xEV charging station
- Medium-sized UPS

**Large (1MWh~)**

- Aligned with PV and wind energy
- Stability in electricity supply & demand
- Large-sized UPS

\* UPS : Uninterruptible Power Supply

**Tapping New Global ESS Markets**

Samsung SDI topped the Japanese residential ESS market through its supply of residential ESS to Nichicon of Japan in 2012. The company also made full-fledged inroads into the lithium-ion UPS market through the signing of a UPS battery supply contract with the data center of Shinhan Bank of Korea. In 2013, the company also pioneered the new markets of commercial and power ESS applications in Korea and abroad. Specifically, Samsung SDI successfully installed an 8MWh ESS, the largest in Korea, at the Jocheon Substation in Jeju. In addition, Samsung SDI went further to win more orders from Germany, Italy, the U.K. and other European countries as well as India which is projected to become the world's largest ESS market.

Jocheon Substation in Jeju, Korea (8MWh)



**Supplying 5MWh ESS to WEMAG of Germany :** Samsung SDI signed a 5MWh ESS contract for power supply with WEMAG, a German power company, in conjunction with Younicos of Germany. This ESS installation will be undertaken in a phased manner by 2014 at a substation operated by WEMAG in Schwerin, northern Germany, with ESS installed by Samsung SDI and PCS\* and EMS\* supplied by Younicos.

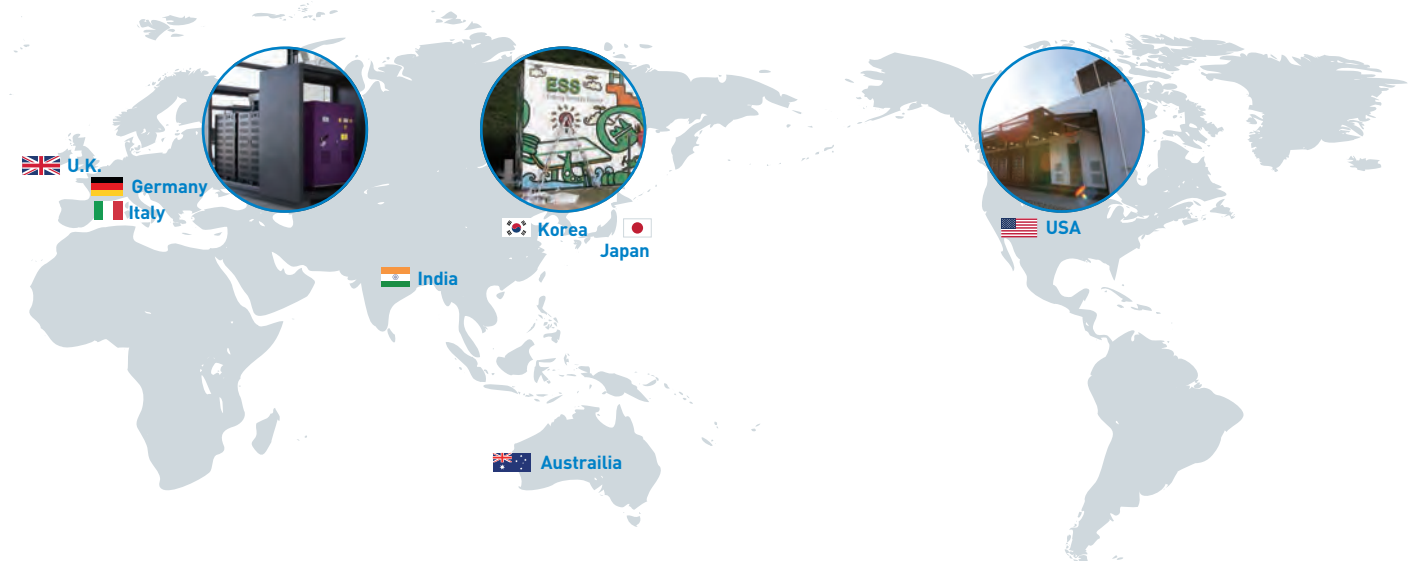
- \* PCS (Power Conversion System) : Converting DC (Direct Current) into AC (Alternating Current) to be used at home while converting AC back to DC to be stored in ESS
- \* EMS (Energy Management System) : Controlling the entire power flow that moves to PCS and ESS while monitoring the generation and consumption of electricity

**Supplying a 10MWh ESS to S&C in the U.K. :** Samsung SDI will supply a 10MWh ESS for power stability to S&C of the U.K. in conjunction with Younicos of Germany. Samsung SDI and Younicos will deliver ESS and EMS respectively to this largest-ever LIB-powered ESS demonstration project undertaken in the U.K. While S&C will be responsible for the final installation of this ESS, the system will be operated by UKPN, a power transmission and distribution company in the U.K.. The installation will be completed by July 2014 and the ESS will significantly help address the power frequency instabilities which are caused by aging local power networks.

**110MWh ESS Supply to ACME of India :** In November 2013, Samsung SDI signed an MOU with ACME, India's largest telecommunications equipment company, to supply a 100MWh ESS over the next two years. This paved the way for the company to advance into the Indian market. This project will replace lead batteries that power ACME's base stations with ESS equipped with Samsung SDI LIBs, and ACME will launch the installation of ESS in alignment with photovoltaic power generation. As the Indian government is interested in distributed power generation driven by renewable energy and ESS due to the frequent blackouts and poor electricity quality that characterizes the Indian power market, India is receiving the spotlight as a key ESS market.

**Global Presence of Samsung SDI's ESS Operations**

\* India and other countries to be included



# Display

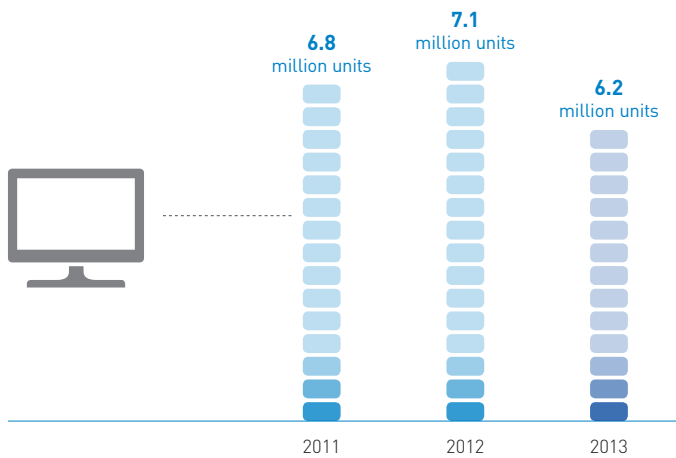
## PDP

In line with the negative growth of the PDP TV market in 2013, Samsung SDI's PDP module sales also fell by approximately 12% from the previous year, selling 6.22 million units. Yet, Samsung SDI's PDP Business Division strengthened collaboration with its customers and expanded strategic promotional initiatives to reach the PDP module sales goal. As a result, its global PDP module market share rose from 53% in 2012 to 60% in 2013. The PDP TV market is forecast to post negative growth in 2014, according to 2013 4th Quarter Research by DisplaySearch, a specialized display market research firm. This is attributed to the declining PDP demand caused by the size diversity and competitive price of LED TVs. Meanwhile, 2014 will be a year of numerous sports events including the Winter Olympics held in February in Sochi, Russia and the FIFA World Cup to be held in June in Brazil. Such events will undoubtedly prompt the needs for replacing conventional CRT TVs with flat panel TVs. Samsung SDI will proactively respond to those customer needs and improve the efficiency of its production lines by carefully observing the shifting market conditions.

## Termination of CRT Operations

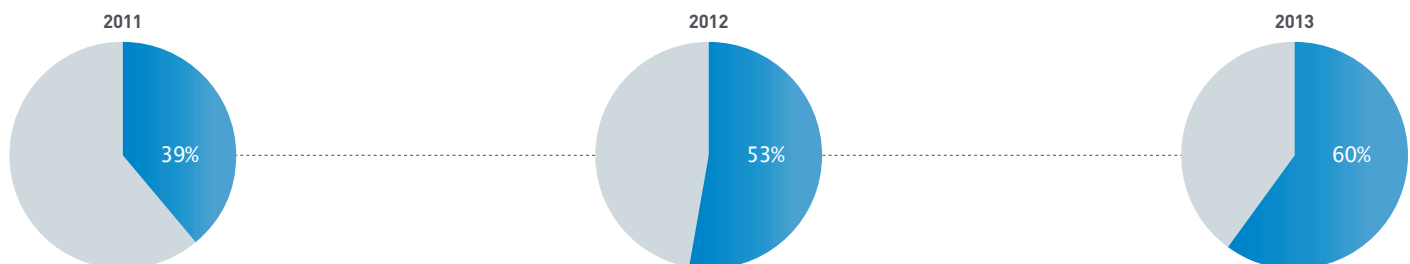
Since the late 2000's, world-wide demand for CRT (Cathode Ray Tube) TVs has plummeted due to the emergence of flat panel TVs. As such, Samsung SDI gradually discontinued its CRT TV production lines in China and Malaysia by 2012. In December 2013, Samsung SDI's Shenzhen Subsidiary completely terminated its production of 21-inch CRT TVs.

### PDP Sales



### Global Market Share of PDP

\* Source : Samsung SDI PDP Management Team





# 2

## Eco-Value Creation



Indicator	Base Year (2005)	2013 Performance	2015 Target
GHG Efficiency*	45.47	61.19 (1.35 times ↑)	2.0 times ↑
Water Use Efficiency	3.06	7.90 (2.58 times ↑)	2.5 times ↑
Hazardous Chemical Use Efficiency	1.11	2.28 (2.05 times ↑)	2.0 times ↑
Waste Efficiency	0.42	1.13 (2.66 times ↑)	2.0 times ↑
Waste Recycling Rate*	89.8%	94.6%	95% or above
Waste Landfill Rate	10.2%	5.4%	5% or under

\* This is eco-efficiency calculated by 'Sales (KRW 100 million) / Environmental Load (Environmental Load Unit)'.  
 \* The recycling rate includes incineration for waste heat recovery as a recycling method.

※ Environmental KPIs will be re-defined in 2014 in consideration of changing business conditions

As the whole world faces the global environmental risk of climate change, each and every company is required to improve their energy efficiency throughout their business conduct and introduce renewable energy as a proactive response to climate change. Furthermore, companies need to enhance their competitive edge and future value through the development of green products and services, while taking a proactive approach to increasingly stringent environmental regulations.





## Disclosure on Management Approach

### RISKS & OPPORTUNITIES

Demand and the scope of information disclosure concerning climate change response are expanding and such information is increasingly used in evaluating corporate value. With growing consumer awareness of green products, green competitiveness in products should be enhanced further while pre-emptive response to increasingly stringent environmental regulations and newly-launched regulations is required to minimize relevant risks.

### STRATEGIES

- Establish environmentally-efficient manufacturing processes
- Design eco-friendly products and services
- Maintain and improve an eco-friendly supply chain
- Consider the environment in the entire lifecycle of business segments
- Contribute to society and the environment

### FUTURE PLANS

- Develop greener products and services
- Create sustainable eco values throughout the supply chain
- Set and undertake pre-emptive climate change adaptation strategies

## INPUT



### MATERIALS PURCHASING

Materials <sup>1)</sup>	Unit : tons	
	2012	2013
Steel*	20,164	15,111
Glass*	53,193	44,861
Plastics	20,419	26,740
Paper	13,277	18,876
Chemicals*	50,444	55,617
Others	21,509	16,335
Total	179,005	177,540

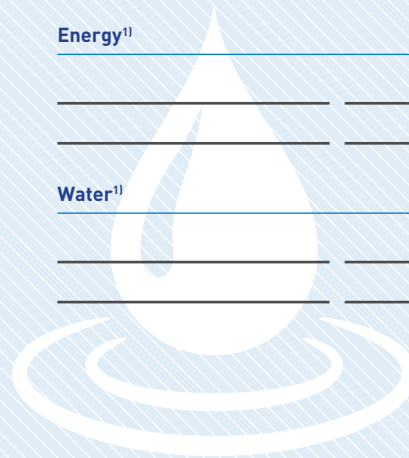


### MANUFACTURING

Energy <sup>1)</sup>	Unit : TJ	
	2012	2013
	12,440	12,700

Water <sup>1)</sup>	Unit : kilotons	
	2012	2013
	5,365	5,750



### Life Cycle Assessment of Automotive Batteries

Samsung SDI conducted a Life Cycle Assessment (LCA) of its 60Ah and 20Ah automotive battery products. The system boundary was set to 'Cradle to Gate' which reviews pre-manufacturing and manufacturing phases only. The assessment was conducted in accordance with the procedures and conditions proposed by ISO 14044:2006 and ISO TS 14067:2013, and outcomes were verified by the Korean Society for Life Cycle Assessment.





## Environmental Impact

### Materials Flow Map

Samsung SDI strives to lean down its manufacturing process and minimize any trace of environmental footprint along the way. The company quantitatively measures and manages the flow of materials in the entire spectrum of its production as a way to lessen its environmental load in every possible area. Samsung SDI's 2013 consumption of raw materials, its generation of pollutants from water and energy consumption and its disposal of by-products and recycled materials can be summed up in the following table.

## OUTPUT

GHG		Unit : 1,000 tCO <sub>2</sub> e	
		2012	2013
Samsung SDI <sup>1)</sup>		642	710
Consumers <sup>2)</sup>		532	388

### PRODUCTS

By-Products		Unit : tons	
		2012	2013
Packaging	Disposal	29,258	31,109
Materials <sup>5)</sup>			
Waste <sup>1)</sup>	Recycling	35,622	33,845
	Landfill	1,432	1,166

Water Discharge <sup>1)</sup>		Unit : kilotons	
		2012	2013
Treated Water		4,609	4,759

Pollutants <sup>4)</sup>		Unit : tons	
		2012	2013
COD		214	131
SS		117	130
Dust*		14	10

### RECYCLING/LANDFILL

End-of-Life Products <sup>4)</sup>		Unit : tons	
		2012	2013
Recycling		129,997	135,151

### CUSTOMERS

Product Sales <sup>3)</sup>		Unit : tons	
		2012	2013
Sales		143,479	140,706

#### Note on the calculations and measurements

The material flow presented in the above table was calculated based on major Samsung SDI products and thus does not match with the total volume data shown in the environmental performance table.

- 1) Battery and PDP panel production sites
- 2) Power consumption of PDP TVs in Home Mode, Annual use of 1,460 hours
- 3) Sales of battery cells and PDP modules
- 4) Korea battery and PDP panel production sites
- 5) Product-related waste (packaging materials)
- 6) Theoretical recycling rates for consumed materials applied

\* The 2012 data was corrected due to an error in a calculation formula and to reflect the change in the materials classification system

## Environmental Management System

Samsung SDI is continually committed to improving the environment in accordance with the environmental management guidelines set by its CEO. In 2013, company-wide management teams were divided into groups and key executives were selected to fully launch environmental management initiatives. Furthermore, environmental management departments at respective plants follow internal pollutant treatment standards that are even more stringent than the legally-binding requirements. Each of Samsung SDI's domestic and international production sites maintains environmental management systems that are in full compliance with ISO 14001 while using EMS\* modules within SMIS\* to record the environmental data and make comparisons of environmental performances.

\* SMIS (Sustainability Management Initiative System)

\* EMS (Environment Management System) : Environmental management-related modules within SMIS

## Environmental Compliance

In 2013, there were no violations of environmental regulations or international environmental agreements at any of the Samsung SDI's plants.

## Environmental Facility Investment and Environmental Cost

Identifying environmental costs and relevant outcomes is highly critical in the efficient operation of Samsung SDI's environmental management systems. Thus, Samsung SDI systematically calculates its costs and benefits concerning the investments in wide-ranging initiatives aimed at reducing and/or managing its environmental impact. In 2013, domestic environmental facility investments and costs amounted to 18.164 billion KRW.

## Environmental Initiatives

Unit : KRW million

Type	Investment*	Cost*	Benefits*	Details
Treatment	229	13,899	7,829	Operation of in-house environmental facilities, outsourced treatment, etc.
Prevention	876	3,160	1,546	Environmental training, measurement & analysis, audits, waste management, process improvement
Stakeholders	0	2	5	Support for environmental groups, local partnerships, environmental events
Legal Compliance and Remediation	0	0	0	Surcharge on waste, insurance, penalties

\* Investment : Investments made in relation to environmental initiatives

\* Cost : Environment-related costs managed internally and costs incurred in society due to emissions or products

\* Benefits : Calculated based on tangible gains such as cost reductions and savings from environmental initiatives and intangible gains such as risk reductions and social contribution

## Eco-friendly Products and Services

LIBs are more eco-friendly than other rechargeable batteries: They consume fewer materials for their compact and lightweight form in the production phase. Also, their relatively high capacity and longer lifespan produce benefits in the user phase. Lastly, LIBs help reduce the amount of harmful discharge in the disposal phase. Samsung SDI keeps sustainability in mind from its early product development stage. In 2013, initiatives were taken to reduce scraps from prismatic rechargeable batteries, increase the number units contained in polymer battery packaging materials and shift prismatic rechargeable battery packaging materials from synthetic resin to paper.

## Water Resource Management

As a result of downsizing the display operations and transforming into an eco-friendly and clean energy solution provider, Samsung SDI's water consumption is continuously decreasing. To further maximize these results, Samsung SDI likewise focuses its capabilities on the efficient use of water resources. All plants are committed to the optimized use and reclaiming of processed water. Before being discharged, any wastewater generated in the manufacturing process is treated in accordance with internal management standards even more stringent than legal requirements. Meanwhile, treated water from the Ulsan Plant is used for agricultural purposes in surrounding areas to help mitigate water shortages during the dry season. Samsung SDI's domestic plants disclose their water management status data and future plans, in addition to green management initiatives, in accordance with the Environmental Information Disclosure Scheme\*.

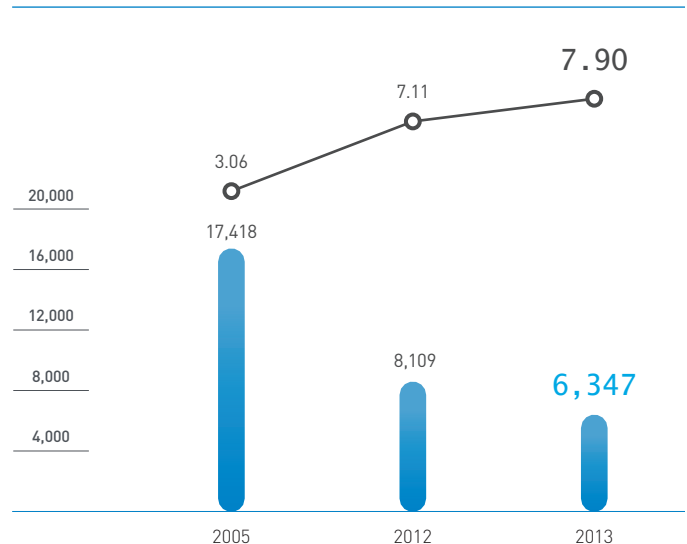
\* Environmental Information Disclosure Scheme : This scheme makes it mandatory for green companies, public institutions and environmentally-sensitive companies to disclose their environmental information. Registered environmental information is available on the Environmental Information Disclosure System website ([www.env-info.kr](http://www.env-info.kr)).

## Water

In 2013, Samsung SDI's domestic and international plants consumed 6,347 million tons of water. The termination of CRT TV operations and sustained endeavors to reduce water consumption led to a 10% improvement in water efficiency from the previous year. Samsung SDI's water efficiency improved 2.58 times from 306 million KRW/kiloton in the base year 2005 to 790 million KRW/kiloton in 2013.

## Water Usage

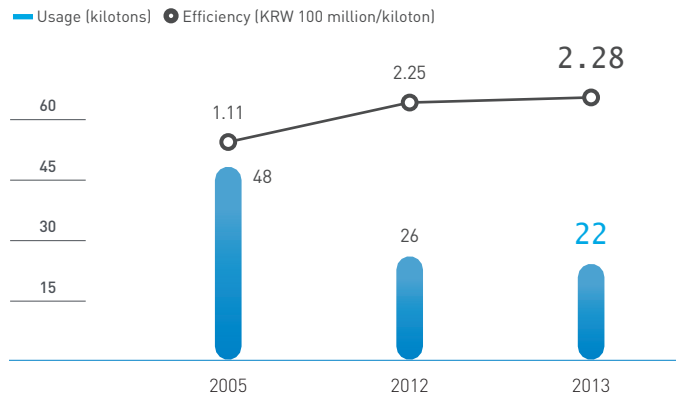
— Usage (kilotons) ● Efficiency (KRW 100 million/kiloton)



### Hazardous Chemicals

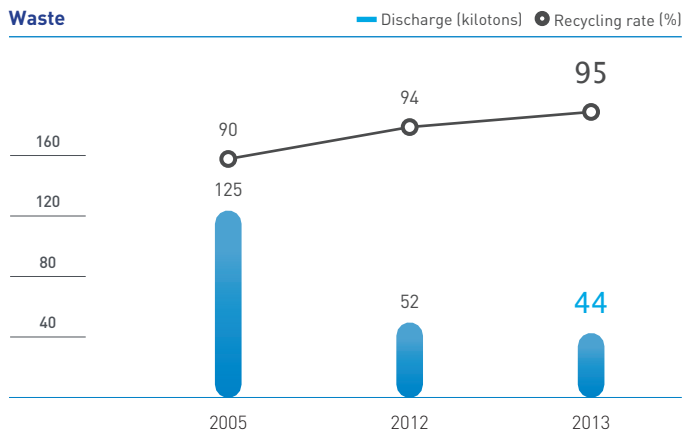
Samsung SDI realigns its operational management criteria and standards in the introduction, consumption and disposal of chemicals from the lifecycle perspective. The company developed its own chemical substance management system that was launched in March 2014. G-EHS assists the company in conforming to increasingly-stringent chemical regulations and managing chemical substances more systematically. Samsung SDI's consumption of hazardous chemicals fell by 3,700 tons and the chemical use efficiency improved by 2% from the previous year and doubled (2.05 times) from the base year 2005.

#### Hazardous Chemical Substances



### Waste

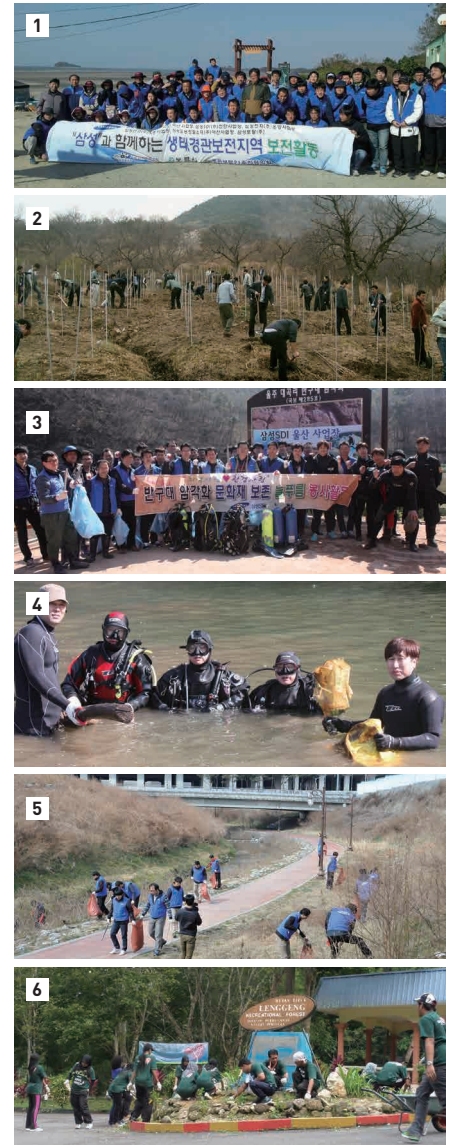
Out of the total 44,000 tons of waste generated in 2013, 95% of it was recycled. As for resource circulation, Samsung SDI includes incineration for waste heat recovery (excluding landfills) in calculating recycling rates. As a result of such measures, the generation of waste decreased by 7,600 tons from the previous year.



### Green Communication

The environment of communities around Samsung SDI's plants is a paramount concern for the company. To this end, the company continues to offer ecological/environmental preservation programs to those important communities. All domestic and overseas plants ensure that the water systems within their vicinity remain clean through their clean-up activity called 'One Company One Stream', along with specialized ecosystem preservation programs. The Cheonan Plant joins forces with government agencies, civic groups and nearby companies to preserve local ecosystems known for their beautiful and natural landscapes. The Malaysian subsidiary forged sisterhood ties with the Lenggeng Forest Reserve in 1998 and has continued environmental improvement programs such as tree-planting and public facility maintenance. In recognition of Samsung SDI's sincere commitment to environmental protection through those programs, this Malaysian state park is often endearingly referred to as 'Samsung Park'.

1. Cheonan Plant - Clean-up activities in the vicinity of ecologically-valuable preservation areas
2. Ulsan Plant - Tree-planting on Arbor Day
3. 4. Ulsan Plant - World Water Day hosted by Ulju-gun
5. One Company One Stream Campaign
6. Malaysian Subsidiary - Environmental improvement for Lenggeng Forest Reserve



# Climate Change and GHG Emissions

## Energy Management

Samsung SDI advances low-carbon, clean energy management in accordance with its company-wide energy management policy. In 2011, the Cheonan and Ulsan Plants were certified with ISO 50001 (energy management system standard). Samsung SDI continuously improves the energy efficiency of its manufacturing facilities while undertaking innovative energy-saving initiatives which range from the development of low energy consuming production lines, shift to LED lighting, and additional installation and demonstration of high-capacity ESS. The improvement of the energy management system (s-GEMS\*) built in 2011, will enable the company to systematically manage energy data from overseas subsidiaries, evaluate and predict energy impact and manage goals and programs.

\* s-GEMS (smart & samsung - Green & Global Energy Management System) : Samsung SDI's IT system for energy consumption and GHG emissions management

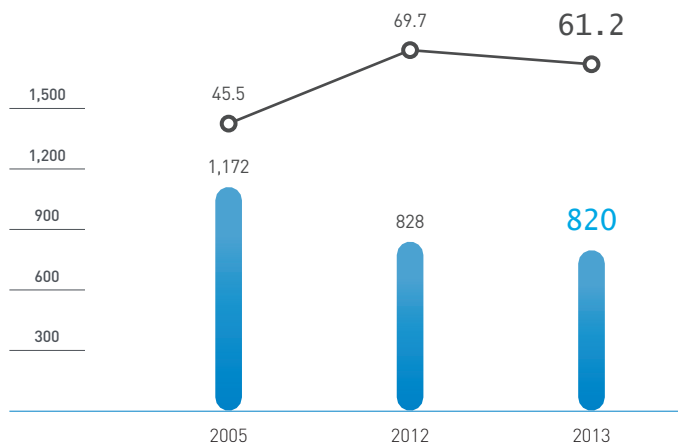
## Self-Initiated Endeavors to Reduce GHG Emissions

Samsung SDI is sincerely dedicated to reducing its total GHG emissions and improving its GHG efficiency, with its goal to 'more than double the GHG emissions efficiency by 2015'. In 2013, its GHG emissions amounted to 820,000 tCO<sub>2</sub>e, which translated into KRW 6.12 billion/ktCO<sub>2</sub>e in GHG efficiency. Meanwhile, total GHG emissions fell by 8,000 tons, but GHG efficiency declined by 12% due to sales impact. Still, this GHG efficiency figure is up by 1.35 times when compared to the base year 2005. Samsung SDI's GHG emissions by product are: 438,000 tCO<sub>2</sub>e in rechargeable batteries, 316,000 tCO<sub>2</sub>e in PDP, 39,000 tCO<sub>2</sub>e in CRT TVs, and 27,000 tCO<sub>2</sub>e in other categories which include the R&D Center and others. The majority of these GHG emissions are electricity-use derivatives (indirect emissions). In 2013, Samsung SDI's indirect and direct emissions amounted to 734,000 tCO<sub>2</sub>e and 86,000 tCO<sub>2</sub>e respectively.

## Status of GHG Emissions

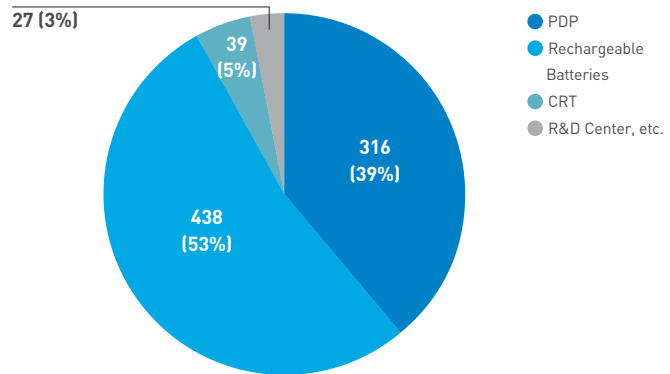
■ Emissions (ktCO<sub>2</sub>e) ● Efficiency (KRW 100 million/ktCO<sub>2</sub>e)

\* Domestic GHG emissions were recalculated from 2007 due to the merger with SB LiMotive in January 2013.



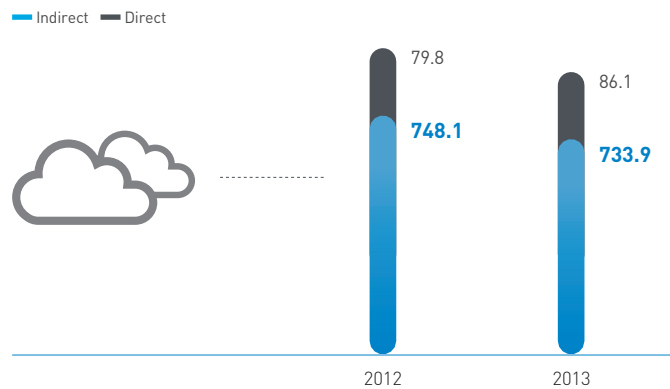
## GHG Emissions by Product

Unit : ktCO<sub>2</sub>e



## Direct/Indirect GHG Emissions

Unit : ktCO<sub>2</sub>e



## Guidelines for Calculating GHG Emissions

- **Korea**  
Based on the "Administrative Guideline for the GHG & Energy Target Management System"
- **Overseas**  
Shenzhen Subsidiary : Based on the emissions trading scheme of Shenzhen City  
Other Overseas Subsidiaries : IPCC Guideline for National Greenhouse Gas Inventories-Revised in 2006, as well as the GHG Protocol of the WBCSD/WRI-Revised in 2004

## Scope of GHG Emissions Calculation

- **Korea**  
Scope 1 & 2 emissions from the Cheonan Plant, Ulsan Plant, Headquarters & R&D Center and leased offices
- **Overseas**  
Scope 1 & 2 emissions from seven manufacturing plants



### Compliance with GHG Emissions Regulations

Samsung SDI's headquarters and Cheonan & Ulsan Plants are obliged to meet GHG emissions reduction targets allocated each year in accordance with the Korean government's GHG & Energy Target Management System. In 2013, GHG emissions from Samsung SDI's domestic plants amounted to 545,761 tCO<sub>2</sub>e (11,613 TJ in energy) according to GHG emissions verification and met the target assigned by the government.

### Response to Emissions Trading Schemes

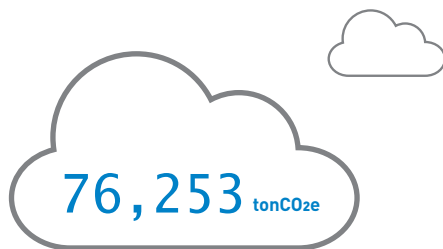
Samsung SDI's Hungarian Subsidiary, as a member of the EU Emissions Trading Scheme (EU ETS), has complied with the approved emissions allowances granted each year since 2005 and has sold a total of 28,000 tons in surplus allowances by 2012. Its allocated allowances in 2013 amount to 1,885 tons and the subsidiary is currently trying to prevent any allowance shortages. Meanwhile, Shenzhen City introduced its own emissions trading scheme in 2013. Samsung SDI's Shenzhen Subsidiary was allocated annual allowances in accordance with the city's emission intensity reduction target and completed the submission of its 2013 emissions outcomes to the city's energy management authorities in March 2014. In 2015, Korea will introduce its own emissions trading scheme.

### Reduction of GHG Emissions from Product Use (Consumers)

Samsung SDI continues to reduce the power consumption of PDP TV modules to satisfy customers' needs. Based on TV power consumption in customers' use, reduced GHG emissions from PDP TVs launched in 2013 amounted to 76,000 tCO<sub>2</sub>e, and this figure indicates 12kgCO<sub>2</sub>e reduced per TV against 2012.

### GHG Emissions Reduced by Consumers

\* Power consumption of PDP TVs (2013 Model) in Home Mode, Annual use of 1,460 hours



### Other GHG Emissions

In 2013, GHG emissions generated by employee business trips (upstream) and the transport of products (downstream) amounted to 2,460 tCO<sub>2</sub>e. This data was calculated in accordance with WBCSD and WRI Greenhouse Gas Protocol.

### Scope 3 GHG Emissions

Unit : tCO<sub>2</sub>e



Product Transport

600



Korea Business Trips

393



Overseas Business Trips

1,467

### Standardizing Air Conditioning Specifications for the Manufacturing of Rechargeable Battery Cells

Samsung SDI's rechargeable battery cells are manufactured at the Cheonan Plant, Malaysian Subsidiary and Shenzhen Subsidiary. Previously, those three production bases had followed their own air conditioning specifications in consideration of their distinctive production lines and this resulted in heavy energy consumption. Thus Manufacturing, Technology, Infra Innovation Teams under the Cell Division of Samsung SDI embarked on a project to redefine and standardize air conditioning settings at separate locations. This standardization project helped reduce the consumption of energy for air conditioning by 3.5% against the rate of conventional practices and resulted into 2.22 billion KRW in annual cost savings.

# 3

## Compliance and Ethical Management



Indicator	2013 Performance	2014 Target
Compliance Training	100% completion of team-specific customized training for all departments 91% completion of online training	Continue to offer team-specific customized training Operate a subcontracting certification program for departments directly interacting with suppliers
Intensive On-Site Review of Major Risks	Review and correction of major issues on related party transactions, subcontracting practices, fair trade, etc.	Continue to manage issues concerning compliance with social regulations
Stronger Compliance of Overseas Subsidiaries	Support for efficient operation concerning major issues of each subsidiary	Strengthen the self-initiated compliance of overseas subsidiaries

While domestic fair trade regulations (price-fixing, unfair subcontracting practices and related party transactions) grow tighter, companies face an increasing demand for regulatory compliance across the entire spectrum of their business conduct.



! Disclosure on Management Approach		
<p><b>RISKS &amp; OPPORTUNITIES</b></p> <p>Global compliance risks are on the rise in the corporate business environment, while ever-present business and reputational risks from legal violations never disappear. Thus, managing our public credibility and reputation through compliance and ethics management is emerging as an essential issue.</p>	<p><b>STRATEGIES</b></p> <ul style="list-style-type: none"> <li>Identify risks in advance                             <ul style="list-style-type: none"> <li>Identify changes in the external environment and compliance risks in the internal business conduct, then make necessary corrections</li> <li>Identify and correct emerging social issues</li> <li>Identify risks from new operations and undertake proactive management</li> </ul> </li> <li>Reinforce preventive action                             <ul style="list-style-type: none"> <li>Integrate self-initiated compliance practices into daily operations</li> <li>Take appropriate action to prevent risks and the reoccurrence of such risks</li> <li>Strengthen global compliance management</li> </ul> </li> </ul>	<p><b>FUTURE PLANS</b></p> <ul style="list-style-type: none"> <li>Maximize business outcomes and prevent any damage from civil &amp; criminal lawsuits through the prevention of legal risks</li> <li>Establish a self-initiated compliance culture in Korea and abroad</li> </ul>

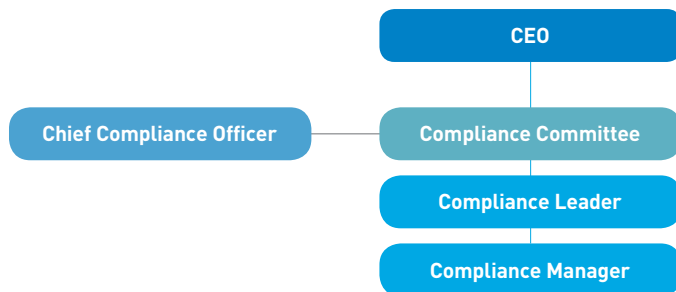
## Compliance & Ethics Management System

### Organization

Samsung SDI supports its employees in the independent abidance of regulations as a way to prevent lack-of-compliance risks. The company operates the Legal Compliance & IP Team dedicated to compliance operations while appointing compliance leaders and managers in respective teams to identify and resolve compliance risks. In 2013, the Compliance Academy and the Compliance Conference were held to support and engage compliance managers in taking self-initiated compliance initiatives, in addition to the introduction of reward programs.

### Organizational Structure

\* Team leaders become the compliance leaders. (including overseas subsidiaries)



### Enhanced Risk Identification

Samsung SDI identifies and prevents risks in advance as a way to control global compliance risks year-round. The company monitors major social issues and external trends concerning new or revised regulations while extending its monitoring scope in its internal business conduct. In 2014, Samsung SDI will strengthen its internal compliance monitoring through diverse routes – relevant departments, meetings, off-the-record one-on-one interviews- based on the results found from external risk identification.

### Development and Operation of Global Compliance Programs

As a company that operates production plants, sales subsidiaries, branches and offices in 12 countries across the globe, Samsung SDI undertakes a wide array of supportive initiatives to abide by country-specific regulations as well as global standards. In 2012, Samsung SDI set up regional compliance consultative bodies to prevent any possible compliance risks at its overseas subsidiaries. Meanwhile, the Compliance Conferences were hosted for Korean expatriates and local employees in the U.S. and China in March and May of 2014 respectively.

The conference held in the U.S. trained attendees on recent legal trends, cartel issues and trade secrets in alignment with local law firms. The conference held in China offered customized training concerning legal trends, labor laws and the prevention of global compliance risks. In addition, each subsidiary is engaged in ongoing training and advisory & review activities.

In 2014, Samsung SDI plans to offer improved consulting and legal support to overseas subsidiaries to enable their compliance management. Also, the appointed compliance managers will encourage their local employees to get involved in compliance management.

Compliance Conference



### Compliance Risk Management Process



## Compliance & Ethics Training and Monitoring

### Customized Training

After fully reflecting employees' feedback on the previous training conducted from 2011 to 2012, the compliance training offered in 2013 was greatly improved. The training content mainly consisted of real-life practices and actual examples and the training was offered to smaller groups to help convey the message more clearly. Furthermore, customized curriculum was developed by pinpointing specific job areas in need of training while training was implemented in accordance with characteristics of respective departments and job levels. For price-fixing, subcontracting practices, contractor-subcontractor relationships and other major social issues, departments at high risk (purchasing or sales) were selected and provided with 21 sessions of special customized training, including lectures by external experts. Furthermore, training on major regulatory trends was continuously offered to employees of different positions from executives to new and experienced recruits and compliance managers.

In 2013, Samsung SDI's compliance training was extended to its supply chain. Compliance training on cartel, subcontracting, PL (Product Liability), trade secrets and identity protection was provided to 109 executives and managers from 104 suppliers. Samsung SDI will continue to offer such training to suppliers to establish a culture of compliance management across the supply chain. In 2013 alone, 10,404 cumulative employees completed on/offline compliance training.

### Outcomes of Compliance Training in 2013

Unit : Headcount

Target	Curriculum and Details	Trainees
Executives (171)	Compliance training for executives : Cartel, subcontracting risks, etc.	168
	Compliance Conference held overseas : Local regulatory trends, etc.	3
	Online compliance courses	4,463
Non-Executives (10,233)	Team-specific customized offline training : Cartel, subcontracting, trade secrets, etc.	5,770
	Compliance training for suppliers : Compliance programs, cartel, subcontracting, product liability, trade secrets, data privacy, etc.	109 (from 104 suppliers)

\* Cumulative number of trainees

### Self-Initiated Compliance Review

Painstakingly comprehensive inspections were conducted to find whether there were any Samsung SDI employees who contacted any competitors as a way to 'eliminate price-fixing', while sustained reviews were made on major risks concerning fair trade, subcontracting and privacy protection. Furthermore, Samsung SDI encourages all employees to review compliance risks related to their jobs through the 'Self-Check' functionality of the compliance system. In 2014, collusive bidding, anti-corruption, trade secrets, contract management and other contract-related risks will be intensively reviewed with an emphasis on newly-launched automotive battery and ESS operations.

### Compliance Management into Corporate DNA

Samsung SDI is committed to integrating compliance management into the fabric of its corporate culture. In April 2013, a message from the CEO on the 'roles and responsibilities of a corporate citizen' was sent to all employees. In executive seminars or business briefings, the CEO made comments to ensure that his commitment to compliance management is clearly disseminated. In addition, the compliance index evaluation system was created to evaluate each department

and reflect the results in evaluating executive performance. The compliance reward program was also launched to recognize and reward 'top performers in compliance management.' In 2014, Samsung SDI will complement the reward program and take effective disciplinary action against those who violate compliance principles as a way to embed compliance management into the deeper dimensions of its corporate culture.

### Anti-Corruption

Samsung SDI offers training and conducts inspection to prevent corruption on a company-wide level. Under the supervision of the Audit Team, executives, group leaders, and those who interact directly with business partners are provided with anti-corruption training. At overseas offices, special training is offered to Korean expatriates and local managers by the heads of overseas subsidiaries. In addition, Samsung SDI employees in Korea and abroad and workers of its suppliers are provided with online anti-corruption training.

In 2013, audits were conducted on departments in direct interaction with suppliers and customers. These inspections covered transaction results, recruitment processes and status of products and materials management. Violations of corporate regulations were addressed strictly and given appropriate measures. In 2013 alone, a total of 44 employees who committed corruption received disciplinary measures as a result of anti-corruption audits. Ultimately, the contracts with five business partners who were involved in corruptive practices were terminated.

### Annual Completion of Anti-Corruption Training

Unit : Headcount



### Legal Compliance

Since November 2007, there have been on-going investigations into alleged anti-trust violations related to the price-fixing of CRT products in the U.S., EU, Japan and Korea. This case was closed with a court decision to impose penalties on Samsung SDI in Korea, the U.S. and several countries while administrative appeal and lawsuits raised by Samsung SDI are still pending in Japan and Europe. Whether or not Samsung SDI violated any anti-trust regulations and/or detailed sanctions will be finalized in accordance with the outcome of those ongoing trials. In 2013, there were never any fines or sanctions imposed on Samsung SDI in relation to violations of country-specific laws or regulations.

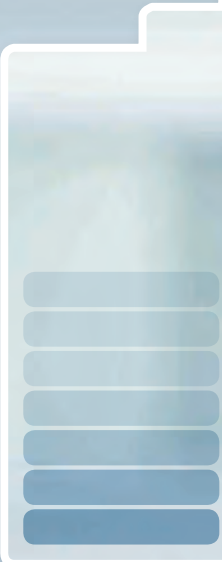


# 4

## Employees & Corporate Culture



Indicator	2013 Performance	2014 Target
Annual Average Training Hours per Employee	126 hours	144 hours
Ratio of Locally-Hired Heads of Departments	49%	60%
Employee Injury Rates	0.07	0.05 or under



The expansion of overseas operations, both in business portfolio and business conduct, highlights the importance of recruiting and nurturing talented individuals. Furthermore, there is a growing need for smarter work practices, as well as an increasing demand for work/life balance and a greener and safer workplace.



## Disclosure on Management Approach

### RISKS & OPPORTUNITIES

With its global presence in numerous regions of the world, compliance with local labor regulations and corporate social responsibility is being highlighted as a major issue for Samsung SDI, along with the increasing need to recruit global key talent and build stronger workforce capabilities. In response to evolving social perceptions of safety, the management of safer work environments is also emerging as a major issue.

### STRATEGIES

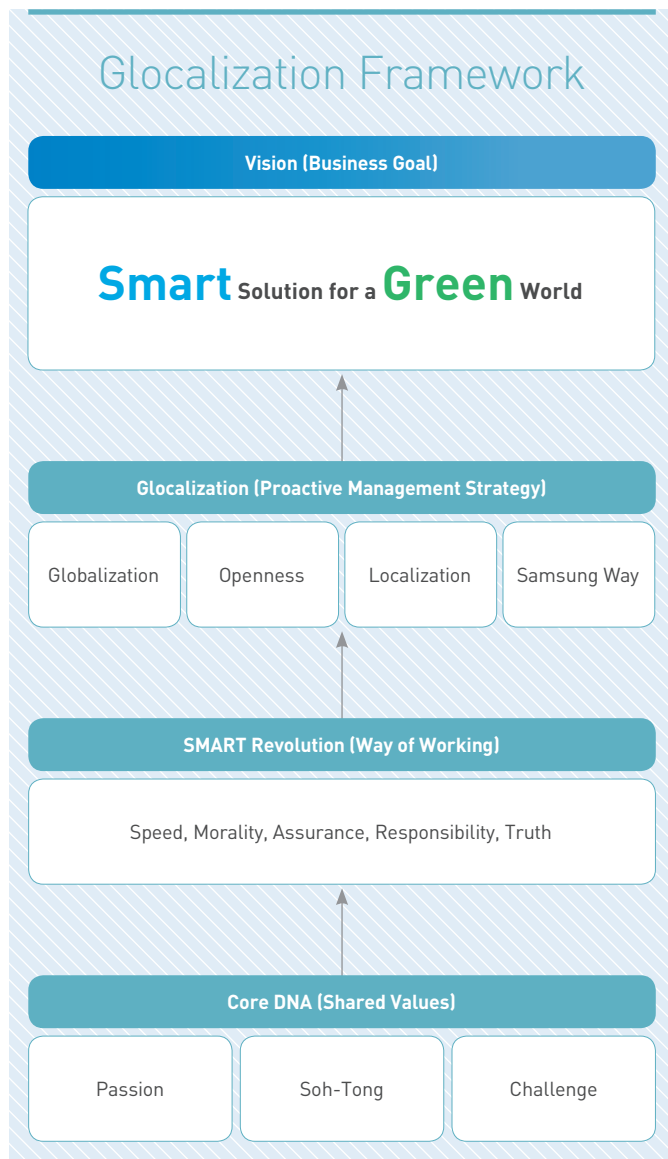
- Offer customized job transition training in line with changing business structures
- Undertake a proactive recruitment strategy and recruit key talent
- Realign HR systems in response to shifting labor environment conditions
- Make improvements through the diagnoses of corporate culture
- Advance globalization
- Undertake stronger initiatives to prevent safety incidents and chemical spills

### FUTURE PLANS

- Develop stronger HR capabilities to launch new operations
- Create a new organizational culture
- Spread and establish globalization
- Disseminate process/system-based work practices globally
- Establish processes and systems for chemicals and health management

## Innovative Working Culture

### Globalization Framework and Key Words



### Four Key Words of Glocalization

#### Globalization

**To undertake global operations throughout the entire business sector (e.g., purchasing, development, technology, quality, management) rather than limited to domestic operations**

- Global Communication (Language Skills)
- Global Etiquette & Manners (Cross-Culture)
- Nomadic DNA (Flexibility)

1

#### Openness

**To bravely introduce new technology, talent, and business and to create synergistic effects through embracement of differences and internal competition**

- Open Innovation (Technological Liberalization)
- Global Top Talent (Talent Liberalization)
- Strategic M&A (Business Liberalization)

2

#### Localization

**To develop the locally-led business system through the use of local talent and the fulfillment of corporate social responsibility (CSR)**

- Locally-driven Management (Recruitment/Organizational Management)
- Locally-led Business System (Functional Integration)
- Coexistence and Co-Prospersity with Local Communities (Social Contribution)

3

#### The Samsung Way

**To maintain and share the same value and behavior regardless of nationalities, ethnicities, or regions with Samsung's unique business philosophy, core values, and winning spirit**

- Single Samsung (Same Values)
- Winning Spirit (World-Leading DNAs)
- Global Compliance (Ethical Corporate Culture)

4

**Glocalization**

Samsung SDI's 'SMART Revolution' has been launched since 2012 to innovate the way its employees work and spread a lively corporate culture. In 2013, Samsung SDI advanced 'Glocalization' company-wide to launch its '2nd Innovation'. Four key words (globalization, openness, localization and the Samsung Way) were defined to prepare for future shifts in business conditions and to build a stronger global competitive edge. These key words served as the basis to come up with 12 major tasks and the full-fledged launching of Glocalization was announced at the ceremony held in celebration of Samsung SDI's 43rd anniversary.

Samsung SDI's first step to advance glocalization was to make its employees more aware of it. All employees received special glocalization training (called 'Glocal Sil-Chun-Rock-Seo') to share its necessity and vision. To deepen the understanding of global culture, wide-ranging programs were launched including Global Culture Day, special lectures on cultural differences, SDI TED Knowledge Conferences, and Korean Language Contest for foreign employees.

To reinforce the basis to spread glocalization into Samsung SDI's global operations, the standard HR systems of overseas subsidiaries were realigned while the deployment of SPPM (the company's global standard system) is being developed at overseas locations following its deployment in Korea. Furthermore, Samsung SDI conducted capacity assessments of locally-hired heads of major departments at overseas subsidiaries and set plans to nurture such talented individuals. This was also followed by the expansion of global key talent recruitment and diverse support to help improve individual language skills. To lay the groundwork for self-initiated social contribution initiatives driven by local Samsung SDI operations independently from the headquarters, CSR managers were appointed and manuals were distributed to overseas subsidiaries.

Following the endeavors to lay the groundwork for glocalization in 2013, full-fledged initiatives will be launched from 2014 onward to spread glocalization to the wider world. Foreign language courses for Korean employees and programs & events engaging foreign employees have been continuously developed at the headquarters. In addition, Samsung SDI will increase the number of locally-hired directors and develop & realign the training system for overseas subsidiaries to empower local management leadership. In addition, Samsung SDI will continue to pursue 'open innovation' by building R&D networks with overseas universities, research institutes and consulting firms and by expanding joint research projects with overseas research institutes. To fulfill its social responsibility as a global company, Samsung SDI will also reinforce training and audits to comply with local regulations and undertake social contribution initiatives differentiated for each overseas subsidiary.

**Culture of Process/System-Based Work**

Samsung SDI improves on its processes and develops relevant systems from an innovative perspective on the way of working. The company established marketing processes/systems fit for B2B business and advanced the R&D processes/systems in which co-work with relevant departments (e.g., Purchasing, Manufacturing, Quality, Sales Dept.) is essential. Samsung SDI's supply chain management system, manufacturing process management system and quality analysis system that quickly respond to shifting market demands are supplemented in line with newly-launched or expanded production lines. Meanwhile, with the belief that it is people that create business outcomes, Samsung SDI is fully committed to embedding a culture of process/system-based work into employees' daily business routines and corporate DNA through the use of these systems. To this end, global standard processes and manuals were realigned throughout the entire operation in 2013, and the SPPM system is now available for employees to check necessary details (at any time) and work in accordance with rules and processes.


1. 2. Global Mindset Development



+

**SPPM (SDI Policies & Procedures Management)**

To establish a high level of standardized global job capabilities, Samsung SDI developed a SPPM system in which routine and repetitive tasks are standardized and written in manuals to manage and check such tasks. Work manuals are available in Korean, English and Chinese and categorized by work unit of the headquarters as well as overseas offices. SPPM ensures that Samsung SDI employees always refer to the latest-updated manuals to perform their job by stipulating 『Process Procedures, Work Rules, and Decision-Making Policies』 and adopting a change management system that is synchronized with processes and systems.



Samsung SDI's SPPM System



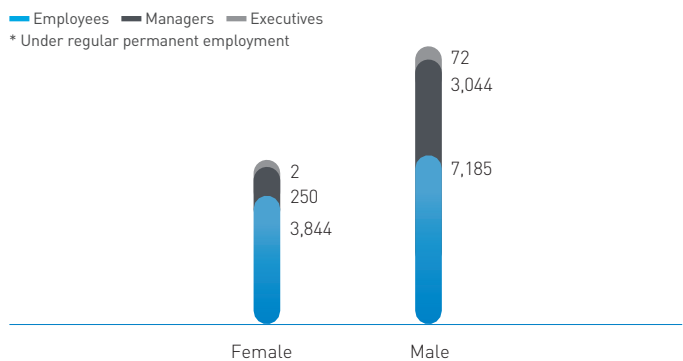
# Talent Management

## Employment Status

As of the end of 2013, the total number of employees at Samsung SDI, including contractual and dispatched workers, stood at 16,499, increased by 998 workers from 2012. The turnover rate was similar to that of last year at 25.6%, attributed to the ongoing business restructuring in line with the downsizing of Samsung SDI's overseas PDP and CRT operations. The female employees take up 28.5%, which fell by 5.2% from the previous year. By age group, employees under 30, between 30 and 50 and over 50 account for 44.7%, 49.8% and 5.5% respectively.

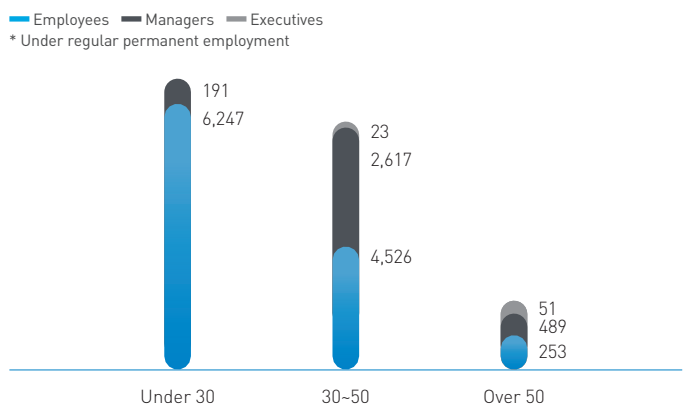
### Composition of Workforce by Gender

Unit : Headcount



### Composition of Workforce by Age

Unit : Headcount



## Recruitment and Development of Human Resources

**Talent Recruitment and Retention :** Samsung SDI's widening global presence - driven by such recent operations as automotive batteries and ESS, along with its fierce drive to maintain its No.1 global position in the small-sized rechargeable battery segment - inevitably placed an increasing importance on recruiting and retaining professional workforce in the energy sector. To become the first to secure such key talent, Samsung SDI has continued to expand its recruitment of globally-competent individuals in strategic business locations, as well as leading segments in the countries of Japan, Russia and India. Samsung SDI is also specifically committed to retaining key talent through programs that engage foreign employees and mentoring programs that help new recruits adapt to the company and boost their morale. In 2014, Samsung SDI will identify and secure outstanding individuals in newly-launched operations and relatively weak technological areas, through such diverse channels as overseas recruitment, Ph.D. conferences, a higher education loan program and an internship program.

**Talent Nurturing :** As the size of the workforce and production increases at key overseas locations and the product line-up becomes diverse, it is increasingly instrumental that Samsung SDI systematically nurtures local talent and share its corporate values. This prompted Samsung SDI to expand the scope of OJT (On the Job Training) in relation to new promising businesses in order to foster professional workforce. It is also nurturing local lecturers and training employees at overseas subsidiaries to share Samsung SDI values with them. To establish field-centered and self-initiated learning practices, the 'EDUPARK' system was completed on the intranet in March 2013 to be used by employees in assessing their individual job capacity and setting self-development plans. This is further complemented by various support to facilitate learning cells and internal technical seminars.

In 2014, Samsung SDI plans to establish leadership and OJT systems at overseas subsidiaries so as to support the development of locally-led global management systems. It will also realign OJT systems by occupational group in the automotive battery, ES and other new promising businesses so as to strengthen its business capabilities.

**From Recruitment to Retirement :** Samsung SDI assists individual employees with career development from recruitment to retirement.

### Career Development Programs

Program	Description
DNA Program	Samsung SDI's DNA [Development & Advice] program was designed to help new hires swiftly adjust to their work life at Samsung SDI. This program establishes a one-on-one relationship between new hires and their seniors who are working in relevant fields within the same department. This enables new hires to learn work knowledge and skills, build closer ties with their seniors and acclimate easily to Samsung SDI early on.
Qualification Support Program	To enhance employees' job competency and expertise, Samsung SDI encourages employees to obtain internationally-recognized qualifications. Those who earn such qualifications in purchasing, quality, management and financing are provided with test fee waivers and incentives.
Career Development Center	Samsung SDI's Career Development Center aims to help employees relieve some of their anxiety about retired life and design and prepare a new path for their latter years. This center offers pre-retirement training to soon-to-be retirees as well as full support for reemployment or start-up. These programs play a significant role in building a deeper bond between labor and management.

Technical Seminar





## Respect for Human Rights and Diversity

### Labor-Management Culture

At Samsung SDI, the Labor Council serves as a channel to protect worker's rights, handle employee grievances and ensure seamless communication. The Labor Council consists of equal numbers of employee and management representatives and is responsible for gathering employee grievances and complaints, as well as matters related to employee rights or welfare (wage, labor conditions) to discuss and solve these issues. In cases where significant changes in business operations occur, such as realignments of business structures or system updates/changes that require Labor Council meetings, attendees are given a seven-day notice prior to such meetings. Any modifications made through consultations are immediately announced to employees.

To facilitate the operation of the Labor Council, standing members are allowed to work full-time for the Council. Also, sub-council meetings are held by the business division unit to gather minority employees' grievances that are rarely addressed at the general council meeting.

### Respect for Human Rights

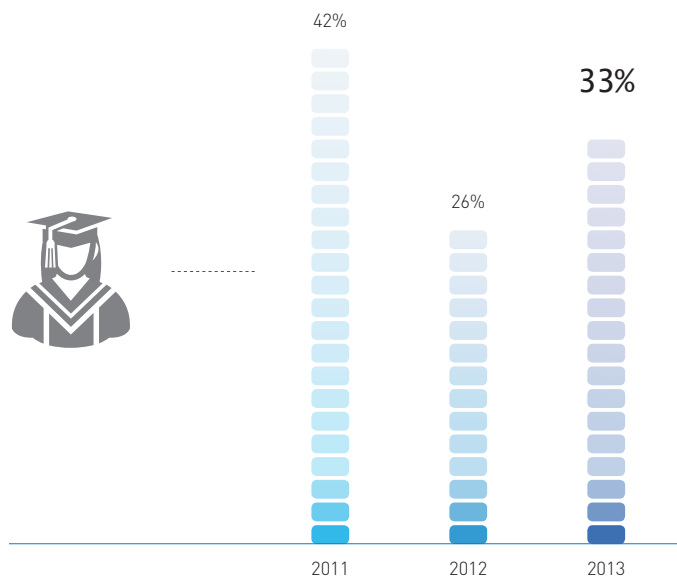
**Prohibition of Child and Forced Labor** : Samsung SDI is in full compliance with the International Labor Organization Convention, as well as the labor laws and systems in those countries where it operates. Samsung SDI's management principles and employment policies clearly stipulate its ban on child labor and forced labor and such practices are strictly prohibited. As a result of Samsung SDI's close monitoring of its business sites across the globe and its suppliers, there was no single violation of child labor or forced labor prohibition policies in 2013.

**Prohibition of Discrimination** : Samsung SDI's management principles and employment policies clearly stipulate that discrimination on the grounds of skin color, gender, religion, social status, age, political agenda or nationality is prohibited. It is based on these principles that Samsung SDI offers equal opportunities to all its employees in accordance with individual abilities and aptitudes, in addition to fair treatment based on their performance. Employees holding equivalent job positions receive an equal amount of pay without any discrimination pursuant to the 'performance-based reward' principle. Differentiated compensation is determined by the level of performance achieved against the goal set by individual employees each year, as well as the outcome of their capacity assessment conducted of necessary job capacities by the position.

### Respect for Diversity

**Female Employees** : Samsung SDI is committed to encouraging its female employees to become economically active and to preventing their career discontinuation. The company also invests in making the proper work environment that cares for women (installation of maternity facilities) and in offering training to improve their expertise. Samsung SDI also ensures that female recruits, who are recent university graduates, account for a certain ratio of the total workforce. In 2013, the ratio of female employees out of the total university graduate recruits rose by 7% from the previous year.

#### Ratio of Female University Graduate Recruits



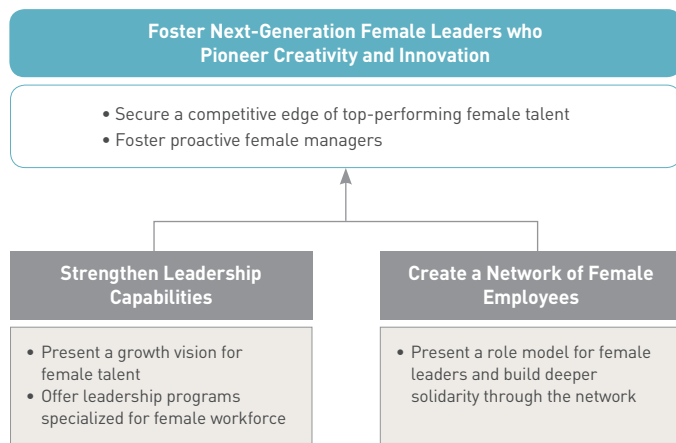
#### Status of Childcare Leave Use

\* The reinstatement ratio between 2011 and 2012 presented in the previous year's report contained an error and has since been corrected.  
 \* The 2013 retention rate is based on the number of current employees from 2013 (following the reinstatement) to the end of March 2014.

	2011	2012	2013
No. of Employees Who Took Childcare Leave	118	145	154
Reinstatement Rate (Return after maternity/childcare leave)	93%	90%	90%
Retention Rate (Working for over 12 months after reinstated)	86%	83%	96%

At Samsung SDI, the S-WIN (SDI Women In Network), which consists of outstanding female managers selected from each business division, was launched in 2010. This helped build a strong network of female employees, present a role model and growth vision for female leaders and assist them in building leadership and a competitive edge. In 2013, Samsung SDI was engaged in a wide array of S-WIN-driven initiatives to strengthen its retention of female workforce, create a female-friendly work environment and foster next-generation female leaders.

### Basic Directions for the S-WIN



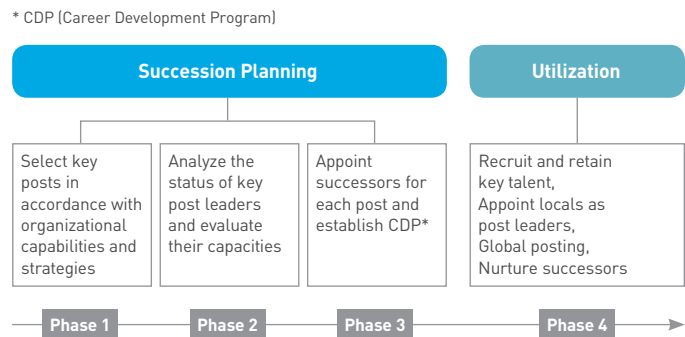
### Major Initiatives of the S-WIN in 2013

Category	Participants (Eligibility)
Reinforce the Networking Activities among Female Employees at Each Business Site	<p><b>Facilitate the operation of regular meetings : Quarterly</b></p> <ul style="list-style-type: none"> <li>- Discuss major issues (facilitation of the use of female workforce) and share best practices in mentoring</li> <li>- Reflect meeting outcomes in HR policies</li> </ul> <p><b>Host regular workshops : Half-yearly</b></p> <ul style="list-style-type: none"> <li>- Offer overnight training to develop the capabilities of female managers</li> <li>- Leadership, negotiation exercises, coaching, etc.</li> </ul> <p><b>Host the 'Female Conference' to promote the growth of female talent</b></p> <ul style="list-style-type: none"> <li>- Invite renowned outside/in-house female opinion leaders to hold panel discussions and offer lectures</li> <li>- Leadership, health, work-life balance, etc.</li> </ul>
Build Stronger Leadership Capabilities among Female Managers	<p><b>Operate leadership building training programs</b></p> <ul style="list-style-type: none"> <li>- Offer leadership skill training for female managers (teamwork, communication skills, strategic thinking, etc.)</li> </ul>
Foster Next-Generation Female Leaders	<p><b>Female employee mentoring for skills level-up</b></p> <ul style="list-style-type: none"> <li>- Host the Day of Mentoring every year</li> <li>- Increase mentees : above 30 employees</li> <li>- Participation in outside/in-house mentoring skill training</li> </ul>
Facilitate Communication among the Female Workforce	<p><b>Send online newsletters to female employees (bi-monthly)</b></p> <ul style="list-style-type: none"> <li>- Interview with female leaders, prevention of sexual harassment, maternity protection, etc.</li> </ul>

### Localization Policy

As the importance and size of overseas subsidiaries grow, Samsung SDI is committed to strengthening their HR capabilities and standardizing their policies and systems to establish a locally-driven management system. In 2013, Samsung SDI introduced its organizational and individual capacity assessment tool STaR (Samsung Talent Review). The STaR enabled the company to evaluate the capacity of key post (team/group) leaders, identify the status of outstanding workforce and analyze any ensuing vulnerabilities. Based on the outcomes found through the STaR system, Samsung SDI set talent nurturing plans to foster exceptional talent and assigned the right employees in the right position and place. Furthermore, Samsung SDI offered corporate culture training - Smart Revolution to overseas subsidiaries, to innovate the way they work.

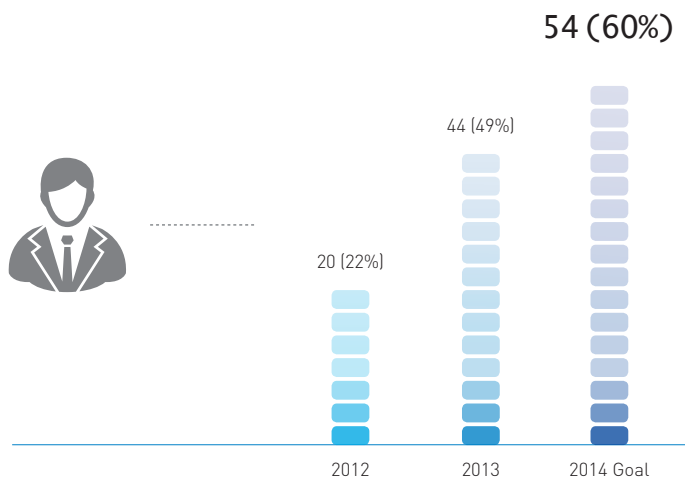
### STaR Process



As of the end of 2013, Samsung SDI has eight production subsidiaries and six sales subsidiaries. Under its existing policies for 'Empowerment of Local Hires' and 'Reinforcement of Global Mobility,' Samsung SDI continued to appoint local hires as post leaders, promote exceptional local talent, and grant them greater authority. The number of locally-hired heads of departments amount to 44, which is translated into a whopping 49% of the total department heads. In 2014, Samsung SDI will continue to increase this figure by internally nurturing and recruiting outstanding local talent.

### No. and Ratio of Locally Hired Heads of Departments

Unit : Headcount



## Healthy and Contented Employees

### Work-Life Balance

Samsung SDI offers support programs and welfare & benefits programs to create an enjoyable workplace and help employees strike the right work-life balance. The company provides diverse in-house training courses to help its employees with self-development. There are diverse clubs available for employees to join in order to help them enjoy healthy hobbies along with the Club Day every month. Samsung SDI is also launching campaigns to reduce overtime hours on weekdays and extra work on weekends, so as to improve the quality of life of its employees and establish a culture of smart work. Each of Samsung SDI's business sites employs professional counselors to operate Open Counseling Centers to care for the psychological health of its employees and their families.

Such endeavors have been recognized by the Ministry of Gender Equality and Family which awarded Samsung SDI the 'Best Family Friendly Management, certification in December 2013. This certification program was designed to create ideal social conditions for workers so that they could seek harmony between work life and family life. This falls in line with such shifting social conditions as low birth rates, an aging society and increasing female workforce. Certified companies are entitled to rewards from the ministry and granted additional points to win government-led projects.

Family Friendly Company Logo



### Work-Life Balance Programs

Program	Description
In-house Training Programs	In-house University, language courses, etc.
Rainbow Activities	Campaign to prohibit working overtime on Thursdays and/or working extra hours on weekends
Maternity Rooms	Furnished with breast pumps, etc.
Open Counseling Centers	Professional residential counselors are assigned to each business site
Facilitation of In-house Club Activities	Employees are encouraged to join at least one in-house club
In-house Club Day	2nd Wednesday of every month

### Welfare & Benefits Programs

Program	Description
Financial Support for Stable Residence	Alignment with home loans, support for interest payment
Tuition Support	Actual tuition assistance for employees' children
Support for Medical Expenses	Actual medical expense assistance for employees and their spouses
Others	Support for private pension plans, comprehensive/general health check-ups, surgery expenses for employees' children, family events, guesthouse facilities, etc.

### Open Counseling Center

As Samsung SDI's business focus shifts to new operations, internal tension is increasing due to workforce relocation among business divisions, an influx of outside workforce and inter-generational conflicts. As such, psychological health management is emerging as an important issue. Samsung SDI's 'Open Counseling Centers' serve as a main communication channel for each business site in an aim to establish a more thriving organization and facilitate employee communication. Open Counseling Centers at the Giheung, Cheonan and Ulsan Plants employed professional residential counselors to offer private counseling on employee grievances and to perform psychological tests while offering counseling through the intranet. In 2013, counselors visited the production field (i.e., on-site counseling) to offer intensive management to employees in high-risk job categories and high-risk employees. In addition, 'Healing Camp,' 'Stay at Rest' and other meditation programs were introduced to help employees relieve their stress. Samsung SDI also offered stronger life coaching programs to assist employees in dealing with personal and family problems pertinent to their position in life. These programs targeted double-income households, single men and women, parents and employees' families and enabled Samsung SDI to pursue mutually-beneficial relationships between individual employees and the company.



Meditation Meeting at Cheonan Plant

# Employee Health and Safety

## Reinforcing the Safety Management System

In 2013, Samsung SDI integrated the Safety Management Groups into a company-wide EHS & Infra Team and assigned a dedicated executive to establish a stronger management system. This ran parallel to the sustained improvement initiatives aimed at securing the health and safety of employees undertaken by the safety departments at each business site. Besides the Hungarian subsidiary whose production has been discontinued and the Battery R&D Center relocated in the Samsung Material Research Complex in Suwon in November 2013, Samsung SDI's all business sites run the Health & Safety Management System - OHSAS 18001. In addition, regular CEO meetings are held to serve to check on implemented improvements and report on major decisions that have been made. In 2013, Samsung SDI focused on undertaking inspection and corrective measures to eliminate overarching risk factors at business sites. An in-house safety academy was also established to help employees obtain safety certificates so as to improve the expertise of safety workforce. The safety academy offered its 2nd training session in 2013 and plans to operate its 3rd training session by the 2nd quarter of 2014. Meanwhile, Samsung SDI's Yellow Chick Mentoring Program\* assists new recruits and apprentices in low-work proficiency positions in performing their job more safely. In 2013, the IR\* and the LDR\* caused by injuries were 0.07 and 3.72 respectively throughout all the Samsung SDI business sites.

\* Yellow Chick Mentoring Program : A mentoring program specialized in enhancing the safety of new recruits and apprentices and helping them perform their jobs more safely, through wide-ranging support provided by mentors who are heads of departments or safety managers

\* IR (Injury Rate) : Total injuries/Total hours worked x 200,000 (based on the GRI Guidelines)

\* LDR (Loss Day Rate) : Total days lost/Total hours worked x 200,000 (based on the GRI Guidelines)

1. Outstanding Safety JIG Exhibition
2. Special Safety Training for Major Suppliers
3. Specialized Training Program for Safety Managers at Overseas Subsidiaries
4. Mock Drill against Chemical Spills



## Prevention of Chemical Accidents

Samsung SDI is fully committed to the prevention of chemical accidents. Standard work procedures for high-risk operations, such as the handling and maintenance of chemicals, were improved and more stringent training was offered to chemical handlers. In addition, initial response procedures and internal/external communication procedures were realigned for each type of chemical spill and a total of 10 mock drills were conducted in accordance with defined roles and responsibilities. Specifically, the Cheonan Plant launched a joint emergency exercise under a real-life accident scenario with more than 300 participants from the company, the government and the military. Furthermore, a qualification system was introduced for those who handle harmful chemicals and this system strengthened their expertise through training and evaluation programs. In 2013, Samsung SDI invested 662 million KRW in chemical handling and storage facilities and is undertaking sustained improvement initiatives to prevent chemical accidents. Meanwhile, a Chemical Management System Development T/F has been set up since October 2013. This task force enabled more systemized chemical management practices through the development of related processes and IT-based systems. Samsung SDI's Chemical Management System Development T/F management system was completed in March 2014 and is presently being utilized throughout the entire spectrum of chemical substance management.

## Establishing and Disseminating a Culture of Safety

Samsung SDI continuously undertakes diverse employee-engaging initiatives to build stronger safety awareness. In 2013, a festival was hosted to make 'safety teaching plans' and 'safety JIGs\*' to identify and reward best practices with incentives. These new safety features were extensively launched at all the Samsung SDI production sites to distribute safety gear and establish a safety-driven culture. Furthermore, special safety training was offered to the CEOs of a total of 104 suppliers of major raw materials and construction services. This served to further expand Samsung SDI's safety-driven culture and raise safety awareness.

\* Safety JIG : Assistive devices to prevent accidents



# 5

## Win-Win Partnership



Indicator	2013 Performance	2014 Target
Undertaking New Technology Development and Localization Projects (Joint public-private fund for R&D)	5 projects	9 projects
Support for Innovative Initiatives of Second/Third-tier Suppliers	12 suppliers	25 suppliers
S-Partner Evaluation into Suppliers	102 suppliers	103 suppliers
Advancing the Global Green Partnership	19 suppliers in China	19 suppliers in Vietnam, Malaysia and China
Support for the AEO* Certification	2 suppliers	5 suppliers

\* AEO (Authorized Economic Operator) : Export/import companies and logistics companies whose performance in legal compliance and safety management is evaluated by customs authorities and officially recognized as top-performing companies in export/import safety management

Recently, the social demand for win-win partnerships and shared growth with suppliers is on the rise. To add to this, subcontract regulations and other relevant regulations have become even more stringent. Thus, fulfilling and expanding the scope of social responsibility along with the entire supply chain is emerging as a critical issue.

RISKS & OPPORTUNITIES	STRATEGIES	FUTURE PLANS
<p>As the competition landscape shifts into competition among networks of multiple companies instead of among individual companies, it is becoming critical that companies create shared value through shared growth with their suppliers, while proactively fulfilling their social responsibility to reduce risks and improve their reputation.</p>	<ul style="list-style-type: none"> <li>• Support suppliers in securing a global competitive edge</li> <li>• Assist second/third – tier suppliers with capacity building</li> <li>• Advance shared growth programs to a higher level</li> <li>• Establish CSR practices with suppliers</li> <li>• Ban the use of conflict minerals</li> </ul>	<ul style="list-style-type: none"> <li>• Improve the overall competitive edge of suppliers (Global No. 1)</li> <li>• Pursue win-win management through shared growth</li> <li>• Establish social responsibilities throughout the entire supply chain</li> </ul>

## Shared Growth

### Shared Growth Strategy

Based on the value of shared growth that ‘We can go farther when we go together’, Samsung SDI helps its second/third-tier suppliers (as well as its first-tier suppliers) improve their overall competitive edge.

#### Three Strategies

- Support in Securing Global Competitive Edge
- Reinforce the Capabilities of Second/Third-Tier Suppliers
- Advance Shared Growth Programs to a Higher Level

### Fair Trade

Samsung SDI strives to establish reasonable subcontract practices as the basis for shared growth. The Win-Win Management Office was set up under the leadership of the CFO to proactively identify and resolve major risks such as unfair price cuts and the misuse of technical documents. The office performs year-round monitoring and themed audits on high-risk items, while encouraging business divisions to voluntarily comply with relevant regulations in alignment with the Compliance Program. Furthermore, the Subcontract Review Committee meets monthly with relevant employees in attendance to take swift corrective measures against identified issues. The Win-Win Management Office will reinforce its cooperation with and training for related departments to help them voluntarily abide by subcontracting regulations as an essential part of their daily business conduct.

### Supplier Capacity-Building

In 2013, Samsung SDI employees with diverse expertise from respective departments made a personal visit to suppliers in order to offer guidance and assistance directly. In doing so, they facilitated training processes for nurturing the personnel of suppliers. Samsung SDI offered innovation initiative guidance to 12 suppliers to help improve their competitive edge while signing agreements with 19 suppliers in China through the government-led Global Green Partnership program. This program aims to assist in nurturing GHG and energy experts, and developing energy efficiency diagnostic tools and GHG emissions management tools. Furthermore, Samsung SDI operates a job training consortium and cyber training programs for its suppliers’ current and new employees. In 2013 alone,

Samsung SDI’s specialized training on technology, quality, computing, HR, financing and sustainable management benefited 1,053 employees of its suppliers.

### Support for Technology Development

To strengthen R&D cooperation with suppliers and secure next-generation lithium-ion battery technology, Samsung SDI created a joint R&D fund in alignment with government-sponsored projects in 2012. Samsung SDI is undertaking five joint technology development projects with suppliers through this fund and has invested 4 billion KRW by 2013. Furthermore, 12 suppliers were selected and received technological innovation and process improvement consulting as a way to extend the scope of support to second/third-tier suppliers. In 2014, it will be a total of 25 second/third-tier suppliers who will receive consulting. In addition, Samsung SDI improved its written form-based supplier technical document request process to help protect the technology of its suppliers. Samsung SDI also facilitated the technology escrow system by selecting mandatory escrow targets and sharing escrow fees with suppliers. Such endeavors led to a total of nine technical document deposits.

\* Technology Escrow System : The technical documents owned by SMEs are kept by reliable institutions to prevent SMEs from losing any of their technology due to leaks

#### 17th Grand Festival for Shared Growth



On November 21, 2013, the ‘17th Grand Festival for Shared Growth’ was hosted at the Chamber of Commerce & Industry in Northern Chungnam province to present best innovation practices and share visions for shared growth.

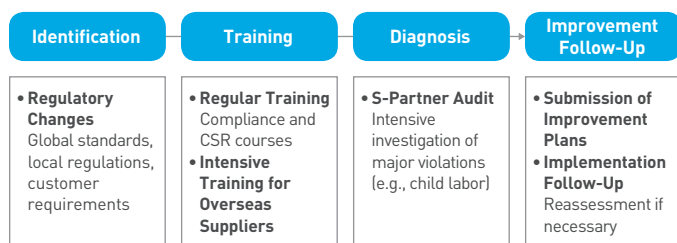
In 2014, Samsung SDI will advance its shared growth programs to a whole new level with an aim to nurture its suppliers into hidden champions, who are small yet strong global companies. To this end, the company will facilitate joint R&D by undertaking new technology development and localization projects and offer its suppliers financial support. It will also assist its second/third-tier suppliers with their innovative initiatives. Furthermore, Samsung SDI will not only facilitate communication with suppliers but also identify and correct unreasonable practices as a way to establish integrity management across its entire supply chain.

## Building CSR Culture in the Supply Chain

### Disseminating CSR in the Entire Supply Chain

Samsung SDI operates 10 production subsidiaries in six countries including China, Malaysia and Vietnam as well as Korea. As such, it is becoming critical that Samsung SDI's domestic and overseas suppliers abide by regulations and fulfill their social responsibility. Samsung SDI follows the regular process of 'identification', 'training', 'diagnosis' and 'improvement' to aid its suppliers in fulfilling their social responsibility and promote CSR across the entire supply chain.

#### Operational Process



To fundamentally address material issues of social responsibility (e.g., child labor), Samsung SDI integrated the principles of compliance management and CSR in accordance with the EICC\* code of conduct in its purchasing policies, while offering CSR and compliance management training to executives and working-level staff from its domestic and overseas suppliers. In 2013, compliance management and CSR courses were created as part of the job training consortium curriculum at the Ulsan Plant, and the training was conducted on labor, ethics, health & safety, environment and other compliance management-related issues. Furthermore, supplier executives were notified of mandatory requirements that must be satisfied in transactions between Samsung SDI and its suppliers. These requirements included ethical management, and compliance with local regulations, ban on child labor, prohibition on verbal orders and adherence to technical document request processes.

\* EICC (Electronic Industry Citizenship Coalition) : A global coalition of electronics companies working to promote CSR across the supply chain

### S-Partner Certification Program

Samsung SDI's S-Partner Certification Program was designed to diagnose and resolve CSR issues across its whole supply chain. This program aims to comprehensively evaluate suppliers on their fulfillment of social responsibility in the four areas— labor, ethics, environment and health & safety. Each year, the evaluation items are supplemented in consideration of regulations and global standards, customer requirements, and major environmental/social issues. This program allows Samsung SDI to encourage its suppliers to identify CSR risks and improve their outcomes. All Samsung SDI suppliers are subject to self-initiated diagnoses and on-site inspections by Samsung SDI at least once every two years. Suppliers who satisfy the necessary requirements become certified S-Partners. If suppliers fail to meet such requirements, they are provided with information on how to improve, training and other diverse support initiatives. In 2013, the rubrics for re-evaluating suppliers were adjusted upward and evaluation outcomes were reflected in overall supplier evaluations to reinforce the penalty scheme. Suppliers were also informed that their transactions with Samsung SDI could be terminated if they failed to meet mandatory requirements concerning child labor, pollutant discharge facility parameters and waste treatment methods.

### S-Partner Assessment

Category	Details	
Evaluation Item	Labor	Child labor, work hours, wages and remuneration, humanitarian treatment, etc.
	Environment	Licensing, pollutant management, wastewater/waste, product environment, etc.
	Health & Safety	Safety devices, emergency preparedness, occupational injuries, occupational hygiene, etc.
	Ethics	Guidelines/procedures, business integrity, management systems, etc.
Process		1) Self-initiated diagnoses (suppliers)
		2) On-site inspections (Samsung SDI)
		3) Submission of improvement plans (within one month)
		4) Reassessment (suppliers who failed to satisfy evaluation criteria)
Penalty		Outcomes are reflected in overall supplier evaluation (10%).
		Suppliers who failed must undergo reassessment. The termination of transactions is reviewed in cases where mandatory requirements are not satisfied

In 2013 alone, 102 suppliers were evaluated in China, Malaysia, Vietnam and Korea. Five out of these 102 suppliers failed to meet the S-partner requirements and were re-examined accordingly. Specifically, labor conditions in China (e.g., child labor, dispatched workers) surfaced as global concerns and this prompted Samsung SDI to strengthen its pre-employment screening concerning the use of child labor as part of the recruitment process. It also helped establish employee grievance handling processes and supplement monitoring systems in relation to the rights of dispatched workers. The 2013 inspections discovered no single violation of mandatory requirements concerning child labor, discharging facilities, waste, and other issues. Yet, overseas suppliers proved to be relatively sub-standard in their systemized monitoring and improvement processes compared to their Korean counterparts and new suppliers were not sufficiently aware of the importance of CSR. Samsung SDI will resolve those issues through sustained training and monitoring and utilize S-Partner Program more efficiently by cultivating supplier auditors of the overseas subsidiaries and offering training and diagnoses.

### 2013 Achievements and 2014 Targets for the S-Partner Program

	2013 Target	2013 Achievement	2014 Target
Korea	80 suppliers	85 suppliers	84 suppliers
Overseas	19 suppliers	17 suppliers	19 suppliers
Total	99 suppliers	102 suppliers	103 suppliers



## Ban on the Use of Conflict Minerals

Conflict minerals refer to minerals mined in controversial zones or regions where conflict is occurring or human rights are suppressed to fund armed militias. The use of these 'conflict minerals' is emerging as a serious worldwide business ethics issue.

The Securities and Exchange Commission (SEC) of the U.S. defined the four minerals (tantalum, gold, tin and tungsten) as conflict minerals that are the funding sources of armed militia in conflicts in the Democratic Republic of the Congo and its neighboring nations. Consequently, the SEC mandated that all listed companies in the U.S., its regulatory targets, report whether they use such minerals by the end of May 2014. With EICC playing a leading role, the electronics industry is also committed to ban the use of conflict minerals across its supply chain through the establishment of relevant guidelines and development of a conflict-free smelter program.

Samsung SDI is fully on board with the initiatives to respond to such social demands. In 2011, the company created its own policy to ban the use of conflict minerals and included this policy in the Supplier Code of Conduct and held annual briefings to help raise suppliers' awareness regarding this issue. In addition, Samsung SDI uses EICC's conflict mineral survey template to find out whether its suppliers use conflict minerals and to examine conditions of their smelters regularly.

### Samsung SDI's Initiatives to Ban the Use of Conflict Minerals



### Specialized Training and Guidance for Chinese Suppliers under the Global Green Partnership



## Global Green Partnership

Samsung SDI is the first in the Korean electrical & electronics industry to join the Global Green Partnership designed to help SMEs (who possess global presence) develop green management systems and build capacity to respond to global environmental regulations. Samsung SDI's Global Green Partnership projects were selected as subtasks for the Green Partnership between Large Businesses and SMEs\* launched by the Korea Institute of Industrial Technology and are slated for completion between November 2012 and October 2014.

During the 1st year of this project between November 2012 and October 2013, Samsung SDI assisted 19 SME suppliers who had business presence in China by offering cleaner production energy guidance, environmental regulation response system guidance, and specialized training, as a way to develop cooperative green management systems. Furthermore, Samsung SDI published the Environmental Regulation Response Guide\* to help SMEs, who have business operations in China, respond to environmental regulations more confidently and expediently. Samsung SDI will build on the achievements made with its China-based suppliers during the 1st year of the Global Green Partnership and extend the scope of its support to suppliers operating in Vietnam and Malaysia.

\* Green Partnership between Large Businesses and SMEs : With the support of the Korean Ministry of Trade, Industry and Energy, the Korea Institute of Industrial Technology serves as the general manager of this initiative as a research institute specialized in supporting SMEs. This partnership aims to transfer the green management and cleaner manufacturing techniques of large companies to their SME partners, so as to turn any current environmental crisis into an opportunity to create shared value

\* Environmental Regulation Response Guide : This guide offers easier-to-understand descriptions of environmental policies and trends in China, cleaner production and energy management techniques, and procedures & methods to respond to product environment regulations for SMEs who tapped into the Chinese electrical & electronics market



# 6

## Creation of Customer Value



### Indicator

Completion of Customer VOC Handling

Timely Approval of Safety Standards



### 2013 Performance

3.1 days

99%



### 2014 Target

3 days or under

98% or above

In line with growing consumer awareness concerning product safety and eco-friendliness, Samsung SDI's customers are strengthening their product safety guidelines and green policies. Thus, it is essential that companies investigate the use conditions and environment of their customers and end consumers to verify the suitability of their applications. This will help prevent any possible safety and quality risks in the market.

PROCESS: CHARGING COMPLETE

TIME: 02:16:35

BALANCE: 403.60

THANK YOU HAVE A SAFE TRIP

## Disclosure on Management Approach

### RISKS & OPPORTUNITIES

Any problematic issues with safety or quality are highly likely to wane a company's reputation and incur cost from lost opportunities caused by customer churning. In contrast, if safety is secured against diverse conditions and extreme situations, it may serve as an opportunity for such safety-conscious companies to lead the market in new applications.

### STRATEGIES

- Secure product safety and reliability
- Maximize customer satisfaction through intensive communication
- Strengthen CS (Customer Satisfaction) capabilities from the product development phase

### FUTURE PLANS

- Complete the primary response within 24 hours
- Develop a CET analytical system for new applications
- Renew the website to strengthen communication with customers

## Customer Satisfaction Management

### CET Process for Small-Sized Rechargeable Batteries

The worldwide focus on eco-friendliness is quickly shifting the small-sized rechargeable battery market trend from conventional lead batteries and Ni-Cd batteries into Lithium-Ion batteries. Samsung SDI's business scope is also widening from such IT devices as smartphones, notebook PCs and tablet PCs - that took the lion's share of the existing sales market - to such non-IT devices as electric tools and e-bikes. In order to effectively respond to such evolutions in product portfolio, Samsung SDI undertakes the CET process. CET (Customer Environmental Test) is defined as a technical support process to pre-verify use conditions and environments from the user perspective in order to prevent and cut the risks that may occur in the market when existing or new customers use Samsung SDI products for their new projects. In 2013, the CET process enabled Samsung SDI to successfully advance into the new application market of medical devices, and stably cater to the ever-increasing needs of new customers. In 2014, Samsung SDI will develop an internal server-based CET system to ensure a more prompt and systemic response to customer projects on diverse new applications. This will push Samsung SDI to evolve into a company that leads the stable growth of the non-IT product market on the basis of its unbeatable competitive edge that can top the global small-sized rechargeable battery market.

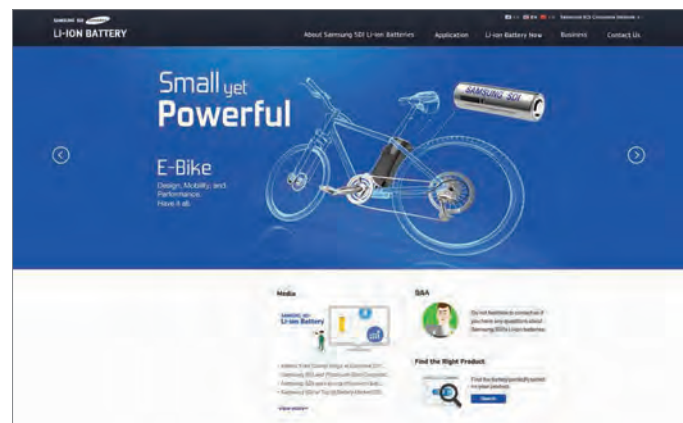
### More Customers and Product Qualifications

Samsung SDI interacts with its customers through QTR (Quarterly Technical Review) meetings from the commercialization phase of its rechargeable batteries. The company also strives to proactively respond to the diverse demands of its customers to create an even wider customer base and to ensure a timely qualification of its new products. In 2013, the number of customers whose products adopted Samsung SDI's small-sized rechargeable batteries, as well the number of qualified products by those customers, rose in such emerging markets as China, Southeast Asia and India along with conventional markets in America and Europe. Specifically, the number of customers and demands for new applications (e.g., power bank) have increased.

### Effective Communication with Customers

Samsung SDI considers communication with customers a top priority as a way to maximize customer satisfaction. To this end, Samsung SDI regularly visits its customers, operates an online VOC system and reinforces a locally-driven service network. The company also organized the CS (Customer Satisfaction) Teams in key locations in America, China, Europe, Japan and Taiwan as well as its Headquarters in Korea. Those CS Teams ensure an agile response to the needs of customers worldwide. Meanwhile, Samsung SDI's all Battery Business Divisions appointed their own marketing communication representatives. In 2013, the website for small-sized rechargeable batteries was established to ensure more seamless online customer communication. Samsung SDI not only uses this website to introduce its wide array of products, but also to gather the voice of its customers (VOC) in real time. In 2014, Samsung SDI will revamp its website under the supervision of the Communication Team at the Headquarters to strengthen communication with customers in medium-to-large battery operations.

Website for Samsung SDI's Small-Sized Rechargeable Batteries



## Product Safety and Quality

### Product Safety and Quality

At Samsung SDI, the health and safety of its customers and end users are always of paramount concern when it comes to developing products. In 2013, Sang-Jin Park, the CEO of Samsung SDI, remarked at a quality management meeting (held by the CEO) "Quality is a promise that cannot be breached; it is something that creates immediate credibility with all our customers. Due to the intrinsic nature of the battery business, quality issues could lead to serious accidents that compromise user safety. It is therefore imperative that our management practices are absolutely impeccable." Thus, Samsung SDI strives to secure the safety in the various user environments including the misuse of product, prevent accidents related to product liability, guarantee the safety in product distribution and evaluate the level of safety in extreme conditions.

### Compliance with Product-based Environmental Regulations

Samsung SDI responds to and complies with international product environment regulations (e.g., RoHS\*, REACH\*) based on thorough preparations. In addition, the company has been operating a halogen\* response system as required by most customers of small-sized rechargeable batteries for IT applications since 2010. In 2013, the company revised the Samsung SDI Green Purchasing Guidelines by reflecting updates in product environment regulations and customer requirements. This revised version is available on Samsung SDI's integrated purchasing management system\*.

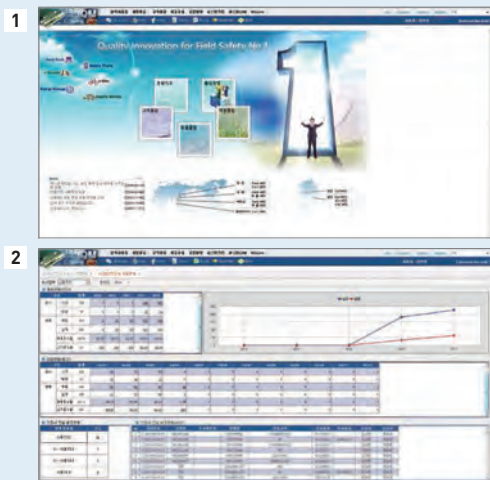
- \* RoHS : Restriction on the use of certain hazardous chemical substances in electrical & electronic products
- \* REACH : Regulation that governs the registration, evaluation, approval and reporting of chemical substances
- \* Halogen : A series of nonmetal elements from Group 17 of the periodic table, such as bromine (Br) and chlorine (Cl)
- \* Samsung SDI's integrated purchasing management system (megaSTEP) : <http://megastep.samsungsdi.com>

#### Development of a Safety Standard Management System

Samsung SDI provides its customers with labels that contain information on the safe use, collection and recycling of products. In particular, Samsung SDI products satisfy internal test standards as well as international standards in terms of product safety, and their safety is verified by third-party organizations. Such information is also displayed on product labels. In 2013, the company set up and followed the procedures for applying for the safety standards certification. Also, it built a Safety Standards Management System within the IQM (Integrated Quality Management) system to manage acquired certificates. This real time system allows Samsung SDI employees to check the customer requirements for safety standards, status and progress on the handling of such requirements and the number of these requirements satisfied.

	2013 Goal	2013 Achievement	2014 Goal
Timely Approval of Safety Standards	97%	99%	98% or above

1. Integrated Quality Management System
2. Overall Acquisition of Safety Standard Certificates



#### Certified with ISO 26262 FSM

As the safety of EVs (Electric Vehicle) becomes more critical, EV customers increasingly demand that EVs comply with the ISO 26262 safety standards. Satisfying these safety standards requires top-notch technology throughout the product development phase- from design to verification and evaluation of products. In November 2013, Samsung SDI became the first Korean company to be certified with ISO 26262 FSM (Functional Safety Management) for automotive battery control systems by TÜV Rheinland, a German testing and certification body. ISO 26262 is the international functional safety standard for electrical & electronic products mounted on vehicles that weigh 3.5 tons or under. ISO 26262 was developed by the International Organization for Standardization (ISO) in November 2011 to prevent safety issues, through the effective management of rapidly increasing automotive electronic systems and software. This certification enabled Samsung SDI to respond to any safety requirements for battery control systems that differ by carmaker.

#### Certified by VDE

In 2013, Samsung SDI's 5.8kW-capacity residential ESS became the world's first to be certified by VDE (Verband Deutscher Elektrotechniker), the Association of German Electrical Engineers. Along with the JET certification in Japan (acquired through Nichicon of Japan and the UL Certification of the U.S.) this certification recognized the global safety and quality of Samsung SDI products. VDE conducted stringent testing and evaluation on Samsung SDI's lithium-ion battery of ESS. Their testing included a basic product safety test (e.g., electrical & electronic stability of final products), an operational stability test under normal/abnormal conditions, post-delivery/transport product safety evaluations and product operation software design evaluations aligned with risk assessments and functional safety tests.

1. ISO 26262- Certificate for Automotive Battery
2. VDE Certificate for Residential ESS





# 7

## Community Involvement and Development



Indicator	2013 Performance	2014 Target
Employee Participation in Donation (Korea)	97%	97% or above
Employee Participation in Volunteer Work (Korea)	97%	97% or above
Employee Participation in Volunteer Work (Overseas)	73%	85% or above
Volunteer Hours per Employee*	10 hours	12 hours

\* Employees : Under regular permanent employment

Corporate social contribution initiatives that have been shifted from 'charity' to the improvement of 'local community infrastructure' are now evolving to 'social investment' which ultimately triggers transformations in social systems. Today's companies are developing social-giving programs that are aligned with their core business operations. To this end, Samsung SDI is committed to investing its capabilities in fulfilling its social responsibility through the development of representative social contribution initiatives that benefit its eco-friendly businesses. Samsung SDI is also committed to assisting employees in undertaking Pro Bono\* initiatives which enable them to donate their expertise to the cause of social development.

\* Pro Bono : This term originated from free-of-charge legal counseling provided by lawyers in the U.S. and now mostly refers to a professional work delivered by experts voluntarily for social-giving purposes.



! Disclosure on Management Approach		
<p><b>RISKS &amp; OPPORTUNITIES</b></p> <p>CSR initiatives create an external impact on a company's sustainable competitive edge through business diversification and expansion, while making an internal impact on improving employee satisfaction and organizational capabilities.</p>	<p><b>STRATEGIES</b></p> <ul style="list-style-type: none"> <li>Expand the scope of employees' CSR initiatives</li> <li>Develop and expand strategic CSR programs</li> </ul>	<p><b>FUTURE PLANS</b></p> <ul style="list-style-type: none"> <li>Develop a social contribution brand and identify representative CSR projects</li> <li>Facilitate promotional activities internally and externally</li> <li>Increase employees' volunteer hours</li> </ul>

## Directions for Social Contribution Initiatives

### Social Contribution Strategy

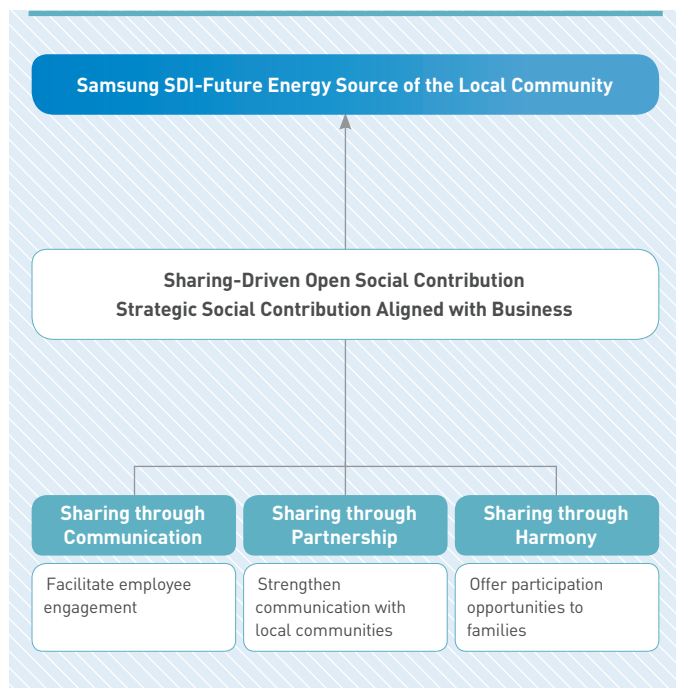
With the motto 'Sharing', Samsung SDI pursues sharing with communities mainly through communication, partnership and harmony - to fully commit itself in undertaking open-minded social contribution initiatives. Specifically, the company ensures that its expertise in energy can be utilized—not just to make mere donations but also to develop programs that create social value and provide professional pro bono services through employee engagement. To this end, the 'Samsung SDI Volunteer Center' has been set up and responsible for establishing CSR strategies, planning for CSR programs and supervising employees' volunteer work. In 2014, Samsung SDI vows to go further: the company will develop its CSR goal into creating its own social contribution brand and new main CSR projects rather than simply offering support to the communities. Through such initiatives, Samsung SDI will fulfill its responsibility and role in growing hand-in-hand with the local communities.

### Communication Channels for Social Contribution

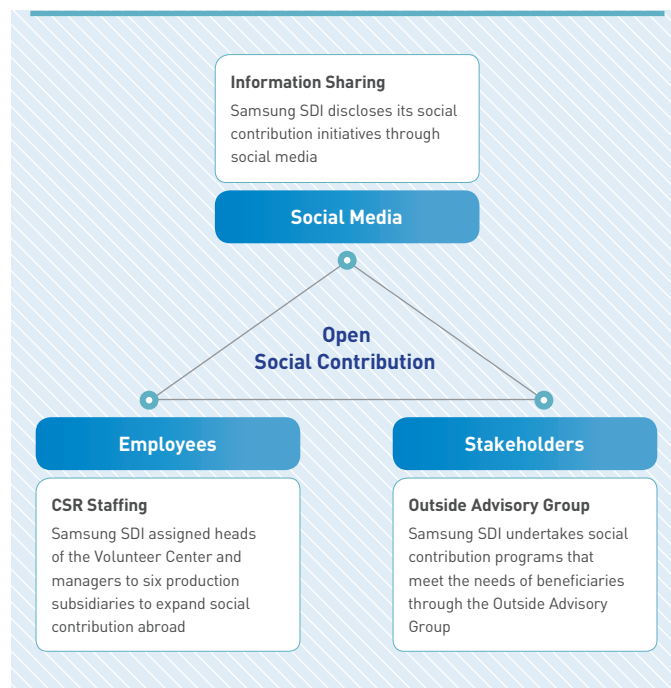
Samsung SDI strives to undertake open-minded and communicative social contribution initiatives. The company carries out a survey on the needs of beneficiaries to reflect the feedback from local communities prior to initiating any action. Through semi-annual discussions led by the Outside Advisory Group that consists of welfare organizations, local governments, public institutions and school officials in the vicinity of its business sites, the company is able to figure out the needs of such communities. Furthermore, the outcomes of post-program satisfaction surveys and performance evaluations serve as a succinct point of departure in managing its contributions to community development and advancing its corporate culture. Samsung SDI's blogs and Facebook & Twitter accounts also help strengthen communication with stakeholders.

- \* Facebook : [www.facebook.com/samsungsdii](http://www.facebook.com/samsungsdii)
- \* Blog : [blog.naver.com/sdibattery](http://blog.naver.com/sdibattery)
- \* Twitter : [www.twitter.com/sdiin](http://www.twitter.com/sdiin)

### Samsung SDI's Social Contribution Action Framework



### Samsung SDI's Social Contribution Communication System

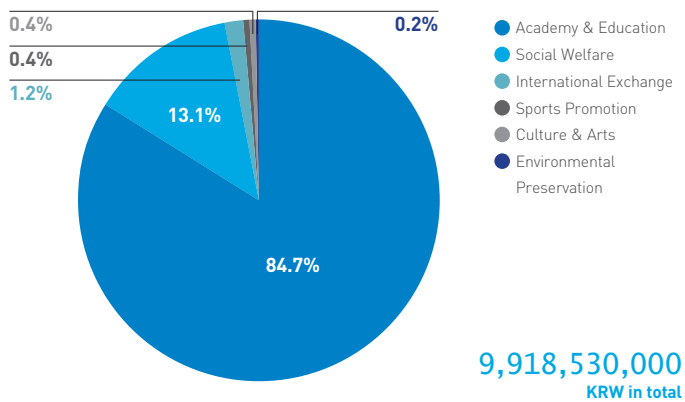


# Major Achievements of Social Contribution Programs

## Giving Back to Society

In 2013 alone, a total of 24,968 employees (cumulative participants in Korea) of Samsung SDI volunteered 76,024 hours (total participation hours in Korea) at 248 locations and gave 9,918,530,000 KRW back to society. Social contribution investments rose 1.5 times from the previous year. This was primarily due to dramatic increases in Samsung SDI's matching grant funds which rose in line with growing voluntary participation from employees, contribution to the establishment of an independent private high school within the vicinity of its business site and funding for win-win partnerships with SMES. In 2014, Samsung SDI will endeavor to invest in and support wide-ranging areas for the development of local communities—both in Korea and overseas. This will be made possible through the strategic promotion of Samsung SDI's social contribution initiatives and stronger employee commitment to such initiatives.

### 2013 Social Investment by Sector



### Support for the Founding of an Independent Private High School in a Local Community

In March 2014, an independent private high school opened in Tangeon-myeon, Asan-si, South Chungcheong Province. This school was established jointly by Samsung SDI, Samsung Electronics, Samsung Display and Samsung Corning Precision Materials. Samsung SDI donated 10.3 billion KRW by 2013 and will donate another 12.6 billion KRW by the end of 2014. The founding of this high school will nurture creative and diverse talent and ultimately contribute to the residential stability of Samsung SDI employees and the development of its local community.

## Sharing through Communication, Partnerships and Harmony

**Facilitating Employee Engagement :** Samsung SDI's 'Light of Love Fund' is a matching grant program where employees monthly donate a specific amount of money (employees voluntarily open an account with a balance of at least 2,000 KRW) and the company doubles this sum through one-on-one matching to raise funds. In 2013, 97% of the employees joined this initiative and raised 663,510,000 KRW and this money was used for representative social contribution projects (Green Planet School for Environment and Children, Free Eye Treatment Project) and other sponsorship programs.

The Nanumi ("sharing") Lounge that was established on the company intranet, aims to manage social contribution programs attended by employees and to serve as a communication channel with employees. In 2013, Samsung SDI facilitated the access and use of this system to engage more employees in volunteering.

**Employee Talent Donation :** Samsung SDI employees are willing to share their individual expert knowledge, skills and capabilities to serve local communities in need of such expertise. A total of 25 talent donation volunteer teams are providing their professional services in diverse fields. Eight professional volunteer teams donate their specific expertise - employees in the energy environment segment offer environmental training to children while employees in the electric facility technology segment volunteer to improve the living environments of the underprivileged - and 17 talent volunteer teams align their hobbies with social contribution (e.g., photography, soccer club, etc.).

**Engagement of Employees' Families and Local Communities :** Samsung SDI actively identifies and launches social contribution initiatives that are engaging its employees and their families as well as local communities. Volunteer Camp for employees' children and the Hands-on Volunteer Activity that engage employees' families, were attended by 1,200 members of 303 employee families. The 'Green Planet School for Environment and Children' and kimchi-making volunteer activities were also attended by approximately 300 stay-at-home moms and undergraduate students from local communities, which served to promote communication and unity among these volunteers.

1. Vocational Mentoring (at the Samsung SDI Founding Day Volunteer Festival)
2. Mural Painting Volunteers in a Sister Villages
3. Talent Donation in a Sister Villages



## Flagship Social Contribution Initiatives

### Green Planet School for Environment and Children

As the representative social contribution initiative aligned with Samsung SDI's core business of eco-friendly and clean energy operations, Green Planet School for Environment and Children was launched in 2011. Since then, this school has forged sisterhood ties with 30 local child care centers in Giheung, Cheonan and Ulsan to offer overnight school programs every year. Samsung SDI employees serve as teachers to provide environmental training and hands-on experiences. Various activities are provided such as making photovoltaic-powered vehicles, experiencing the effect of global warming and joining the environmental quiz show. Over the past three years, a total of 1,034 children graduated from this school, including 268 students in 2013. In 2014, Samsung SDI will strategically develop social-giving programs for children and teens, into a brand that will strengthen the identity of its flagship social contribution projects.

### Free Eye Treatment Project

As another flagship social contribution program of Samsung SDI launched back in 1995, this project offers clinical services through mobile clinic buses which travel across the nation. Samsung SDI has donated three buses to offer free-of-charge clinic services. One of these buses, which was donated in 2013—is equipped with cutting-edge medical devices. This project benefited 9,283 individuals and provided financial support for 116 visually-impaired beneficiaries (56 in Korea, 60 overseas) to receive eyesight recovery surgery.

### Samsung SDI Founding Day Volunteer Festival

The Grand Festival to Celebrate the Founding of Samsung SDI was hosted for three weeks in May to engage all Samsung SDI employees in wide-ranging volunteer activities to benefit its local communities. CEO Sang-Jin Park, executives and 25 foreign employees volunteered to make traditional Korean cookies for 200 seniors living alone and the employee volunteers made health-promoting pillows for 600 local residents. A donation campaign was also launched to forge ties with and make donations for 200 children from low-income families. Furthermore, local residents and students were invited to Samsung SDI's business sites: 250 high school students in Yongin-si were invited to career mentoring programs and 2,000 locals in the rural area of Ulsan City had a chance to experience the traditional Korean culture as part of the Filial Piety Festival.

### Global Volunteer Festival

The Global Volunteer Festival drove all Samsung SDI employees to serve as volunteers. CEO Sang-Jin Park, employees and their families volunteered to make storybooks for children in less-developed countries. A total of 3,000 books were donated to local child care centers after holding the book donation concert 'GIVEBOOK'. In addition, six overseas production subsidiaries undertook wide-ranging initiatives in consideration of the unique characteristics of their local communities.

### Year-End Giving Campaign

Samsung SDI employees were engaged in the 'Kimchi-Making with Love' event and made kimchi with cabbages grown in their in-house garden and other ingredients purchased from sisterhood villages and delivered 3,500 heads of kimchi to their local communities. In addition, 350 family members of employees joined the cap-knitting campaign for newborns in low-income African countries and donated 400 knitted caps.

1. 2. Green Planet School for Environment and Children
3. Free Eye Treatment Project
4. Samsung SDI Founding Day Volunteer Festival
5. Global Volunteer Festival
6. Year-end Giving Campaign (kimchi-making)





## Local Community-based Social Contribution Initiatives

### Giheung

Samsung SDI's head office in Giheung is launching corporate giving initiatives for underprivileged individuals in the local community. The employee talent donation program with its nine-year history of 'Making Yearbooks with Love', helped produce yearbooks for 39 students at Seogwang School, a special education institute for students with disabilities. In addition, the year-end donation campaign 'we-Dream Sharing Tree' was launched and sold teddy bears to 198 Samsung SDI employees. The proceeds were donated to Giheung-gu, Yongin-si to financially support children from low-income families who were transitioning from kindergarten to the first grade.

### Cheonan

Samsung SDI's Cheonan Plant launched its 'Moving Together' initiative in 2005 to help underprivileged individuals with their relocation process. Volunteers replaced the wall coverings and flooring of their new homes and offered household goods. In 2013, this program supported 23 households with their moving into a new home. In addition, the first-ever sports competition for students with disabilities was held in South Cheongchung Province: about 1,200 people participated in this competition (including 450 disabled students, their families and employee volunteers) to motivate the rehabilitation of these students and nurture outstanding athletes with disabilities.

### Ulsan

The Ulsan Plant undertakes the 'Twilight Charging Station' project in consideration of the aging local community. It throws a party at 56 senior community centers in Ulju-gun and volunteers for underprivileged seniors each month. The year-end 'Happiness Charging Tricycle Cycling'-themed initiative was undertaken to provide winter supplies, collect donations and hold Christmas events at welfare facilities with sisterhood ties.

1. Making Yearbooks with Love at Seogwang School
2. Twilight Charging Station
3. Environmental Clean-up by the Shenzhen Subsidiary
4. Cultural Experience Activities for Students with Disabilities by the Tianjin Subsidiary
5. Donating Supplies to and Volunteering at Seniors' Facilities by the Mexican Subsidiary
6. Mural Painting for Elementary Schools by the Vietnamese Subsidiary

### China

The Shanghai Subsidiary of Samsung SDI forged sisterhood ties with Songgang School for the Handicapped in March 2012 to offer monthly vocational skill training and work experience programs to 30 students with disabilities to assist with their healthy growth and independent life. The Shenzhen Subsidiary also forged sisterhood ties with the Shenzhen Autism Support Center and is engaged in diverse activities for children with disabilities and underprivileged individuals in the local community—including support for autistic children health care facilities, support for outdoor activities and events for children with disabilities and livelihood support for low-income families. In addition, the Tianjin Subsidiary is launching various initiatives to help with the rehabilitation of students with disabilities and improve their learning environment through its sisterhood ties with the Tianjin School for the Blind, the city's only school for visually-impaired students.

### Malaysia

Samsung SDI's Malaysian subsidiary has regularly maintained the Lenggeng Forest, cleaned up the nearby streams, beaches and forest parks and renovated community facilities since 1998. These activities are undertaken by more than 400 employees at the subsidiary each year. Specifically, the Lenggeng Forest is dearly referred to as Samsung Park, which recognizes Samsung SDI's strong commitment to social contribution in the local community.

### Mexico/Vietnam

The Mexican Subsidiary of Samsung SDI hosts bazaars for underprivileged neighbors in the local community every May and October. In 2013, 700 employees joined this initiative and raised \$ 6,000 in donation funds, which went to help underprivileged individuals in the local community. In addition, the Vietnamese subsidiary is engaged in wide-ranging social-giving activities such as mural painting to improve the environment of local elementary schools and helping underprivileged children suffering from HIV-AIDS.







# APPENDIX

---

Economic Performance	60
Social Performance	61
Environmental Performance	62
Verification Statement on GHG Emission	63
Independent Assurance Report	64
GRI Index (G3.1)/ISO 26000	66
Samsung Value System	68

## Economic Performance

### Summary of Consolidated Financial Statements

Unit : KRW million

Category	2009	2010	2011	2012	2013
Current Assets	2,783,288	2,451,455	2,364,109	2,414,856	2,063,192
Non-current Assets	4,364,447	5,482,112	6,163,302	8,480,231	8,492,479
Total Assets	7,147,735	7,933,567	8,527,411	10,895,087	10,555,671
Current Liabilities	1,484,013	1,098,399	1,749,983	2,004,041	1,526,957
Non-current Liabilities	531,775	604,307	462,901	1,326,564	1,486,298
Total Liabilities	2,015,788	1,702,706	2,212,884	3,330,605	3,013,255
Stockholders' Equity	240,681	240,681	240,681	240,681	240,681
Capital Surplus on a Consolidated Basis	1,246,780	1,255,831	1,258,120	1,258,440	1,262,958
Other Capital on a Consolidated Basis	(191,394)	(169,965)	(165,395)	(163,787)	(163,442)
Accumulated Other Comprehensive Income on a Consolidated Basis	619,389	1,333,567	1,173,912	1,051,350	1,001,907
Retained Earnings on a Consolidated Basis	3,057,295	3,391,052	3,610,804	4,986,541	5,035,989
Minority Interests	159,196	179,695	196,405	191,257	164,323
Total Stockholders' Equity	5,131,947	6,230,861	6,314,527	7,564,482	7,542,416
Revenue	4,951,855	5,124,275	5,443,881	5,771,185	5,016,465
Operating Income	190,416	234,224	109,968	186,874	(27,394)
Net Income	241,349	385,112	351,055	1,486,814	147,916
Total Comprehensive Income	455,282	1,106,302	156,950	1,324,530	79,601

\* The above consolidated financial statements were prepared with January 1, 2009 as the date of transition to K-IFRS as stipulated by K-IFRS and in accordance with K-IFRS 1101 'First-time adoption of K-IFRS'.

### Economic Indicators

Unit : %

Category	2009	2010	2011	2012	2013
Current Ratio	187.55	223.18	135.09	120.50	135.12
Liability Ratio	39.28	27.33	35.04	44.03	39.95
Local Sourcing Ratio	58.6	46.9	63.1	57.8	63.3

## Social Performance

Category		2009	2010	2011	2012	2013	
Employment	Total	12,159	12,662	14,155	15,451	16,449	
(Unit : Headcount)	By Region						
		Korea	6,467	6,384	7,263	7,043	8,529
		Asia	4,341	5,093	5,856	7,589	7,239
		Europe	616	535	411	300	138
		America	735	650	625	519	543
	By Type of Employment						
		Regular	11,024	11,439	13,085	13,990	14,397
		Contractual	251	245	239	263	1,177
		Outsourced	884	978	831	1,198	875
Turnover	Total	34.6	21.0	11.3	26.3	25.6	
(Unit : %)	By Region						
		Korea	2.9	3.1	2.6	3.2	2.7
		Asia	69.1	50.5	20.1	49.1	50.8
		Europe	35.2	36.7	35.8	48.3	115.9
		America	139.9	35.6	21.8	27.9	28.3
	By Gender						
		Female	71.4	34.9	21.3	41.8	51.0
		Male	22.4	13.8	7.5	18.4	15.5
	By Age						
		Under 30	54.3	30.8	16.2	44.0	47.1
		30-50	19.2	9.3	7.0	6.4	8.2
		Over 50	12.2	13	7.3	7.3	7.9
Per Capita Training Hours	Total	102	107	122	104	126	
(Unit : Hours)	By Position						
* Based on Korea		Executives	23	40	56	52	77
		Managers	118	117	145	122	161
		Employees	96	58	131	96	140
	By Gender						
		Female	114	132	172	122	166
		Male	99	103	112	101	144
Injury Rate	Total	0.22	0.36	0.15	0.09	0.07	
(Unit : Total Injury Count/ Total Hours Worked ×200,000)	By Region						
		Korea	0.03	0.03	0.02	0.04	0.03
		Asia	0.17	0.61	0.27	0.09	0.11
		Europe	0.63	0.00	0.15	0.62	0.31
		America	1.38	2.26	0.93	0.64	0.70
Loss Day Rate	Total	8.85	11.41	4.50	3.72	3.72	
(Unit : Number of Loss Days/Total Hours Worked ×200,000)	By Region						
		Korea	2.98	4.08	0.52	3.68	1.83
		Asia	4.15	10.61	7.88	1.94	6.22
		Europe	27.56	0.00	1.95	6.21	0.00
		America	55.47	97.09	37.60	36.54	21.81
Matching Grant Funds Raised	Total	555**	538	600	674	13,287**	
(Unit : KRW million)	Employees	278	269	300	337	664	
	Samsung SDI	278	269	300	337	664	
Accumulated No. of Beneficiaries Receiving Free-of-Charge Eye Surgery		161,771	170,672	178,733	187,303	196,702	
(Unit : Headcount) * In Korea and Yanbian of China							

\*\* The value represents the actual total amount without any discrepancies caused by the rounding off of donations made by employees or Samsung SDI (to the nearest million KRW).

## Environmental Performance

Category	Indicator	Criteria	Unit	2009	2010	2011	2012	2013
Input	Energy	Consumption (Global)	TJ	13,355	14,278	15,119	15,442	14,973
		Efficiency (Global)	KRW 100 million/TJ	3.63	3.54	3.56	3.73	3.35
		Consumption (Korea)	TJ	9,983	11,080	11,959	12,297	11,613
	Water	Consumption (Global)	kiloton	8,152	8,375	8,552	8,109	6,347
		Efficiency (Global)	KRW 100 million/kiloton	5.95	6.03	6.30	7.11	7.90
		Consumption (Korea)	kiloton	4,592	4,884	5,293	5,098	4,538
	Hazardous Chemicals	Consumption (Global)	ton	28,223	28,941	25,912	25,667	21,969
		Efficiency (Global)	KRW 100 million/ton	1.72	1.75	2.08	2.25	2.28
		Consumption (Korea)	ton	26,410	27,619	24,661	24,891	21,724
Output	Greenhouse Gas	Emissions (Global)	tCO <sub>2</sub> e	755,326	793,635	837,559	827,865	819,850
		Efficiency (Global)	KRW 100 million/tCO <sub>2</sub> e	0.064	0.064	0.064	0.070	0.0612
		Emissions (Korea)	tCO <sub>2</sub> e	550,774	554,614	597,001	580,027	545,761
	Air Pollution	NOx (Korea)	KRW 100 million/kg	4.46	7.93	6.69	10.49	5.00
		SOx (Korea)	KRW 100 million/kg	N/A	N/A	N/A	N/A	N/A
		Dust (Korea)	KRW 100 million/kg	3.30	3.00	2.82	3.42	3.80
	Ozone-depleting Substances	Emissions (Global)	kgCFC11eq	1,047	1,367	1,243	766	329
		Efficiency (Global)	KRW 100 million/kgCFC11eq	46	37	43	75	152
		Emissions (Korea)	kgCFC11eq	24	38	28	37	47
	Wastewater	Discharge (Global)	kiloton	6,559	7,340	7,256	5,981	5,147
		Efficiency (Global)	KRW 100 million/kiloton	7.39	6.88	7.42	9.64	9.75
		Discharge (Korea)	kiloton	4,680	5,803	5,428	4,521	4,387
	Water Pollution	BOD (Korea)	KRW 100 million/kg	0.15	0.17	0.21	0.31	0.38
		COD (Korea)	KRW 100 million/kg	0.17	0.22	0.21	0.27	0.34
		SS (Korea)	KRW 100 million/kg	0.25	0.35	0.34	0.49	0.39
	Waste	Discharge (Global)	ton	58,911	55,321	64,562	51,943	44,378
		Efficiency (Global)	KRW 100 million/ton	0.82	0.91	0.83	1.11	1.13
		Discharge (Korea)	ton	32,911	35,686	48,407	33,324	32,258
		Recycling Rate (Global)	%	90.7	91.8	93.8	93.9	94.6
		Recycling Rate (Korea)	%	92.9	96.6	96.4	95.7	96.5
		Landfill Rate (Global)	%	9.3	8.2	6.2	6.1	5.4
	Landfill Rate (Korea)	%	7.1	3.4	3.6	4.3	3.5	

\* Notes Related to the Generation of Environmental Data

1. Air and water pollution output data is limited to Korean operations, since some overseas subsidiaries have different pollution items and legal measurement cycles from one another, which make it difficult to generate annual output data.
2. Wastewater output represents the amount of treated process water and excludes sewage water (municipal wastewater).
3. Hazardous chemicals data is based on 24 substances subject to the intensive management of Samsung SDI.
4. Due to the acquisition of SB LiMotive in January 2013, domestic GHG emissions were recalculated from 2007. Accordingly, GHG emissions and energy consumption & efficiency data was recalculated.



## Verification Statement on GHG Emission

### Introduction

Korean Foundation for Quality (hereinafter 'KFQ') has been engaged by Samsung SDI Co., Ltd., (hereinafter the 'Company') to independently verify its 2013 Greenhouse Gas Emission Report of domestic corporations and 29 overseas subsidiaries. It is the responsibility of the Company to compile the Greenhouse Gas Emission Report according to the 'Greenhouse Gas and Energy Target Management Scheme (Notification No. 2012-211 of Ministry of Environment)' and 'ISO 14064-1:2006', and KFQ has responsibility to conduct verification based on the ISO 14064-3 to provide verification opinion on compliance of the Report against verification criteria.

### Verification Scope

In this verification, domestic corporations and 6 overseas subsidiaries under operational control of Samsung SDI Co., Ltd., and reported emission is including Scope 1 (Direct) and Scope 2 (Indirect) emission. Scope 3 (Indirect-business trip and logistics) is also considered in total Greenhouse Gas Emission.

### Verification opinion

Through the verification process according to the ISO 14064-3, KFQ could obtain reasonable basis to express following conclusion on the Greenhouse Gas Emission Report.

1. 2013 Samsung SDI Co., Ltd., Greenhouse Gas Emission Report was prepared against 'Greenhouse Gas and Energy Target Management Scheme' and 'ISO 14064-1:2006':
2. As a result of materiality assessment on 2013 domestic Greenhouse Gas Emission (Scope 1 and Scope 2), material discrepancy is less than the criteria of 2.5% for the organization who emits more than 500,000 tCO<sub>2</sub>e/yr in accordance with the requirements of the 'Greenhouse Gas and Energy Target Management Scheme':
3. For the 6 overseas subsidiaries, material assessment was conducted according to the document review result and it shows that material discrepancy is less than 5.0% :

4. Among reported Greenhouse Gas Emission purchased electricity and LNG consumption take most of total emission. Activity data of these emission sources were checked through the objective evidence provided by supplier therefore KFQ could confirm that these activity data is valid itself :

For the overseas subsidiaries, national net caloric value and electricity emission factor were preferentially used but net caloric value in 'Greenhouse Gas and Energy Target Management Scheme' was used in case of nonexistence of it. For the steam emission factor, it was provided by steam supplier. Therefore, it is necessary to re-calculate Greenhouse Gas Emission in any change of these parameters or factors.

For the Scope 3 of the domestic corporation, its emission was calculated according to the Company methodology considering travel distance for business trip only by objective evidence. And for the factors considered in emission calculation, the latest factor was used thus consistency and correctness is sustained in 2013 Greenhouse Gas Emission Report against Samsung SDI Co., Ltd., internal guideline.

5. Except unconsidered emission source in the 'Samsung SDI Co., Ltd., Greenhouse Gas Inventory Guideline', material error, omission or insignificant issues was not founded in 2013 Samsung SDI Co., Ltd., Greenhouse Gas Emission Report.

April 25th 2014

President & CEO Korean Foundation for Quality

Daehyun Nam




### 2013 Samsung SDI Co., Ltd. Greenhouse Gas Emission

Unit : tCO<sub>2</sub>e/q

Report Year		2013.01.01~2013.12.31						
Verification Scope		Korea	Overseas					
			Tianjin	Shanghai	Malaysia	Hungary	Mexico	Vietnam
GHG Emission	GHG Emission (Scope 1, 2)	545,761	150,865	5,891	63,693	3,637	5,291	3,070
	GHG Emission (Scope 3)							
	Business Trip	1,860						
	Logistics	600						

\* The GHG emissions from Samsung SDI's Shenzhen Subsidiary are independently verified by the energy management authorities of Shenzhen City.

# Independent Assurance Report

---

## To the Stakeholders of Samsung SDI:

Samsung SDI commissioned the Korea Productivity Center (the 'Assurer') to provide an independent assurance of its 2013 Sustainability Report (the 'Report').

### Responsibility and Integrity

Samsung SDI is entirely responsible for the reliability and accuracy of all information and opinions presented in this 'Report'. The Assurer holds the responsibility which lies solely in providing a third party verification of the content in the 'Report'. As an independent assurance agency, the Assurer was neither involved in the process of preparing this 'Report' with Samsung SDI, nor in any conflicts of interest that may undermine our independence.

### Assurance Standard and Objectives

The independent verification process was planned and performed in accordance with the AA1000AS (2008) Assurance Standard to provide Type 2 moderate level of assurance. This is achieved through the evaluation of the organization's adherence to the AA1000APS Accountability Principles (2008) of Inclusivity, Materiality and Responsiveness. Additionally, the assurance was performed to ascertain the organization's adherence to the Global Reporting Initiative (GRI) G3.1 Guidelines in preparing and presenting sustainability performance information.

### Assurance Limitations

Based on the aforementioned assurance standards, the Assurer performed verification of the organization's sustainability performance during 2013, however the boundary of assurance did not include the reliability of data which is publicly disclosed within the annual report, public domains and information linked with Samsung SDI's website. Site inspection was performed at Samsung SDI's Head Office in Suwon, Korea and Samsung SDI's production sites overseas were not included in the scope of our site inspection. Therefore, the Assurer clearly states that any additional verification conducted in the future may issue varied results.

### Assurance Methodology

The assurance was undertaken following the methodology specified below:

1. Verified if the Report satisfies requirements for GRI by reviewing the coverage rate of and presentation method for economic, environmental and social indicators specified in the GRI G3.1 Guidelines
2. Verified consistency with the principles dictating the content and quality of sustainability reports based on the GRI G3.1 Guidelines
3. Verified the appropriateness of identifying key issues and the responsiveness to the content presented in the Report by the material analysis methodology.
4. Verified the basis of data and information presented by performing site inspection at Samsung SDI's Head Office in Korea and verified the internal process and systems through various methods including interviews.

## Findings and Conclusions

It is the Assurer's opinion that the Report fairly and accurately presents the sustainability efforts and performance of Samsung SDI. Also, the assurance verified that the self-declared requirements claimed by Samsung SDI for the GRI Application Level B+ have been met.

### 1. Principle of Inclusivity : Stakeholder Engagement

The principle of inclusivity articulates that organizations should include stakeholders in developing and achieving an accountable and strategic response to sustainability. Based on the findings of these assurance efforts, it is evident that Samsung SDI defined and identified major stakeholders, and operated communication channels for the participation of each stakeholder group to adhere to the principle of inclusivity. Of particular note, Samsung SDI's various activities in the energy industry in partnerships with public agencies and the government may be subject to discussions with stakeholders in setting corporate directions for the future.

### 2. Principle of Materiality : Selection of and Reporting on Material Issues

The principle of materiality articulates that organizations should focus on issues relevant and material to both the organization and its major stakeholders. The Assurer found that Samsung SDI successfully identified sustainability issues relevant and material to the company. The materiality test in four (4) steps is judged to have appropriately evaluated the materiality and the impact on stakeholders in the company's perspective. The company's analysis and reporting on top material areas and key issues for management are useful in understanding specifics of reporting in each aspect.

### 3. Principle of Responsiveness : Organizational Response to Issues

The principle of responsiveness articulates that organizations should be responsive to issues that may have impacts on stakeholders' performance. The Assurer found that Samsung SDI successfully identified the management areas in material aspects, key issues in stakeholders' perspectives, risks and opportunities, countering strategies, performance and future directions. The Assurer also identified that the company made appropriate responses to key aspects by measuring performance for material aspects and setting goals accordingly.



**Recommendations**

The Assurer commends Samsung SDI for making a variety of efforts to improve sustainability, resulting performances, and presents the following recommendations to enhance future sustainability reports and sustainability management.

1. The Assurer recommends Samsung SDI to transform its sustainable management system amid organizational changes including its merger with Cheil Industries. The company must be able to develop the system through status quo analysis and responses in all aspects, covering principles for sustainable management, organization, activities and performance management. It is recommended that directions for sustainable management must be set over the long haul, and operated in tandem with its directions for future growth.
2. There is a need to review on the boundaries for reporting for material aspects: what would be the possible impact in each aspect; and what would the impacts occur – internally or externally? Once directions for response are set according to the analyses, the company will be capable of managing risks and opportunities for key issues.
3. The Assurer recommends Samsung SDI to identify the region-specific materiality for the materiality test. The level of materiality for sustainability issues might differ per country or region. Once a system to identify and manage region-specific issues is set along with the company-wide sustainability issues, the company will be able to proactively respond to global sustainability uses.

The Sustainability Management Center of the Korea Productivity Center is an assurance agency officially certified by AccountAbility, which established AA1000, the international standards for stakeholder participation and verification, and has qualifications to perform independent assurance engagements. Our Assurance Committee is also comprised of competent experts who have in-depth experience in sustainability management consulting and assurance and completed the relevant professional training.



April 2014,  
Korea Productivity Center

Hong Jin, Chairman

Dong Soo Kim, Director

Yang Ho Lee, Team Leader

Young Hoon Jung, Researcher

# GRI Index (G3.1)/ISO 26000

● Full Reporting ● Partial Reporting ○ Not Reported ◇ Not Applicable H Reported on Homepage

Indicators	Reporting	Page (Additional Information)	ISO 26000
<b>Strategy and Analysis</b>			
1.1	●	6, 7	6.2
1.2	●	16, 17, Each DMA	6.2
<b>Organizational Profile</b>			
2.1	●	4, 5	-
2.2	●	4, 5	-
2.3	●	4, 5	6.2
2.4	●	4, 5	-
2.5	●	4, 5	-
2.6	●	9	-
2.7	●	4, 5	-
2.8	●	4, 5	-
2.9	●	4, 5	-
2.10	○	45, 69	-
<b>Report Parameters</b>			
3.1	●	2	-
3.2	●	2	-
3.3	●	2	-
3.4	●	2	-
3.5	●	14, 15	-
3.6	●	2	-
3.7	●	2	-
3.8	●	2	-
3.9	●	2	-
3.10	●	20, 34, 43, 62	-
3.11	●	2, 4-5	-
3.12	●	66, 67	-
3.13	●	2, 63-65, 69	7.5.3
<b>Governance, Commitments, and Engagemen</b>			
4.1	●	8, 9	6.2
4.2	●	8	6.2
4.3	●	8	6.2
4.4	●	9, 43	6.2
4.5	●	8	6.2
4.6	●	8	6.2
4.7	●	8	6.2
4.8	●	16, 68	6.2
4.9	●	8, 9	6.2
4.10	●	8, 9	6.2
4.11	●	10, 11	6.2
4.12	●	66, 67	6.2
4.13	●	13	6.2
4.14	●	12	6.2
4.15	●	12, 13	6.2
4.16	●	12-15	6.2
4.17	●	14-17	6.2

Indicators	Reporting	Page (Additional Information)	ISO 26000
<b>Economic Disclosure on Management Approach</b>			
		●	18-19
Economic Performance	EC1	●	12, 60
	EC2	●	19, 21, 24
	EC3	○	-
	EC4	○	-
	EC6	●	60
	EC7	●	44
	EC8	●	54-58, 61
			6.8/6.8.3/6.8.7/6.8.9
			6.5.5
			6.5.5
			-
			6.6.6/6.8/6.8.5/6.8.7
			6.8/6.8.5/6.8.7
			6.3.9/6.8/6.8.3/6.8.4/6.8.5/6.8.6/6.8.7/6.8.9
<b>Environment Disclosure on Management Approach</b>			
		●	29-30
Materials	EN1	●	30
	EN2	●	31
Energy	EN3	●	34
	EN4	●	34
	EN5	●	35
	EN6	●	35
	EN7	●	34, 35
Water	EN8	●	32
	EN10	●	H
Bio Diversity	EN11	◇	
	EN12	◇	
Emissions, Effluents and Waste	EN16	●	34
	EN17	●	31, 35
	EN18	●	34, 35
	EN19	●	60
	EN20	●	60
	EN21	●	60
	EN22	●	60
	EN23	●	32
Products and Services	EN26	●	32, 35
Compliance	EN27	●	31
Transport	EN28	●	32
Overall	EN29	●	35
	EN30	●	32
			6.5/6.5.4/6.6.6/6.7.5
			6.5/6.5.4/6.7.5
			6.5
			6.5/6.5.4/6.6.6
			6.5
<b>Labor Practices and Decent Work Disclosure on Management Approach</b>			
		●	39-40
Employment	LA1	●	42, 43, 61
	LA2	●	42, 43, 61
Labor/Management	LA4	●	43
Relations	LA5	●	43
Occupational Health and Safety	LA7	●	46, 59
	LA8	●	46, 56, 57
Training and Education	LA10	●	61
	LA11	●	42, H
	LA12	●	42, 43, 44
			6.4/6.4.3
			6.4/6.4.3
			6.4/6.4.3/6.4.4/6.4.5/6.3.10
			6.4/6.4.3/6.4.4/6.4.5
			6.4/6.4.6
			6.4/6.4.6/6.8/6.8.3/6.8.4/6.8.8
			6.4/6.4.7
			6.4/6.4.7/6.8.5
			6.4/6.4.7



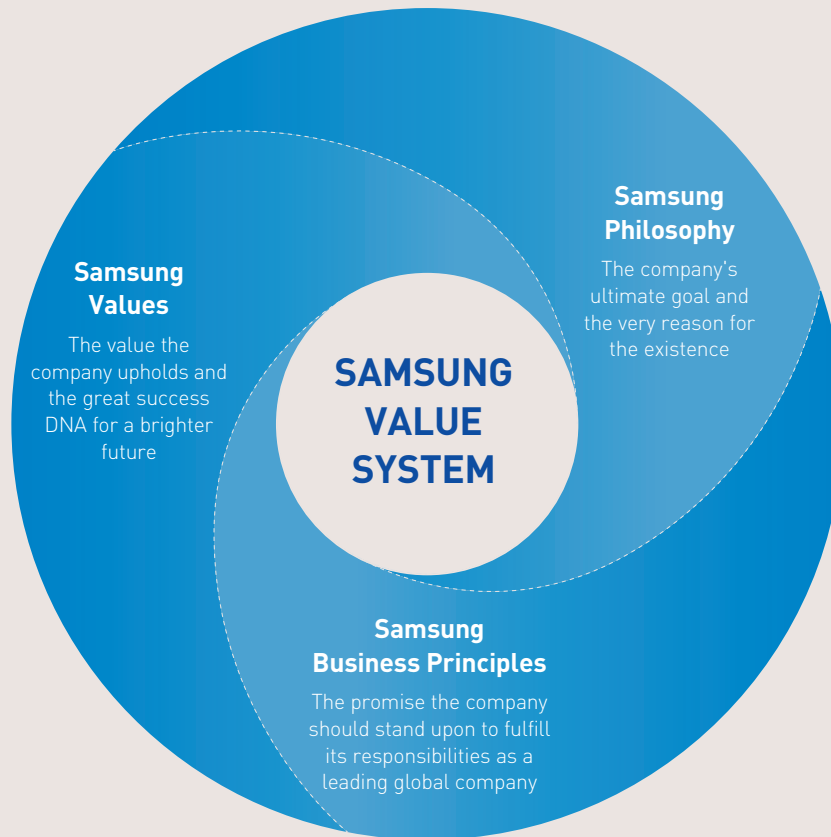
Indicators	Reporting	Page (Additional Information)	ISO 26000	
Diversity and Equal Opportunity	LA13	●	10, 42, 43	6.3.7/6.3.10/6.4/6.4.3
	LA14	◐	43	6.3.7/6.3.10/6.4/6.4.3/6.4.4
	LA15	●	43	6.3.7/6.3.10/6.4.4
<b>Human Rights Disclosure on Management Approach</b>		●	39, 40	
Investment and Procurement Practices	HR1	◐	49	6.3/6.3.3/6.3.5/6.6.6
	HR2	●	49	6.3/6.3.3/6.3.5/6.4.3/6.6.6
	HR3	◐	38	6.3/6.3.5
Non-Discrimination	HR4	●	43, 44	6.3/6.3.6/6.3.7/6.3.10/6.4.3
Freedom of Association and Collective Bargaining	HR5	●	43	6.2/6.3.3/6.3.4/6.3.5/6.3.8/6.3.10/6.4.3/6.4.5
Child Labor	HR6	●	43	6.3/6.3.3/6.3.4/6.3.5/6.3.7/6.3.10
Forced and Compulsory Labor	HR7	●	43	6.3/6.3.3/6.3.4/6.3.5/6.3.7/6.3.10
Assessments	HR10	◐	43	6.3.6/6.3.9/6.3.10
Improvement	HR11	◐	43	6.3.6/6.3.9/6.3.10
<b>Society Disclosure on Management Approach</b>		●	36, 37, 54, 55	
Community	S01	◐	55-58	6.3.9/6.8/6.8.5/6.8.7/6.6.7
Corruption	S02	●	37, 38	6.6/6.6.3
	S03	●	37, 38	6.6/6.6.3
	S04	●	38	6.6/6.6.3
Public Policy	S05	●	13	6.6/6.6.4/6.8.3
	S06	●	13	6.6/6.6.4/6.8.3
Anti-Competitive Behavior	S07	●	38	6.6/6.6.5/6.6.7
Compliance	S08	●	38	6.6/6.6.7/6.8.7
Community	S09	◇		6.3.9/6.8/6.8.5/6.8.7
	S010	◇		6.3.8
<b>Product Responsibility Disclosure on Management Approach</b>		●	51, 52	
Customer Health and Safety	PR1	●	52, 53	6.3.9/6.6.6/6.7/6.7.4/6.7.5
	PR3	●	52, 53	6.7/6.7.3/6.7.4/6.7.5/6.7.6/6.7.9
Product and Service Labeling	PR4	●	53 (None)	6.7/6.7.3/6.7.4/6.7.5/6.7.6/6.7.9
	PR5	●	52	6.7/6.7.4/6.7.5/6.7.6/6.7.8/6.7.9
Marketing Communication	PR6	●	52	6.7/6.7.3/6.7.6/6.7.9
Compliance	PR9	●	38	6.7/6.7.6

**ISO 26000**

Core Subjects	Issues	Details
6.2 Organizational Governance	6.2.3	Decision-making process and structure
6.3 Human Rights	6.3.3	Due diligence
	6.3.4	Human rights risk situations
	6.3.5	Avoidance of complicity
	6.3.6	Resolving grievances
	6.3.7	Discrimination and vulnerable groups
	6.3.8	Civil and political rights
	6.3.9	Economic, social and cultural rights
	6.3.10	Fundamental principles and rights at work
6.4 Labor Practices	6.4.3	Employment and employment relationships
	6.4.4	Conditions of work and social protection
	6.4.5	Social dialogue
	6.4.6	Health and safety at work
	6.4.7	Human development and training in the workplace
6.5 Environment	6.5.3	Prevention of pollution
	6.5.4	Sustainable resource use
	6.5.5	Climate change mitigation and adaptation
	6.5.6	Protection of the environment, biodiversity and restoration of natural habitats
6.6 Fair Operating Practices	6.6.3	Anti-corruption
	6.6.4	Responsible political involvement
	6.6.5	Fair competition
	6.6.6	Promoting social responsibility in the value chain
	6.6.7	Respect for property rights
6.7 Consumer Issues	6.7.3	Fair marketing, factual and unbiased information and fair contractual practices
	6.7.4	Protecting consumers' health and safety
	6.7.5	Sustainable consumption
	6.7.6	Consumer service, support, and dispute resolution
	6.7.7	Consumer data protection and privacy
	6.7.8	Access to essential services
	6.7.9	Education and awareness
6.8 Community Involvement and Development	6.8.3	Community involvement
	6.8.4	Education and culture
	6.8.5	Employment creation and skills development
	6.8.6	Technology development and access
	6.8.7	Wealth and income creation
	6.8.8	Health
	6.8.9	Social investment

# Samsung Value System

---



## Samsung Philosophy

We will devote our human resources and technology to create superior products and services thereby contributing to a better global society.

---

## Samsung Values



People



Excellence



Change



Integrity



Co-prosperity

---

## Samsung Business Principles

- Principle 1. We comply with laws and ethical standards.
- Principle 2. We maintain a clean organizational culture.
- Principle 3. We respect customers, shareholders and employees.
- Principle 4. We care for the environment, health and safety.
- Principle 5. We are a society responsible corporate citizen.



---

Address SM Office, Samsung SDI, 150-20 Gongse-ro, Giheung-gu,  
Yongin-si, Gyeonggi-do, Korea, 446-577  
Tel SM Office Tel +82-31-8006-3366 Fax +82-31-8006-3399  
Communication Team Tel +82-31-8006-3649 Fax +82-31-8006-3397  
General Inquiry Tel +82-31-8006-3100  
E-mail sustainability@samsung.com  
Website Samsung SDI www.samsungsdi.com  
Sustainability www.samsungsdi.com/sustainability  
Ethics Management www.samsungsdi.com/cyber-audit/ethics-management

#### **Listening to You (Sustainability Report Reader Survey)**

We would like to incorporate your valuable feedback to our future sustainability reports. Please feel free to participate in the reader survey in the sustainability section of our website.  
[www.samsungsdi.com/sustainability/survey](http://www.samsungsdi.com/sustainability/survey)

#### **VOC System (Voice of Customers)**

You can make your voice heard in the 'VOC' section of the Samsung SDI website.  
[www.samsungsdi.com/cs-center/voice-of-customer](http://www.samsungsdi.com/cs-center/voice-of-customer)

#### **Korea's 1st Company to Be Listed on the DJSI for 10 Straight Years**

Created by Dow Jones, a U.S.-based leading financial information company, and RobecoSAM, a global asset management firm in Switzerland, the world-renowned Dow Jones Sustainability Indices (DJSI) track the financial, social, and environmental performance of companies and are used as important criteria for company investments. Samsung SDI was once again recognized as a leading sustainability management company in 2013 sustainability assessment of 2,500 companies worldwide and became the very first for a Korean company being listed on the DJSI for 10 straight years.

MEMBER OF  
**Dow Jones**  
**Sustainability Indices**  
In Collaboration with RobecoSAM

#### **GRI Application Level**

Samsung SDI self-declares that its Sustainability Report 2013 has been prepared in a way to satisfy all requirements for the Application Level B+ presented in the GRI G3.1 Guidelines. Furthermore, this report has been verified by an independent external assurance provider that it meets the requirements for the Application Level B+.

Date of Publication : May 2014

Publisher : Samsung SDI

Planning and Design : IM creative Tel +82-2-303-4266

---



SAMSUNG SDI 

