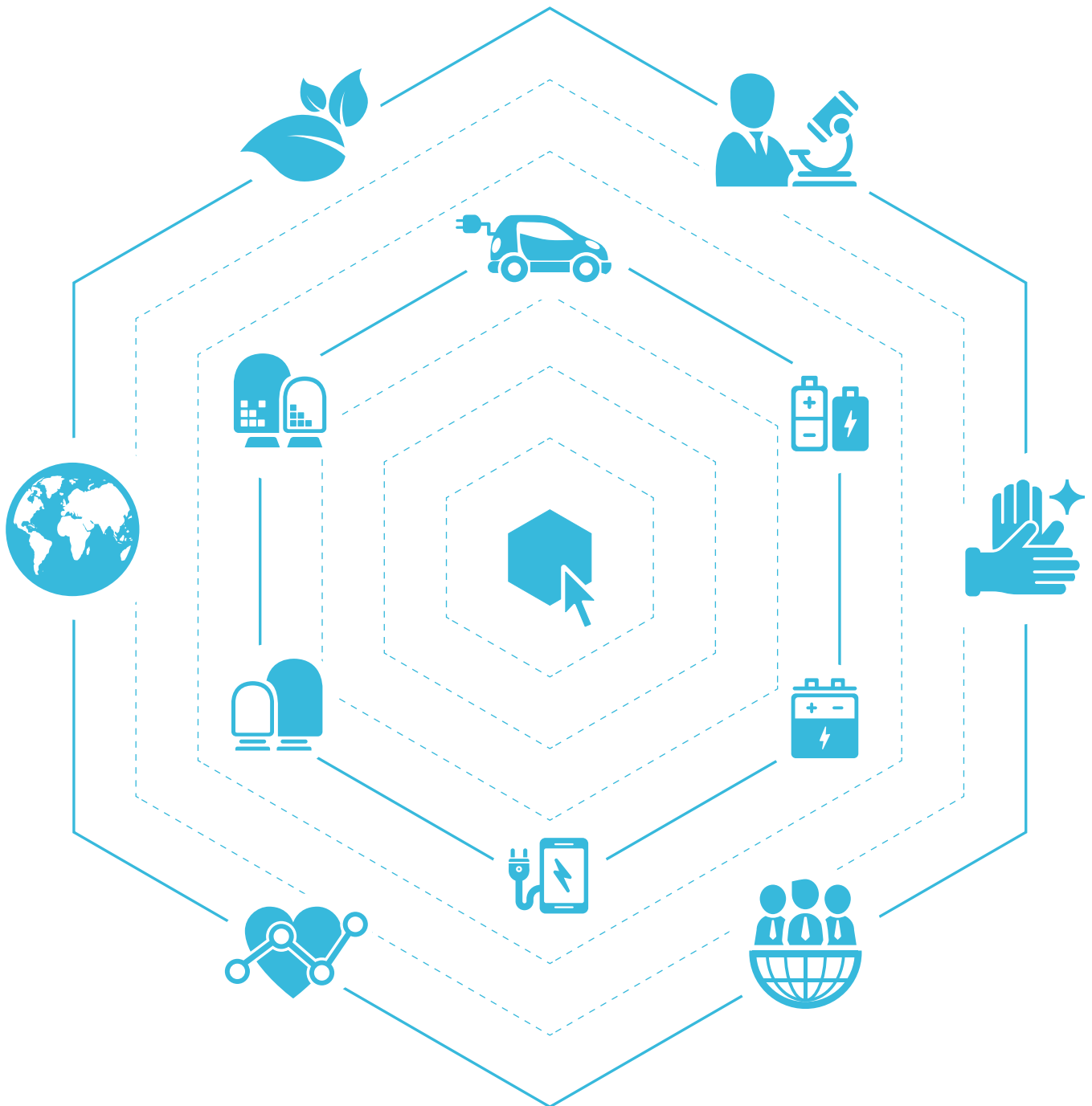


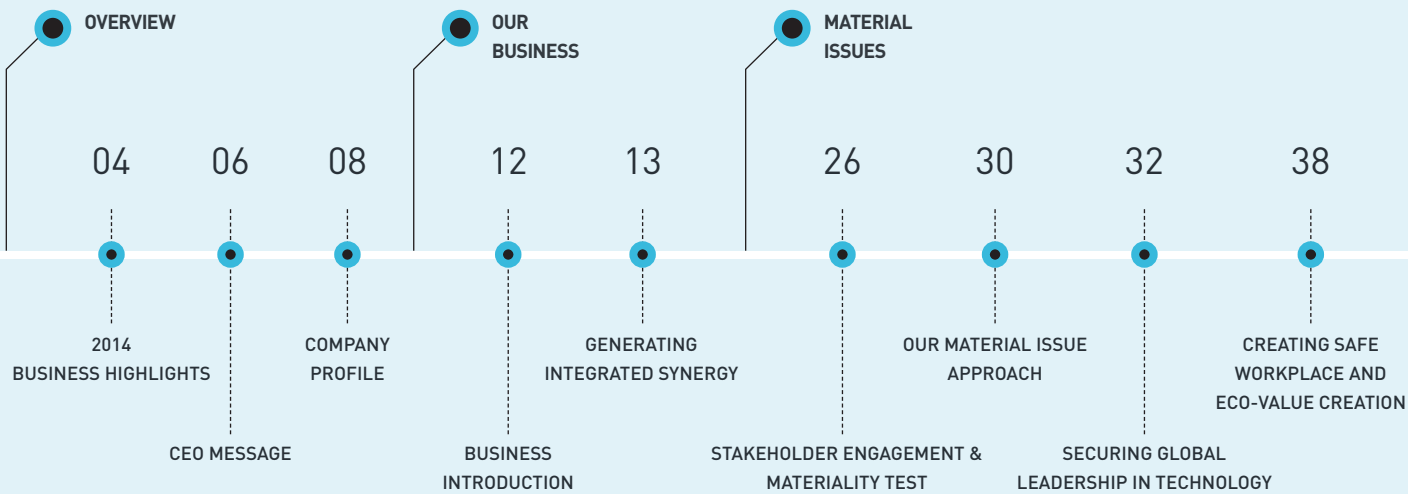
# SAMSUNG SDI

## SUSTAINABILITY REPORT 2014

SAMSUNG SDI



## CONTENTS



### COVER STORY

Samsung SDI has chosen a regular hexagon, one of the most solid structures in the field of engineering, as a main theme of this report and has depicted its main products and various stakeholder groups as icons to portray its dynamic aspects. The lines that connect the hexagonal shapes represent the synergy amongst its business divisions and Samsung SDI as a total solution provider in materials and energy. In addition, the lines signify Samsung SDI's long-trusted sustainability.



Small-Sized  
Li-ion Batteries



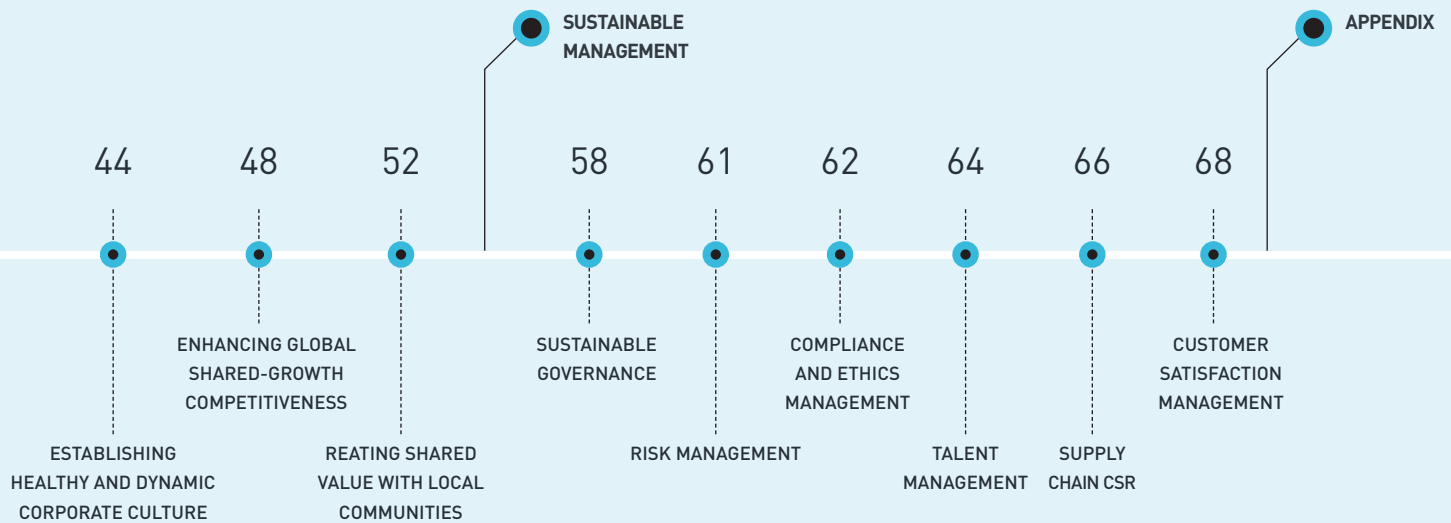
Automotive and  
ESS Batteries



Electronic  
Materials



Chemicals



Samsung SDI presents its 12th sustainability report.

#### Reporting Period

This report is based on Samsung SDI's performance from January 1, 2014 to December 31, 2014. For certain quantitative activities and performances, the data from 2015 is included. The data of the recent 5 years are included to analyze trends if required.

#### Reporting Scope and Boundary

This report covers all domestic and overseas production sites, sales subsidiaries, offices, and the R&D centers of Samsung SDI. Areas where there has been difficulty in collecting data have been mentioned in the report. This report does not include the data of consolidated companies. The changes in data collection method for the data reported previously or past data created due to the merger with prev. cheil industries' material business unit were recalculated in accordance with 2014 standards. Economic performance was prepared based on K-IFRS, and the data of 2014 is based on the performances of Samsung SDI and the prev. cheil industries' material business unit in the second half of the year 2014.

#### Reporting Framework

This report has been prepared in accordance with the GRI (Global Reporting Initiatives) G4 Guidelines. Its data was extracted in accordance with GRI G4 protocols. For matters not stipulated in the protocols, internal management standards were applied and these have been mentioned footnote accordingly. This report is developed in accordance with the core options of GRI G4 Guideline.

#### Assurance

The financial data of this report has been prepared based on a financial audit, and the non-financial data has been assured by independent and professional third party in accordance with the standards of AA1000AS (2008). The result of the assurance is available in the Independent Assurance Report Section [p.76-77].

Please contact us for further information at :

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URL: www.samsungsdi.com/cs-center/voice-of-customer

# BUSINESS HIGHLIGHTS

Page. 10-13

## Launching Integrated Samsung SDI

Samsung SDI and prev. Cheil Industries' material business unit were merged to launch integrated Samsung SDI in an aim to establish itself as a 'global total solution provider in materials and energy' in July 2014. Samsung SDI aims to boost its competitive edge for battery business by utilizing material technologies, and it will also expand markets for materials on the basis of marketing competence accumulated in the field of automotive batteries and its wide customer networks.

**SAMSUNG SDI**

**SAMSUNG**

Page. 17

## Expanding Electric Vehicles, Market and Gaining Recognition in Technology

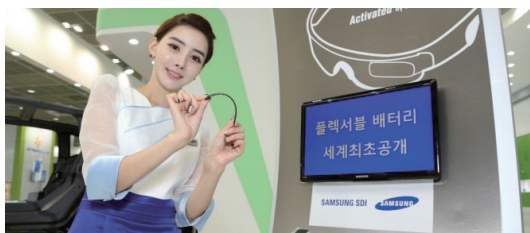
Based on its technology for small-sized Li-ion batteries, Samsung SDI continues to expand its presence in the battery market for electric vehicles (EV). In July 2014, Samsung SDI signed an MOU with BMW Group to increase expand the supply of electric vehicle battery cells. In August 2014, Samsung SDI began constructing a Electric Vehicle plant in Xi'an city, China to enter the emerging Chinese EV market.



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## Developing New Small-Sized Li-ion Batteries Technology

As the leader in the field of small-sized Li-ion batteries for five consecutive years, Samsung SDI continues to develop new technologies to lead the world's battery market. Samsung SDI is breaking new ground in small-sized Li-ion Battery market by preparing the era of wearable technology, including the development of flexible batteries and super-micro pin batteries.



Page. 17

## Acquiring Magna International's Electric Vehicle Battery Pack Business

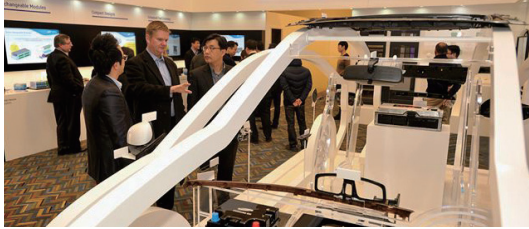
In May 2015, Samsung SDI acquired global automotive supplier, Magna International's battery pack business for electric vehicles(EV). The acquisition will help to establish a foothold and become a leader in the EV battery market with MSBS\*'s advanced technology in battery pack on top of its world's strongest competitive edge on electric vehicle cells.

\*Magna Steyr Battery Systems GmbH & Co OG



### Targeting the North American Market with Automotive Batteries and Advanced Materials

In order to target the North American market, Samsung SDI exhibited automotive batteries and cutting-edge materials customized for the North American market at the 2015 North American International Auto Show (NAIAS) held at Cobo Center, Detroit, USA.



### Tapping into the world market, Chemicals

Samsung SDI became the first Korean company to win a Gold Prize for non-coated 'metallic' material at the 44th SPE (Society of Plastic Engineers) Awards held in Detroit. To enhance its competence to supply and meet the rapidly increasing demand from the Chinese market, Samsung SDI built a high value-added engineering plastic (EP) production plant in Dongguan, Guangdong Province, China.



### New leap forward, Electronic Materials

In April 2014, Samsung SDI became the first Korean company to develop and mass produce its own PGH(phosphorescent green host), a key material for next-generation OLED displays. In addition, stabilized mass production of polarizing film has successfully turned the business to operate in the black.



### Winning 'iF Design Award' in Germany

All three products- 'tactile material', 'paper-like material', and 'emotional material' with natural textures- submitted by Samsung SDI Chemicals won the Professional Concept category at the 'iF Design Award 2015' held in Germany.



### Tapping New Global Power ESS Markets

In 2014, Samsung SDI signed an MOU with Nichicon Corporation to provide ESS worth 1 trillion KRW. In addition, Samsung SDI establishes a solid foothold in the global ESS market by establishing ESS joint venture with Sungrow Power Supply where both companies will work in collaboration and develop, produce, and sell ESS together. Samsung SDI has provided ESS for electric companies in the UK and Germany on a large scale and its competence was recognized at the Frost & Sullivan Awards 2014 with a Company of the Year Award for ESS in Europe.



# CEO MESSAGE

Samsung SDI will maximize the synergy among businesses a world class material and energy solution provider and will continue to improve by pursuing changes that can lead the world. With win-win cooperation among shareholders, customers, suppliers, and local communities, Samsung SDI will create a sustainable future.



Dear Stakeholders of Samsung SDI all Across the World :

First and foremost, I would like to express my gratitude for your concern and support all throughout the previous year.

During the year 2014, Samsung SDI focused all efforts to establish a sustainable business structure that can grow continuously, in spite of low economic growth globally over a long period. The merger with the prev. Cheil Industries' material business unit, Samsung SDI pave the way to become the 'world's leading total solutions provider in materials and energy' handling a range of solutions from materials and parts to system business.

With efforts to develop next-generation technologies, Samsung SDI's small-sized Li-ion battery business was able to launch the world's first flexible battery, thereby cementing its position as the global leader. As for the medium-to-large battery business, Samsung SDI built a firm foundation to lead the market by expanding the contract with a global automobile company to supply batteries, and acquiring the battery pack business for electric vehicles from a world-class automotive supplier Magna International. The success of the electronic materials business helped the company to become Korea's first company to mass produce core material for OLED, one of the next-generation growth engines. Chemical business has focused on strengthening the competitive edge in design which helped the company win the 'iF Design Award' for its emotional material.

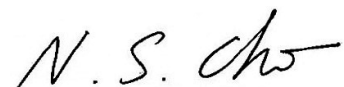
Meanwhile, Samsung SDI made various efforts to establish a safety-driven culture which is becoming more important every day. Samsung SDI reinforced safety and environment team and system, the control tower to all workplaces of businesses in and out of the country. The subject of its supervision was broadened to encompass overseas sites and stationed suppliers to strengthen the basis of safe and environment management.

Our programs to grow with our suppliers and local communities have been further developed. With technological developments and educational activities in addition to financial support, Samsung SDI strives to establish a foundation for shared growth with its first-tier suppliers as well as its second and third tier suppliers. In an effort to make a valuable world through sharing technologies and competence with local communities, Samsung SDI launched its social contribution brand 'wE Dream'. This helps the company's business sites to closely and actively support their local communities.

In an effort to establish a fair and transparent corporate culture, Samsung SDI puts compliance management as its first business principle and carries out various activities, including customized training sessions and site inspections for its employees to develop their law-abiding spirits.

Even though it is expected that the instability of the global economy will worsen in 2015, Samsung SDI's success DNA of being the world's best in CRT & PDP and small-sized Li-ion batteries, and its successful transformation from a fabric industry to a cutting-edge material company shows the potential it possesses. While bringing out maximized synergy amongst materials and energy businesses and pursuing world-leading changes to improve the company, Samsung SDI will continue to strive to grow with shareholders, customers, suppliers, and local communities. We would like to ask for your continued interest and support for Samsung SDI as we will make every effort to fulfill your expectation. Thank you.

President and CEO  
Namseong Cho



# Samsung SDI

is a world class material and energy solution provider.

## Main Business

In July 2014, Samsung SDI was merged with the prev. Cheil Industries' material business unit, specialized in materials. Since December 2014, Samsung SDI operates four business divisions to strengthen responsibility management system and realize synergies through a fast decision making process.



Small-Sized Li-ion Batteries

14~15p



Automotive and ESS Batteries

16~19p



Electronic Materials

20~21p



Chemicals

22~23p

Sales (KRW trillion)



5.5

Assets (KRW trillion)



16.0

Employees (Headcount)



20,222

Korea: 11,175 / Overseas: 9,047



Since its establishment in 1970, Samsung SDI has continued its path of innovation and challenges for the better future. Samsung SDI's merger with the prev. Cheil Industries' material business unit in 2014 is a world class material and energy solution provider.

### Global Network

Samsung SDI operates a global network that includes 16 production sites and subsidiaries, 9 sales subsidiaries, and other branches and offices in 18 countries across the world. Its main production sites are located in Korea, China, Malaysia, Vietnam, and Mexico. It's Battery R&D Center and overseas R&D centers develop core technologies and next-generation products.



HEADQUARTERS · PRODUCTION SITES/SUBSIDIARIES  
SALES SUBSIDIARIES · OFFICES/BRANCHES

- 01 SOUTH KOREA**  
GIHEUNG (HEADQUARTERS)  
SEOUL  
UIWANG  
SUWON(R&D)  
CHEONAN  
CHEONGJU  
GUMI  
ULSAN  
YEOSU
- 02 CHINA**  
TIANJIN(2)  
DONGGUAN  
SUZHOU  
XI'AN  
SHANGHAI(2)  
BEIJING  
SHENZHEN  
TIANJIN  
SUZHOU  
WEIHAI
- 03 TAIWAN**  
TAIPEI
- 04 VIETNAM**  
HANOI
- 05 THAILAND**  
BANGKOK
- 06 MALAYSIA**  
SEREMBAN
- 07 JAPAN**  
TOKYO  
NAGOYA
- 08 INDIA**  
CHENNAI  
DELHI

- 09 GERMANY**  
FRANKFURT  
MUNICH  
DRESDEN  
BRAUNSCHWEIG
- 10 ITALY**  
ROME  
MILANO
- 11 FINLAND**  
HELSINKI
- 12 HUNGARY**  
TATABANYA
- 13 SLOVAKIA**  
BRATISLAVA
- 14 TURKEY**  
ISTANBUL
- 15 UAE**  
DUBAI
- 16 AUSTRIA**  
ZETTLING
- 17 USA**  
LOS ANGELES  
SAN JOSE  
CHICAGO  
DETROIT
- 18 MEXICO**  
TIJUANA



\* Other branches and R&D locations are not included

# OUR — BUSINESS



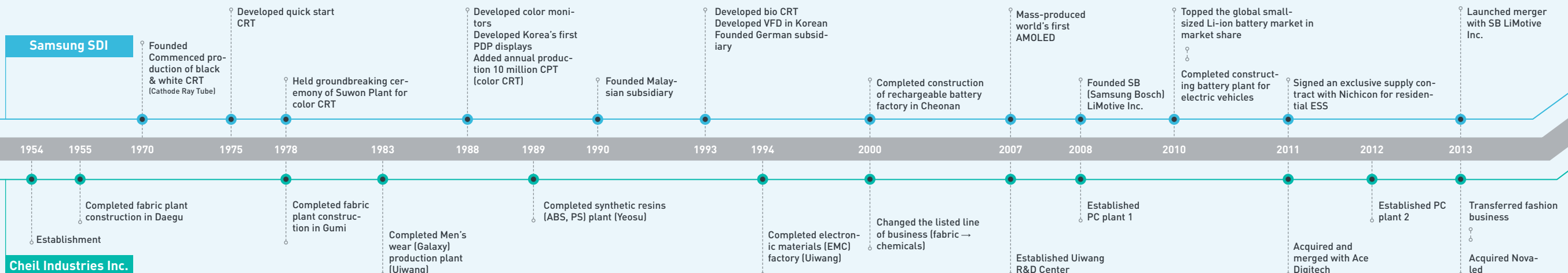
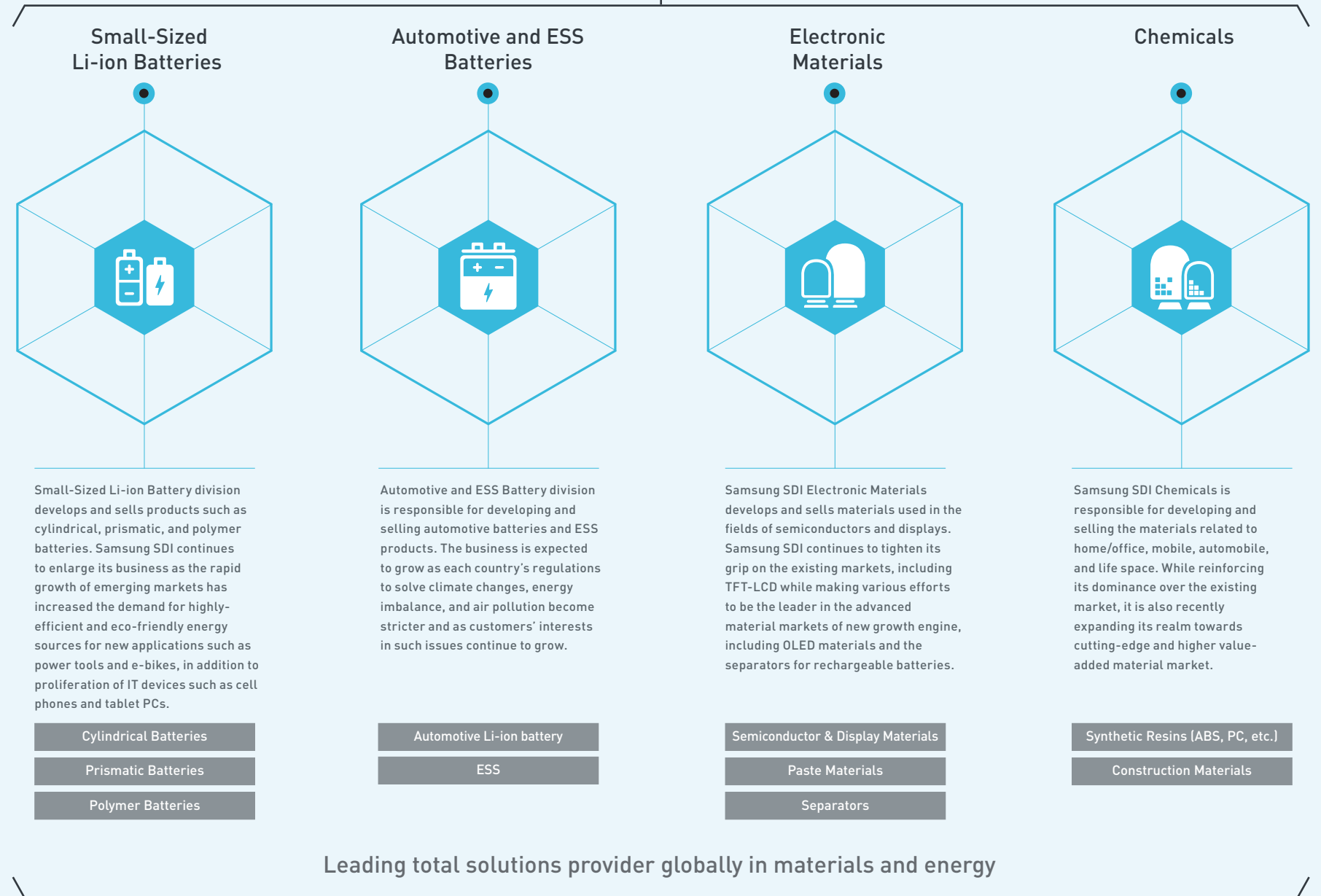


# Samsung SDI

leaps forward to become a world class material and energy solution provider.

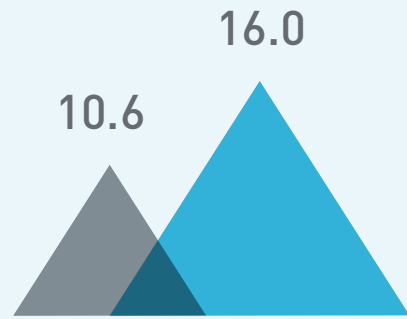
## Business Introduction

Since its merger with prev. Cheil Industries' material business unit, Samsung SDI has been reorganized to operate four divisions: Small-Sized Li-ion Batteries, Automotive and ESS Batteries, Electronic Materials and Chemicals. Following the termination of CRT operations in 2013, Samsung SDI terminated its PDP and PV businesses to concentrate on materials and energy business in 2014.

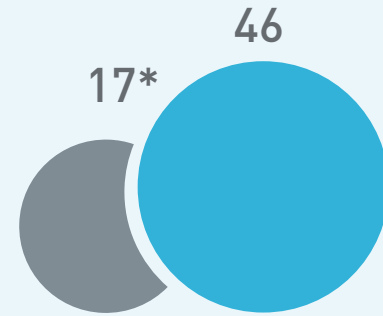


## Generating Integrated Synergy

**Assets** (unit: KRW trillion)

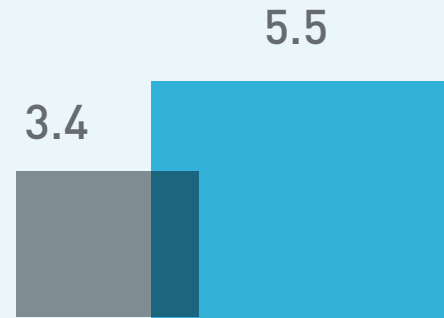


**Global Network** (unit: places)



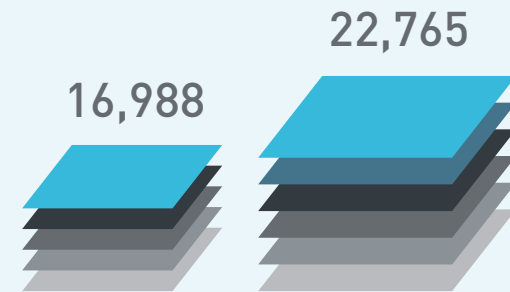
\*excluding overseas sales branches and offices in energy field in 2013

**Sales** (unit: KRW trillion)



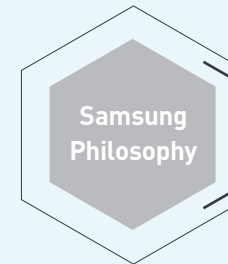
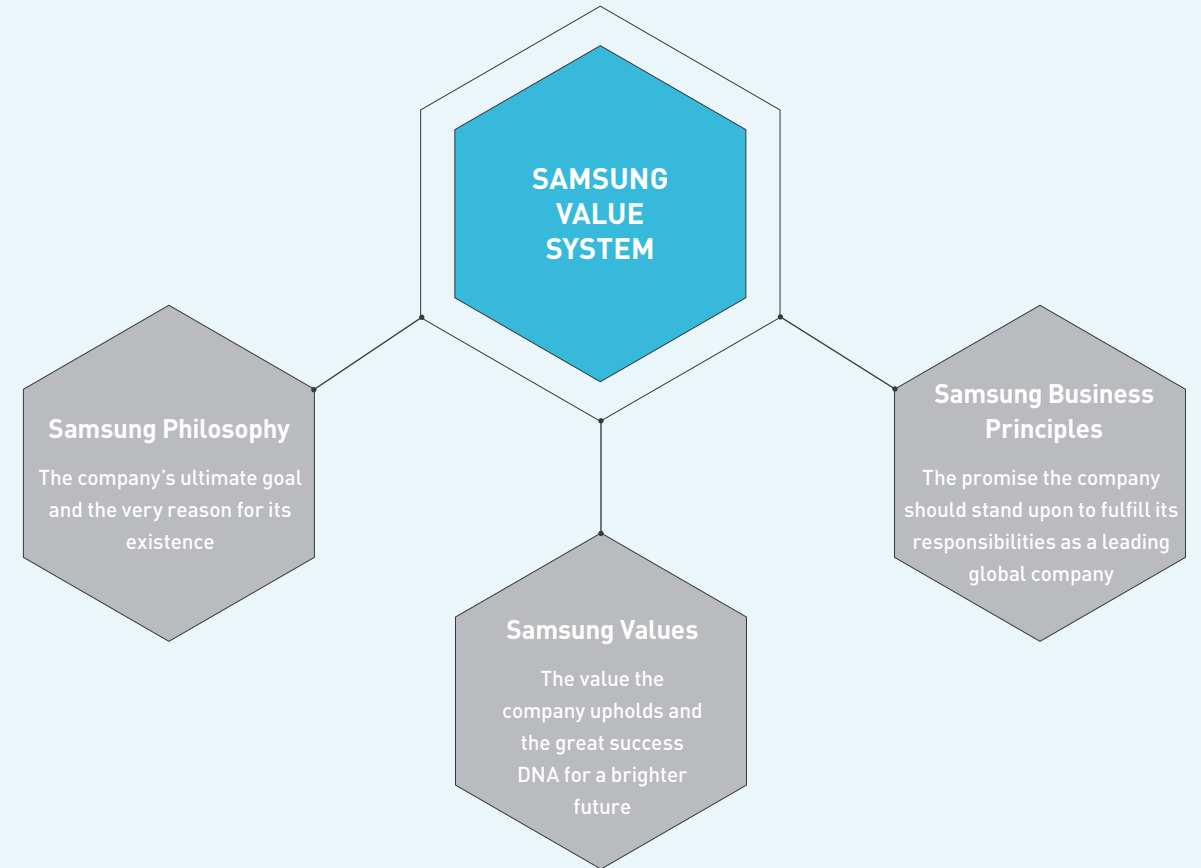
\*Sales of 2013 is limited to energy solution business due to the termination of PDP business

**Intellectual Property Rights** (unit: cases)

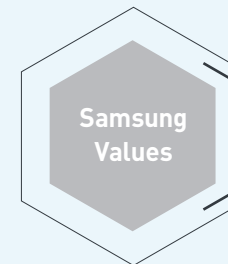


\*based on registered and applied patents

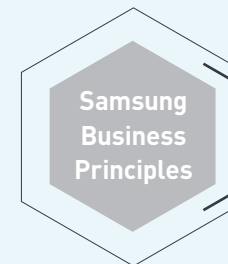
## Samsung Value System



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



- People
- Excellence
- Change
- Integrity
- Co-prosperity



- 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 about the environment, health, and safety.
- Principle 5. We are socially responsible corporate citizen.

### Launched integrated Samsung SDI

2014

- 2014. 4: Fully Launching mass-produced high value-added OLED materials
- 2014. 5: Completed Dongguan Plant in China
- 2014. 7: Merged with prev. Cheil Industries' material business unit and Launched integrated Samsung SDI
- 2014. 8: Signed 1-trillion-worth contract with Japan's Nichicon Corporation to supply residential ESS
- 2014. 8: Held groundbreaking ceremony for electric vehicles battery plant at in Xi'an city, China
- 2014. 8: Announced to discontinue PDP business (Production terminated in November 2014)
- 2014. 11: Signed contract with Sungrow of China to establish ESS joint venture
- 2014. 12: Established Austria subsidiary
- 2015. 02: Won 'iF Design Award' in Germany for emotional material solution
- 2015. 3: Established alliance with ABB to penetrate global micro grid ESS market
- 2015. 05: Acquired Magna Internationals' battery pack business



## Small-Sized Li-ion Batteries

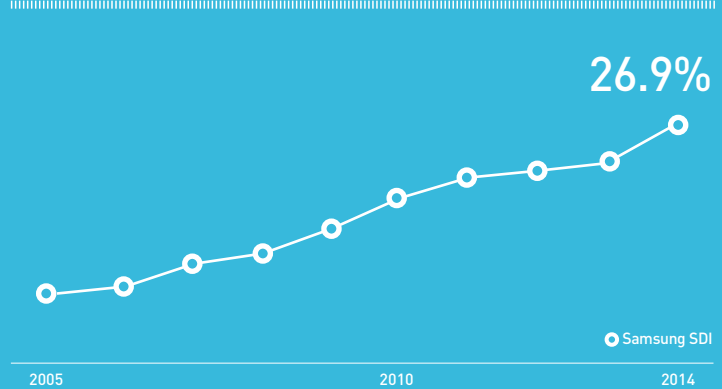
### Small-Sized Li-ion Battery

#### Continue to grow through strong market dominance

Since Samsung SDI began its lithium-ion rechargeable battery business in 2000, the company has been making every effort to enhance quality, and to secure stability of its products. Samsung SDI has solidified its position as a leader in the Small-Sized Li-ion Battery market through the development of next-generation technologies, such as world's first flexible batteries. As a result, Samsung SDI topped the Small-Sized Li-ion Battery market in market sales in 2014, and won the first place for five consecutive years from 2010 according to B3, keeping its solid dominance over the market.

\*B3: Japanese rechargeable battery market research firm

#### Changes in Small-Sized Li-ion Battery Market Share



### Major Business Achievements in 2014

#### Achieving leadership in emerging markets including China

Samsung SDI has focused on the potential of emerging markets such as the Chinese market and has continued to reinforce sales activities in those markets. In 2014, by securing IT and Non-IT market leadership in Chinese regions, Samsung SDI has increased rapidly by more than 60% when compared to 2013. This is a result of Samsung SDI's careful analysis and concentration of resources and capacity on market changes.

#### Expanding market of rechargeable battery for new applications

As the distribution rate of smartphones increases, the demand for feature phones\* has fallen, but Samsung SDI read and preemptively responded to the trends of the beginning of IoT (Internet of Things) era, expansion and growth of wearable devices, and the high potential of new applications in the non-IT field. For example, the company launched the sales of rechargeable batteries for wearable devices like smart watches. In addition, Samsung SDI focused on discovering and nurturing the new device market in the world's rechargeable battery market and reached the top position in the power tool market, and has marked 61% growth in rechargeable batteries for e-bikes.

\*feature phone: relatively low-priced and low-tech mobile phones compared to smart phones

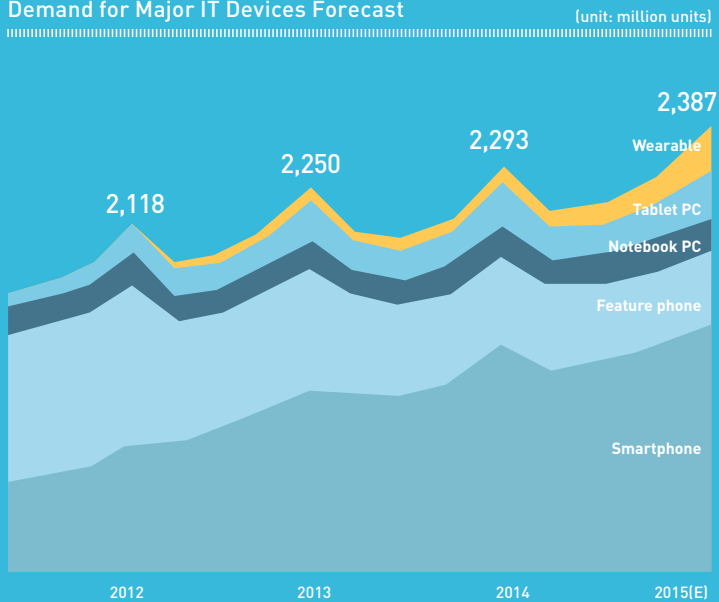
## Market Outlook and Sustainable Growth Strategies

### Market Outlook

In 2015, the demand for Small-Sized Li-ion Batteries is expected to grow by 8% from the previous year to reach 5 billion cells. With the rapid growth of IoT (Internet of Things) environment where various devices are connected to one another via internet, the demand for smartphones and smart watches is expected to increase greatly by 16% and 57% respectively in the IT field.

In the field of non-IT, the lithium-ion rechargeable batteries for new applications are expected to grow continuously by more than 25% compared to the previous year. Therefore, Samsung SDI plans to lead innovative technologies in all realms of IT and non-IT rechargeable batteries, and thereby strengthen its market leadership.

Demand for Major IT Devices Forecast



	2014	2015(E)	CAGR(2013~2015)
Wearable**	71	136	61%
Tablet PC	226	235	6%
Notebook PC	176	176	-0.4%
Feature phone	605	485	-23%
Smartphone	1,215	1,355	15%

\*source: Samsung SDI Small-Sized Li-ion battery business division, Grartner, IDC, S.A

\*\*wearable: healthcare wearables, active cameras, Fitnessband, Smartwatch

### 2015 Business Plans

Samsung SDI will continue its management strategies from 2014 and aggressively promote new technologies such as energy density, rapid charging, and IoT batteries in the Chinese and other emerging markets. Through such promotions, Samsung SDI plans to fortify its leadership in emerging markets while it continues to expand the Small-Sized Li-ion Battery market. Propelled by the endeavors to respond to new demands for rechargeable batteries in next-generation market, including wearable devices, non-IT, and new applications, Samsung SDI will continue its sustainable growth.

## BUSINESS CASE. 1

### Introducing flexible batteries to the world for the first time

The flexible battery introduced to the world for the first time by Samsung SDI is not only bendable, but also roll-able which is perfect for the era of the wearable devices.

Equipped with Samsung SDI's flexible structure design technology and material technology, these flexible batteries work properly after going through tens of thousands of bending tests within the range of curvature of a paper cup.



Flexible battery developed by Samsung SDI

## BUSINESS CASE. 2

### Lithium Battery Pack for Golf Carts

Conventional batteries such as lead acid batteries faced problems such as degradation in low temperature during winter and frequent refills of electrolyte. The Lithium battery pack for golf carts introduced by Samsung SDI in 2014 eliminated these problems. In addition, its light weight allows golf carts to climb uphill easily and have greater fuel efficiency. It is economically feasible to change to lithium battery since the initial cost to change can be canceled out within 3 years, considering the maintenance cost for conventional lead acid battery. Propelled by successful entry to golf cart industry, Samsung SDI plans to expand its business to small delivery vehicles.



Golf Car



Utility Vehicle



Automatic Guided Vehicle (AGV)



Aerial Work Platform



E-Scooter



Industrial Cleaner



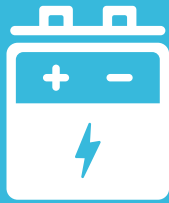
Lawn Mower



Forklift



Lithium-ion battery pack for various usages



## Automotive and ESS Batteries

### Automotive Batteries

### Automotive Battery

#### Developing future growth engines, eco-friendly & clean energy solutions

Samsung SDI has focused on developing battery technologies for low carbon vehicles and has realized its vision in the business of eco-friendly and clean energy solutions. By developing highly efficient, large capacity lithium-ion battery and providing them to automotive companies, Samsung SDI has minimized CO<sub>2</sub> (carbon dioxide) and other air pollutants from internal combustion engines to be economical and environment-friendly and realize sustainability. Samsung SDI will continue to develop unique and innovative products through the unceasing pursuit of research and development.



Automotive Batteries cell produced by Samsung SDI

### Major Business Achievements in 2014

#### Increasing Automotive Batteries Orders

By receiving orders from major enterprises of the world, Samsung SDI is pursuing growth and increase in profitability. In addition to its supply of automotive batteries for EV (Electric Vehicles) to BMW and Chrysler, Samsung SDI signed an MOU with BMW to expand its supply of EV battery cells, boosting its competitive edge.

In particular, in the efforts to penetrate the global market, Samsung SDI participated in motor shows such as Auto China and North American International Motor Show and invited its customers to events and top meetings to strengthen its relationships with major automotive OEM companies.

#### Securing future technologies

Samsung SDI continued its efforts to secure future technologies through various activities, including signing contracts with world's major companies to supply batteries and cooperating to develop technologies together. Its technology was recognized through BMW's i3, i8 and Chrysler's F500e equipped with Samsung SDI's automotive batteries for the first time. In addition, Samsung SDI has a full range of solution technologies from battery cells to modules and packs, as demonstrated in its development of a low-voltage system. In May 2015, Samsung SDI acquired world-wide automotive supplier, Magna International's battery pack business to establish a foothold to increase its market leadership.



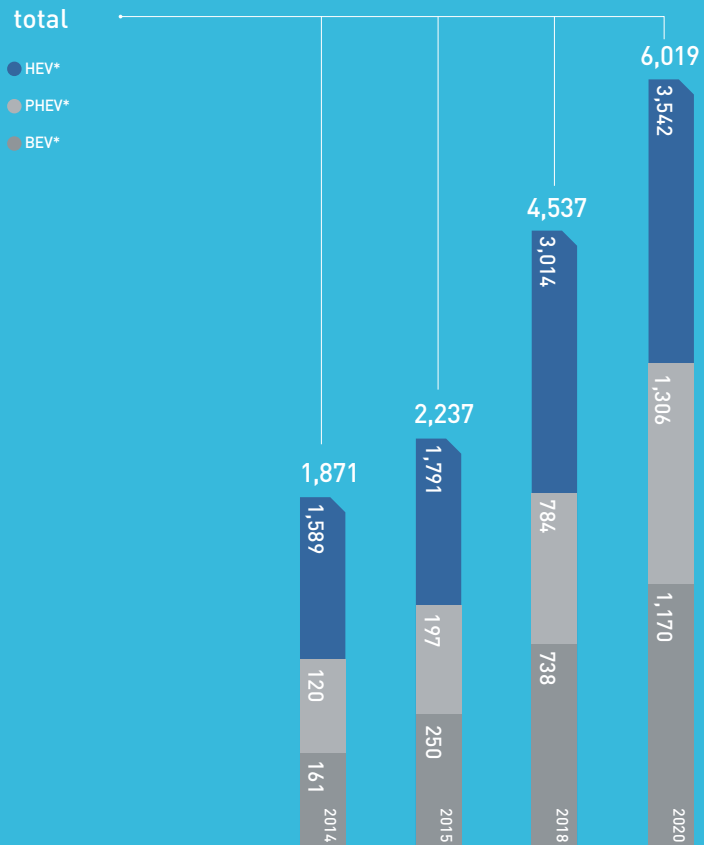
## Market Outlook and Sustainable Growth Strategies

### Market Outlook

As the EV (Electric Vehicles) market is expanding substantially, various OEM companies are introducing automobiles with eco-friendly concepts in high qualities at major motor shows in 2015. In addition to BMW's i3 and i8, Nissan's Leaf, and Chevrolet's Volt which are already on sale, other major automobile companies in the US, Japan, and Europe are planning to launch new EV models. Therefore, the demand for EV is expected to increase by 20% from the previous year to reach 2.23 million units. Also, in 2015, the number of PHEV models is expected to grow and the number of HEV models centered on Japanese automobile companies is expected to grow steadily. European automobile companies are expected to launch more PHEVs and EVs, including Volkswagen's Passat PHEV, BMW's X5 PHEV, Audi's Q7 PHEV, Daimler AG's C Class PHEV, and Tesla's Model X EV.

### Automotive Battery Market Outlook

[unit: 1,000 vehicles]



\* HEV(Hybrid Electric Vehicle) \* PHEV(Plug in Hybrid Electric Vehicle) \* BEV(Battery Electric Vehicle)

\* source: B3

### 2015 Action Plans

In 2015, Samsung SDI plans to maximize its market dominance over the European and North American markets and actively tap into emerging markets including China. In addition, the company plans to develop products that secure its leadership in improving the driving range of EVs, to innovate its manufacturing processes, and to improve quality management system to strengthen competitive edge. Samsung SDI also vows to lead the global EV market through its stronger R&D competitive edge for high energy-density and long-life battery and differentiated cost competitive edge.

## BUSINESS CASE. 1

### Signed an MOU with BMW on EV batteries

In July 2014, Samsung SDI signed an MOU with BMW to expand its supply of EV batteries and develop next-generation battery materials together. Through this MOU, Samsung SDI solidifies its partnership with BMW and is expected to hold a dominant position in future EV battery technologies.



BMW i3 equipped with Samsung SDI's battery

## BUSINESS CASE. 2

### Acquiring Magna International's Battery Pack Business

In May 2015, Samsung SDI acquired 100% stake of the affiliate company of Magna Steyr specialized in battery, MSBS(Magna Steyr Battery Systems gmbH). The acquisition is expected to enhance Samsung SDI's capabilities in batteries for electric vehicles by combining the company's established leadership in battery cells and modules with Magna's expertise in battery packs. Since MSBS is known for its world-class battery pack business, Samsung SDI is now a step closer to become No.1 in the global EV battery market.



MSBS(Magna Steyr Battery Systems)



## Automotive and ESS Batteries

Energy Storage  
System

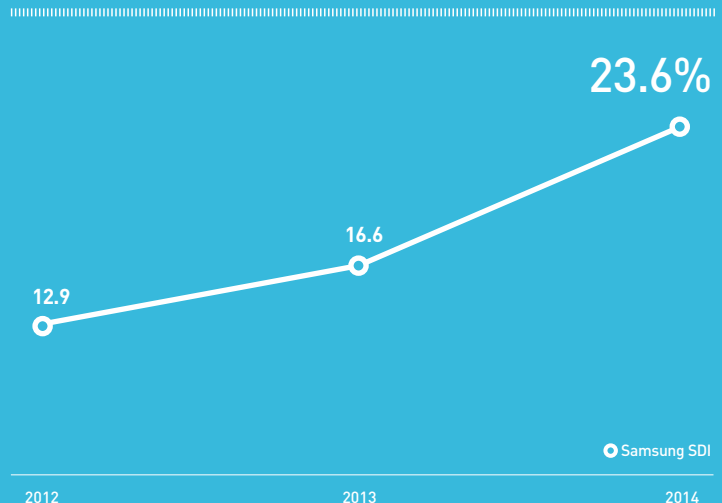
### Energy Storage System

#### Securing Future Growth Engine, Eco-friendly & Clean Energy

Based on world's best technology on Small-Sized Li-ion Battery, Samsung SDI started pursuing ESS business in 2011. Propelled by its world-best stability in rechargeable batteries, Samsung SDI was able to claim the No.1 position in only three years into the business. Its reliability of ESS quality has been improved as Samsung SDI chose to use the same battery that is provided to BMW EVs to its ESS. In addition, the company was able to pioneer various markets, including the electric and residential market in Europe, commercial market in the US, and residential market in Japan, by providing solutions customized for each country faster than its competitors. As a result of such endeavors, the market share of Samsung SDI in global ESS market was 23.6% and thus gained No.1 position in the third-quarter of 2014.

\*ESS: Energy Storage System

#### Lithium-ion ESS Market Share



\* Source: B3, result for ESS & UPS market outlook (announced in 2014)

### Major Business Achievements in 2014

#### Expanding ESS Market

The residential ESS products for Europe that Samsung SDI launched in 2014 are actively sold by the company's partners, including Hanwha Q-CELL and Sharp. In Korea, Samsung SDI completed its large supply to Korea Electronic Power Corporation's demonstration project for Frequency Regulation (FR) ESS batteries in an effort to dominate the Korean market as a leader. In addition, Samsung SDI pushes itself further to bring up the level of its marketing strategies to pioneer and dominate emerging markets. For example, Samsung SDI signed an MOU with ABB, the global power and automation technology company, to develop micro grid ESS\* business in 2015, gaining a foothold in pioneering new ESS market. In 2014, Samsung SDI built a foundation to enter the Chinese ESS market by establishing a joint venture with Sungrow, the No.1 PV inverter company in China.

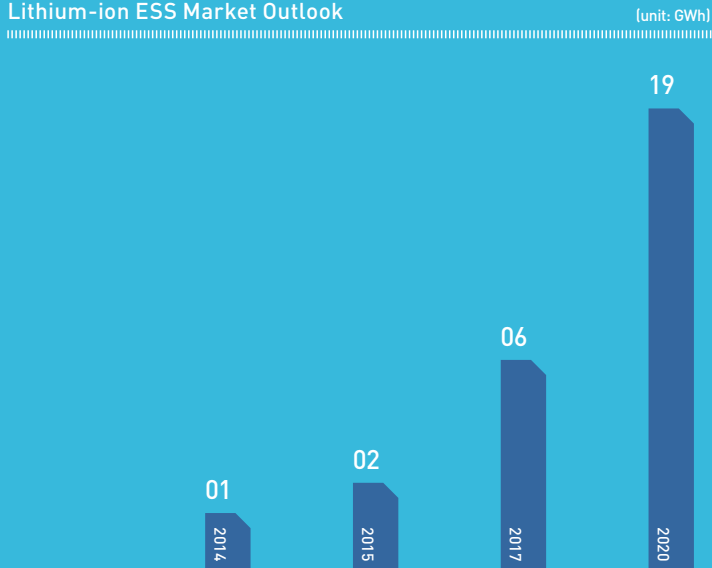
\* Micro grid ESS: A combination of new renewable energy and ESS which is used in places that are difficult to use existing electrical grid such as island and mining regions and it is now expanded to be used in schools and public institutions

## Market Outlook and Sustainable Growth Strategies

### Market Outlook

Advanced countries, including the US, Europe, and Japan are already carrying out large-scale demonstration projects initiated by their government to supply ESS, and the countries are encouraging their people to setup ESS by launching ESS installation subsidies and making ESS installation mandatory. The ESS market of the US has grown more than that of any other countries with the help of subsidies for installation and bills making it mandatory. The government of Japan and that of Germany are also launching subsidies to create ESS market. It is expected that the ESS market will fully grow in 2017 powered by its profitability and is expected to grow into 19GWh scale in 2020.

### Lithium-ion ESS Market Outlook



\*source: B3

### 2015 Action Plans

In 2015, Samsung SDI will continue its effort to keep its largest market share in the Japanese residential ESS market while increasing sales in North America and Europe. In addition, the company plans to aggressively target the Chinese market based on the joint venture. By launching innovative residential and electrical products, Samsung SDI intends to solidify its position as a leader in ESS market. Moreover, the company will play the role of a technology-driven company that creates business through development of large-output Frequency regulation (FR) products for KEPCO (Korean Electric Power Corporation) and technology that combines UPS\* and UES\*.

\*UPS(Un-interrupted Power System)

\*UES: UPS+ESS SYSTEM



UES installed at Uiwang Site

## BUSINESS CASE. 1

### Targeting Microgrid ESS Market through alliance with ABB

In an effort to expand ESS business, Samsung SDI signed an MOU with Swiss ABB, a world-leading power and automation company, to join forces to develop and sell ESS solutions.

The MOU is especially meaningful as Samsung SDI builds a solid foundation to leap forward to achieve No. 1 position in micro grid ESS market. Samsung SDI will utilize its lithium-ion battery technology and ABB's technology, including PCS and EMS that connects Samsung SDI's batteries to electrical grid, to create and offer optimized ESS solutions.



Signing MOU with ABB for micro grid business cooperation.

## BUSINESS CASE. 2

### Establishing joint ESS venture with Sungrow in China

In an effort to enter the Chinese electrical ESS market, the biggest market of a single country, Samsung SDI completed signing a contract to establish a joint venture with Sungrow in China. The joint venture which will be established in 2015 will be responsible for developing, manufacturing, and selling electrical ESS battery packs and systems, and its management goal is to reach 30% market share in China. Starting from the joint venture, Samsung SDI will continue to make efforts to lead the Chinese ESS market.



Establishing joint ESS venture with Sungrow in China



## Electronic Materials

### Electronic Material

#### Increasing market dominance through advanced technologies and specialized business capabilities

Samsung SDI first stepped into electronic material business by developing EMC\*, material for semiconductor, in 1994. Now, the company exhibits world's top-class competitiveness based on its advanced technologies in semiconductors, displays, rechargeable batteries, and materials for solar batteries, and its specialized competence. Especially, after continuously investing in researching and developing materials for promising OLED displays, Samsung SDI successfully mass-produced ETL (Electron Transport Layer) in 2013 and independently develop phosphorescent green host in 2014. The company also invests its competence in separator, which is the core material for rechargeable batteries, and in PV paste which is used for solar batteries, the eco-friendly new and reusable energy.

Our efforts above led to continuous growth in financial performance since our foundation in 1994. Based on the market share as of 2014, five products including two semiconductor materials, SOH and SOD, are ranked in Global Top 3, and we further plan to achieve Global Top 1 for the five products by 2020. In addition, we will not only enter promising market such as flexible display material which is to be installed in next generation mobile device, but also seek for continuous growth with Global Top clients through close cooperation.

\*EMC: packaging materials to protect semiconductor circuits from external environments, including moisture, heat, and shock

\*SOH: helps circuit to transfer properly to desired membrane for detailed patterns

\*SOD: materials to insulate between different areas or layers within a semiconductor device

### Major Business Achievements in 2014

Samsung SDI has focused on creating high-quality business structure for sustainable growth by choosing and staying focused for few areas. Thanks to its entry to new market of polarizing films, and increasing sales of SOH (semiconductor material) in 2014, Samsung SDI was able to achieve similar sales amount compared to that in 2012, while the number of business areas was decreased. In addition, Samsung SDI was successful to be the first Korean company to mass-produce key light-emitting material for OLED, Phosphorescent Green Host, through a joint research and synergy created with Novaled, a German OLED material company that Samsung SDI acquired in 2013 to gain competitive edge in OLED business.

## Market Outlook and Sustainable Growth Strategies

### Market Outlook

As the major market demands of televisions and smartphones are expected to grow steadily, Samsung SDI is expecting stable growth in these markets. The market for materials for semiconductors seems promising as memories and overall business are expected to boom. Especially, the increase in sales of Chinese companies' smartphones, server changes for PC, and increasing cloud service will increase the demand for memory semiconductors centered on DRAM for mobile and server and NAND flash memories. For display business, the increasing demand for large LCD panels over 50 inches and UHD TV are expected to lead to a stable growth. However, it is necessary to secure differentiated technologies, reduce cost, and diversify customer responses as standardized and generalized process technology is expected to spark fierce competition.

### Demand Outlook for 5 Major Items

(unit: KRW 100 million)

	2014	2015	2017
POLARIZING FILM	102,000	102,000	103,000
CR	11,000	11,000	12,000
SOH/SOD	5,200	5,700	6,800
PASTE	11,000	14,000	15,000
OLED	4,400	4,700	6,500
<b>Total</b>	<b>133,600</b>	<b>137,400</b>	<b>143,300</b>

\*source: Samsung SDI Electronic Materials

### 2015 Action Plans

In 2015, Samsung SDI plans to solidify its market dominance in existing markets by launching differentiated products based on cutting-edge technologies. In addition, the company will focus on technology competitiveness and marketing competence to gain competitive edge in promising next-generation markets. For semiconductor materials and display materials, Samsung SDI intends to secure its competitive edge in existing market by preemptively launching better products compared to those of competitors while developing specialized products. For separators for rechargeable batteries and OLED materials, the company will enlarge its business as the smartphone and wearable device market and premium TV market are expected to grow continuously. In addition, Samsung SDI plans to build a system to provide flexible display materials in timely manner to lead the next-generation mobile device market.

## BUSINESS CASE. 1

### Mass-producing high value-added Phosphorescent Green Host

Samsung SDI has begun to ship 'Phosphorescent Green Host(PGH)', key material for OLED's light-emitting layer- at Gumi plant from April, 2014. Samsung SDI started developing PGH, key material that emits green light at emission layer, in 2012 and in just two years the company became the first Korean company to mass-produce PGH successfully and autonomously. PGH is expected to be used for wide a range of products, including smartphones and display products.

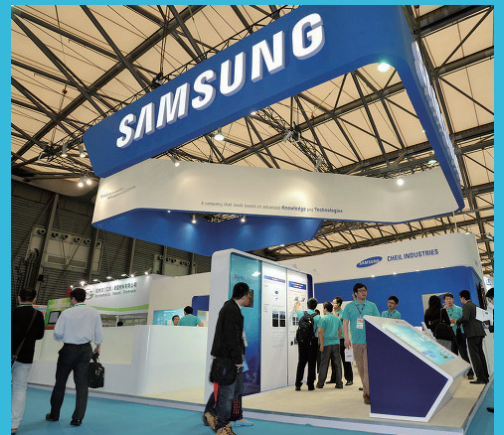


Phosphorescent Green Host(PGH)

## BUSINESS CASE. 2

### Targeting the Chinese solar material market

Samsung SDI introduced PV Paste, electrode material for solar cells, in SNEC Power Expo 2014 held in Shanghai, China. Samsung SDI's PV paste products achieved superiority in efficiency and materiality than those of competitors, and it plans to dominate the largest solar cell market, China, using such advanced technologies. Meanwhile, PV Paste market is expected to grow largely as the solar market is expected to grow by more than 15% per year, from 43.6GW in 2014 to 83.8GW in 2020 according to SNE Research.



Samsung SDI's booth at SNEC Power Expo



## Chemicals

### Chemical

#### Providing innovative products through analysis of customer needs and technological competitiveness

Since its commencement of chemical business in 1988 by developing synthetic resins, including ABS\* and PC\*, Samsung SDI Chemicals has been strengthening its competitive edge by diversifying its business portfolio, which includes artificial marble (construction material) and high value-added synthetic resins, EP (Engineering Plastic). The company established a business structure pivoting around high value-added EP products by completing constructing PC plant 2 in 2012 in addition to its PC plant 1 in Yeosu Plant in 2008. The company strives to raise its global competitiveness by targeting overseas markets and improving manufacturing competence. In addition, Samsung SDI makes a great effort to cut cost through enhancing production competitiveness and improving design competence to provide differentiated products to various customers.

\*ABS: often used to replace metals for interior and exterior of automobiles because it is easy to manufacture and highly resistant to shocks, heat, chemicals, and weather.

\*PC: engineering plastic with high transparency and shock resistance often used for automobiles' headlamps and rear lamps

### Major Business Achievements in 2014

#### Strengthening automotive material development and establishing production system for construction materials

In 2014, Samsung SDI created automobile business team to strengthen its foundation to expand its automotive resins business and established a 100-million-selling system by increasing its investment. In addition, by pursuing differentiated strategies varied by the usage, product, and customer, Samsung SDI was able to broaden the range of high value-added products for electric, electronic, and automotive materials. For automobile material business, meanwhile, the company has focused on strengthening the partnership with automobile companies such as Ford and Volkswagen while increasing sales channels by providing products differentiated for each client: exclusive approval of non-coated materials and approval of ASA (Acrylic Styrene Acrylonitrile, highly weather-proof material) for Ford Motor Company and Hyundai Motor Company, and exclusive application of PC/PET grill parts for Audi's new models.

#### Developing differentiated products

Samsung SDI has been developing personalized products for customers by enhancing its design competence. As the emotional values based on emotional experience of customers are becoming more important, Samsung SDI is boosting its added values by developing differentiated products such as 'emotional materials'.



[More information on emotional materials can be found on page 35 of this report.](#)

## Market Outlook and Sustainable Growth Strategies

### Market Outlook

In 2015, the increase in demand for electric, electronic, and automotive materials powered by world's economic recovery is expected to improve the demand for general resins such as ABS and EP resins such as PC, PC/ABS. The demand for ABS is expected to grow as the middle classes in developing nations enlarge and the US recovers its economy. Because of its various applications to IT devices, the demand for PC is also expected to increase. Meanwhile, the design tendency of being different, smaller, and lighter is expected to propel the demand for EP resins that can realize differentiated functions and exteriors, and alternative products for metal to make automobiles lighter.

Plastic Synthetic Resins (ABS, PC) Demand Forecast (unit: 10 kiloton)



\* Source: Samsung SDI Chemicals

### 2015 Action Plans

In 2015, Samsung SDI plans to improve its profitability by increasing the portion of high value-added products and boosting manufacturing competitiveness. In addition, the company will actively pursue new business such as automotive materials to diversify the existing business structure that weigh heavily upon cladding materials for IT products and therefore, gain new growth engines. In addition, Samsung SDI will operate stabilized business by differentiating its products through development of new material, EP resins, and strengthening partnership with global electric and electronic companies and automobile industry.

## BUSINESS CASE. 1

### Winning Gold Prize in material category at SPE Awards held in the US

Samsung SDI became Korea's first company to win a Gold Prize for material category at the 44th SPE (Society of Plastics Engineers) Automotive Innovation Awards held in the US. This non-coated metallic material, which won the prize, does not require a coloring process since it has a natural color. Since it is non-coated it does not get peeled or scratched and its high durability against the sun prevents it from discoloration. Its elegant metallic tone, cost efficiency with eliminated coloring process, and eco-friendly effects received high remarks. The award proved Samsung SDI's competence not only to the US, but also to the global market, and the brand value is expected to rise accordingly.

\* SPE (Society of Plastics Engineers Inc): Founded in 1942, it is the biggest association and academic circle in the plastics industry that collects, assesses, and shares information about innovative and creative technologies in plastic products, production processes, equipments, and designs.



Samsung SDI's non-coated metallic material applied to interior of Ford's Mondeo

## BUSINESS CASE. 2

### Completing Dongguan Plant in China

In May 2014, Samsung SDI completed a high value-added engineering plastic plant in Dongguan, Guangdong, China and started its mass production. The annual production capacity of Dongguan Plant is 27,000 tons, mainly of high value-added EP. The demand for synthetic resins in China is expected to increase by 20% in 4 years, and Samsung SDI is more responsive than ever to supply the Chinese market as it successfully secured a production location in southern China where the largest market is located.



Dogguan Plant in China



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Engagement &  
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**5**

Structuring a  
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# MATERIAL ISSUES

**6**

Securing Global  
Shared-Growth  
Competitiveness

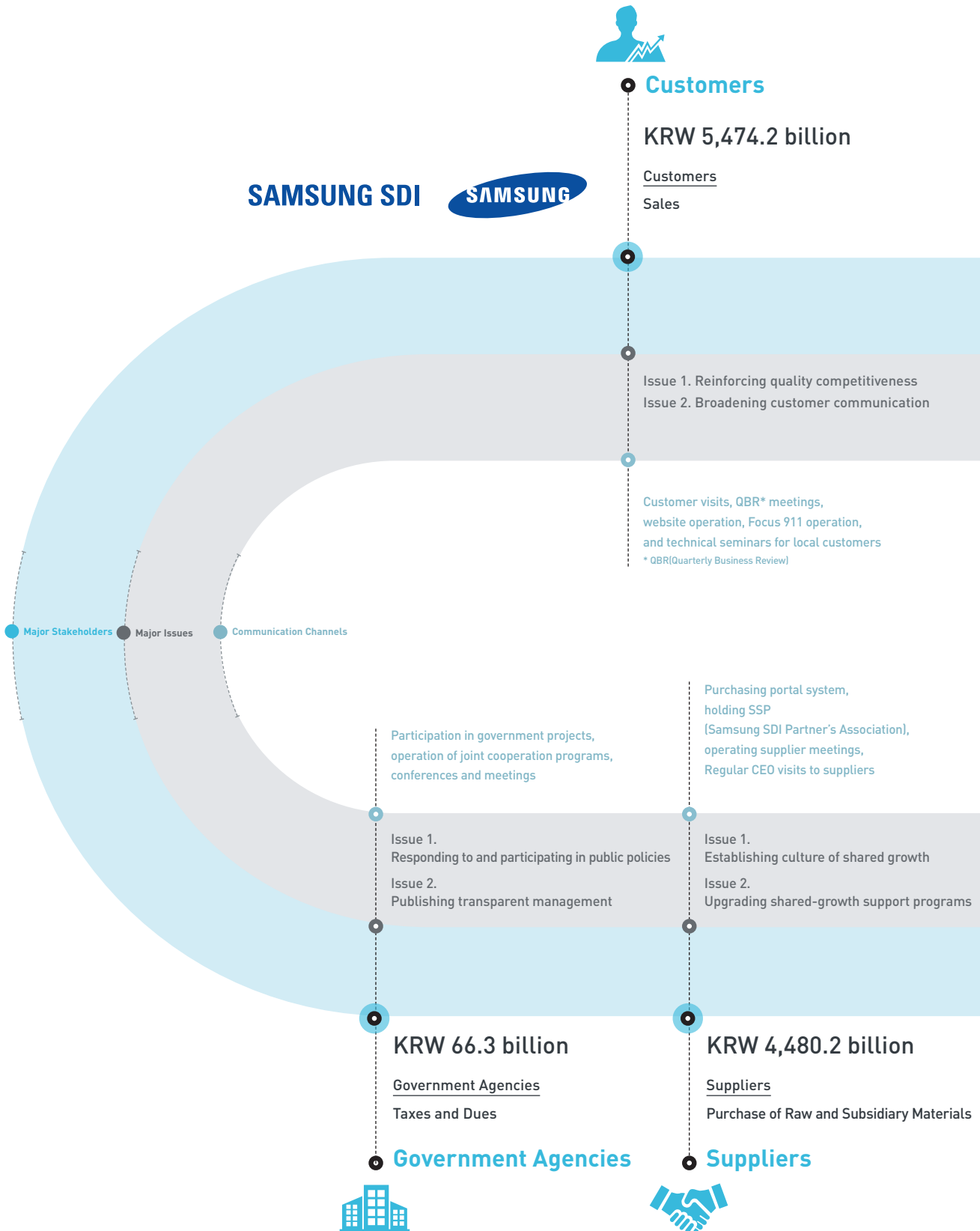
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**7**

Creating Shared  
Value with Local  
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# Stakeholder Engagement & Materiality Test



## Stakeholder Engagement

Samsung SDI defines customers, shareholders, investors, employees, suppliers, government agencies, industry associations, research institutes, NGOs, and local communities that directly and indirectly affect its business operations as its stakeholders. Samsung SDI operates various communication channels to gather opinions from its stakeholders.

### Sharing Values with Stakeholders

Samsung SDI shares the economic, environmental, and social values it created with its stakeholders. The company strives to share more values with its stakeholders through the pursuit of balanced growth and stability. Based on such efforts, Samsung SDI is growing together with its stakeholders.



### Local Communities & NGOs

**KRW 9.8 billion**

#### Local Communities

Donations and Social Contribution Support

Issue 1. Carrying out steady social contribution programs  
Issue 2. Facilitating communication

Local community meetings, social contribution initiatives, win-win Committee for the local community, external advisory group, sisterhood relationships



### Employees

**KRW 741.9 billion**

#### Employees

Wage and Welfare Benefits

Issue 1. Facilitating communication  
Issue 2. Maintaining work-life balance

Labor-management committee, open counseling center, business briefing sessions, satisfaction surveys, Culture Leader operations, communication channels (SoTong), newsletters publications

General shareholder meetings, IR roadshows, IR website, IR Hotline, disclosures, line tours, conferences, Ad-hoc meetings

Issue 1. Securing sustainable growth engines  
Issue 2. Improving company values

**KRW 131.1 billion**

#### Shareholders & Investors

Dividends and Interest Payment

### Shareholders & Investors



Membership activities for associations and societies such as Korea Battery Industry Association and Korea Display Industry Association, Open Innovation for R&D activities, conducting joint cooperation programs

Issue 1. Strengthening R&D cooperation  
Issue 2. Carrying out joint cooperation programs

**29 projects**

#### Industry Associations/Universities/Research Institutes/NGOs

Major Joint Cooperation Projects

### Industry Associations/Universities/Research Institutes/NGOs



## Materiality Test

Samsung SDI conducts a materiality test every year to choose the issues to be included in its sustainability report. The materiality of issues was assessed based on Significance on Samsung SDI's business and Influence on stakeholders' assessment and decision-making.

**STEP 1.**  
**Communicating with Stakeholders**

Each department responsible for sustainability management, actively gathers stakeholders' opinions through various communication channels to comprehend their needs.

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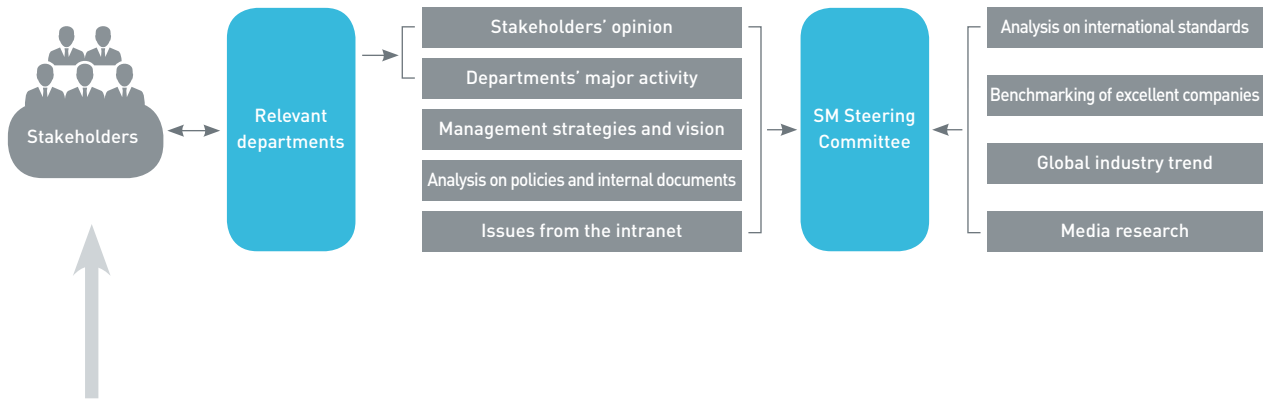
**STEP 2.**  
**Reviewing and Analyzing Internal Data**

Samsung SDI's SM (Sustainability Management) Office draws issues by interviewing each department, analyzing management strategies and reviewing policies and internal documents by sections.

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**STEP 3.**  
**Analyzing External Environments and Benchmarking**

On the basis of the Aspects defined by GRI G4 Guidelines, Samsung SDI reviews international standards, including ISO 26000 and DJSI, benchmarks similar companies and other companies with excellent sustainability management, analyzes global industry trends, and conducts media research to analyze external environments and draw out issues.



**STEP 7.**  
**Stakeholder Communication**

- SM (Sustainability Management) Office and relevant departments review the material together and report to SM Steering Committee and the board of directors.
- After gathering opinions of external stakeholders through research of feedback and interviews, the strategies and goals for sustainability management are reestablished.

**STEP 6.**  
**Reviewing the Validity of Material Aspects and Developing Reports**



Review selected material issues based on whether they represent an economically, environmentally, and socially-significant impact in a reasonable and balanced manner. Then, proceed to collect data, write, and publish the report.

#### STEP 4.

##### Identify the Pool and Sustainability Management Issue

Based on the opinions collected from internal and external stakeholders, and analysis of external environments, 33 issues that have the potential to affect Samsung SDI are chosen.

#### STEP 5.

##### Prioritizing and Conducting Material Issues

- The potential issues goes through a Materiality Test to be prioritized based on Significance\* to business conducts and Influence\* to stakeholders.
- In conducting the Materiality Test, GRI-suggested procedures were undertaken to define material aspects and boundaries.

\* Significance: positive or negative impact on Samsung SDI's vision and strategy execution capabilities

\* Influence: Influence on stakeholders' assessment and decision-making



Material Issue	Page	Issue	GRI Aspect	Boundary
Securing Global Leadership in Technology	32-37p	Developing innovative products	Non-GRI	Internal
		Healthy and safe workplace	Occupational Health and Safety	Internal
Creating Safe Workplace and Eco-Value Creation	38-43p	Eco-friendly products and services	Materials, Products and Services	Internal
		Managing atmospheric emissions	Energy, Emissions	Internal
		Managing chemical substances	Water, Effluents and Waste	Internal
		Structuring healthy and dynamic corporate culture	Non-discrimination, Diversity and Equal Opportunity	Internal
Establishing Healthy and Dynamic Corporate Culture	44-47p	Employees' work-life balance	Employment	Internal
		Facilitating labor-management communication	Labor/Management Relations, Freedom of Association and Collective Bargaining	Internal
Securing Global Shared-Growth Competitiveness	48-51p	Securing Global Shared-Growth Competitiveness	Investment, Procurement Practices, Anti-competitive Behavior	Internal and External
Creating Shared Value with Local Communities	52-55p	Facilitating communication with local communities	Local Communities, Indirect Economic Impacts	Internal and External
Others	12-13p	Generating positive synergy powered by merger	Economic Performance	Internal
Others	14-23p	Tapping new markets	Non-GRI	Internal

# Our Material Issue Approach

5 Material Issues	Risks and Opportunities
 <p><b>Securing Global Leadership in Technology</b></p>	<p><b>RISK</b></p> <ul style="list-style-type: none"> <li>• Lowered quality and weakened competitiveness of business</li> <li>• Falling behind in competition due to incapability to satisfy customer needs</li> <li>• Substantial economic losses when investment does not return desired results</li> </ul> <p><b>OPPORTUNITY</b></p> <ul style="list-style-type: none"> <li>• Development of new market and pre occupancy of future markets through enhanced technology</li> <li>• Enhancement in brand values and acquisition of future customers underpinned by raised quality competitiveness</li> </ul>
 <p><b>Creating Safe Workplace and Eco-Value Creation</b></p>	<p><b>RISK</b></p> <ul style="list-style-type: none"> <li>• Incurring costs and damage in reputation in the event of untoward incidents</li> <li>• Increased demand for a company to disclose data on safety and environmental activities</li> <li>• Strengthened laws and regulations related to safety and environments</li> <li>• Imposed duty to reduce GHG(greenhouse gas)</li> </ul> <p><b>OPPORTUNITY</b></p> <ul style="list-style-type: none"> <li>• Minimized damage of human lives and property by preventing safety incidents</li> <li>• Sharing and spreading a culture of safety with employees, suppliers, and local communities</li> <li>• Enhancement of company value by obtaining various certifications related to safety and environment</li> <li>• Cost reduction through reduction in energy usage and GHG emission</li> </ul>
 <p><b>Establishing Healthy and Dynamic Corporate Culture</b></p>	<p><b>RISK</b></p> <ul style="list-style-type: none"> <li>• Losing outstanding workforce and employee demoralization</li> <li>• Decline of business efficiency caused by lack of communication</li> </ul> <p><b>OPPORTUNITY</b></p> <ul style="list-style-type: none"> <li>• Contribution to employees' competence and value improvement</li> <li>• Synergy created through communication and collaboration</li> <li>• Creative ideas and new business opportunities drawn from employee diversity including female employees</li> </ul>
 <p><b>Securing Global Shared-Growth Competitiveness</b></p>	<p><b>RISK</b></p> <ul style="list-style-type: none"> <li>• Increasingly stringent laws and regulations related to fair trade establishment and shared growth activities</li> <li>• Decline in company's reputation</li> </ul> <p><b>OPPORTUNITY</b></p> <ul style="list-style-type: none"> <li>• Directly enhancing suppliers' link to improve Samsung SDI's product competitiveness</li> <li>• Prevent economic, social, environmental risks from suppliers in advance</li> </ul>
 <p><b>Creating Shared Value with Local Communities</b></p>	<p><b>RISK</b></p> <ul style="list-style-type: none"> <li>• One-time or 'ostensible' social contribution activities are subject to be criticized</li> <li>• Damaging company image and brand image</li> </ul> <p><b>OPPORTUNITY</b></p> <ul style="list-style-type: none"> <li>• Establishment of a positive company image</li> <li>• Enhancing employee satisfaction and devotion through social contribution activities</li> </ul>

In an effort to become a world class material and energy solution provider, Samsung SDI proactively responds to changes of the future by analyzing constantly changing issues of the industry to identify risks and opportunities. Samsung SDI has selected 5 material issues that can impact the company's sustainability management and is implementing relevant activities in medium and long-term perspectives.

2014 Major Activities	2015 Goals	Page
<ul style="list-style-type: none"> <li>Strengthened R&amp;D infrastructure</li> <li>Implemented R&amp;D activities by each division</li> <li>Generated synergy in intellectual property rights</li> </ul>	<ul style="list-style-type: none"> <li>Continue expanding investment cost in R&amp;D</li> <li>Continue increasing intellectual property rights</li> </ul>	32~37p
<ul style="list-style-type: none"> <li>Strengthened safety management groups and systems</li> <li>Established a broader culture of safety</li> <li>Strengthened safety environment management at overseas sites</li> <li>Supported suppliers' safety management</li> <li>Developed eco-friendly technologies and products</li> <li>Operated eco-friendly business sites</li> </ul>	<ul style="list-style-type: none"> <li>Safety incident 'Zero'</li> <li>LED lighting installation rate: 100%</li> <li>Improve GHG emission intensity by 3% as compared to the previous year</li> </ul>	38~43p
<ul style="list-style-type: none"> <li>Shared healthy culture of cooperation</li> <li>Facilitated more communication</li> <li>Balanced work and life harmoniously</li> <li>Carried out activities to generate integrated synergy</li> </ul>	<ul style="list-style-type: none"> <li>Ratio of female managers: more than 7%</li> <li>Employee's grievance treatment rate: 98%</li> <li>Club subscription rate: 75%</li> </ul>	44~47p
<ul style="list-style-type: none"> <li>Strengthened infrastructure that carries out shared growth activities</li> <li>Established fair business relationship</li> <li>Established global low-carbon green partnership</li> <li>Operated Shared-growth program</li> </ul>	<ul style="list-style-type: none"> <li>Continue to increase total purchase from suppliers in shared-growth agreement</li> <li>Support second and third suppliers' innovative activities: 29 companies</li> <li>Keep payment date for small and medium-sized suppliers'</li> </ul>	48~51p
<ul style="list-style-type: none"> <li>Launched a social contribution brand</li> <li>Continued major social contribution initiatives</li> <li>Encouraged participation in voluntary works</li> </ul>	<ul style="list-style-type: none"> <li>Voluntary work participation rate: 92%</li> <li>Social contribution participation rate: 100%</li> <li>Time of voluntary work per person: 12.5 hrs.</li> </ul>	52~55p



## Securing Global Leadership in Technology

### *Why is This Material Issue?*

Due to diversified of Korea and abroad customer needs and intensified competition amongst companies, the importance of R&D competence has increased. Therefore, companies in and out of the country are investing money on R&D while expanding their intangible assets such as intellectual property rights in order to lay a foundation to generate revenue in the future.

In such circumstances, depending solely upon existing technologies and products may maximize short-term revenue and cash flow, but in the long-term, may lead to loss of opportunities to develop new markets and secure future growth engines. Specially, the businesses that Samsung SDI concentrate on such as non-IT prismatic batteries, electric vehicle batteries, OLED materials, and polymer batteries have great potential to grow. Therefore aggressive R&D exercises and investments are required to support this growth.

#### RISK

- Lowered quality and weakened competitiveness of Business
- Falling behind in competition due to incapability to satisfy customer needs
- Substantial economic losses when investment does not provide expected returns

#### OPPORTUNITY

- Development of new market and preoccupancy of future markets through enhanced technology
- Enhancement in brand values and acquisition of future customers underpinned by raised quality competitiveness

### *Our Approach*

As a world class material and energy solution provider, Samsung SDI secures new technologies and boosts technology competitiveness through steady investment in R&D. Especially with the merger with prev. Cheil Industries' materials business unit in July 2014, Samsung SDI looks forward to the convergence of synergy that breaks the boundaries between parts and material businesses. In addition, by expanding business to include advanced materials like electronic materials, chemicals, and parts, Samsung SDI now leaps into a company specialized not just in materials such as IT, Li-ion batteries, and automotive materials, but also in the field of energy.

In 2014, both the electronic materials division and Battery R&D Center moved into the Samsung Material Research Complex, creating a great R&D synergy. Samsung SDI will make steady efforts to secure leadership in global technologies by adding chemical division's material technology and competencies to the core structure of future energy business.



## How we create value?

### Strengthening R&D infrastructure



#### R&D Investments

Samsung SDI enhances its competitive edge through continuous investment in R&D. In 2014, the investment cost for R&D was KRW 620,517 million, which is 7.39% to sales.

#### R&D Group

Samsung SDI's R&D groups are operating within Battery R&D Center, Production Technology Center, small-sized Li-ion battery division, medium-to-large rechargeable battery division, chemicals division, and electronic materials division. All the groups collaborate with each other to strengthen Samsung SDI's global leadership in technology.

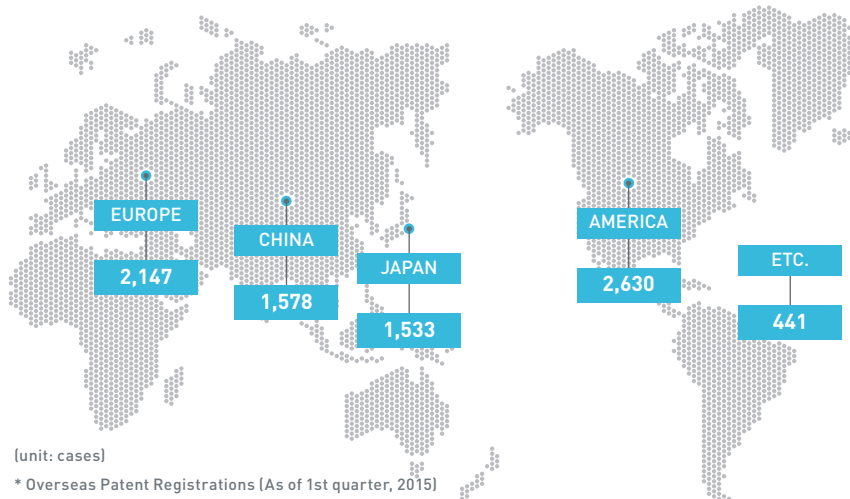
#### R&D Group

Battery R&D Center	Develop next-generation batteries (diversifying form factors, preoccupying flexible batteries, etc.)
Production Technology Center	Innovative line structure/operation efficiencies (maximizing production line investment efficiencies per unit)
Small-Sized Li-ion Battery Division Development Office	Strengthening strategic technology to widen the gap (Making first-class polymer batteries, differentiating premier materials, etc.)
Automotive and ESS Battery Division Development Team	Securing game-changing core technology in advance (performance/price)
Chemicals Division Development Team	Strengthening downstream technology platform
Electronic Materials Division Development Team	Developing and commercializing prior technology corresponding to inflection point of technology at proper time

#### R&D Experts

Samsung SDI has around 2,300 R&D experts, and the percentage of R&D employees with a Masters and/or Ph.D. degree is 39%. In order to strengthen the ability of R&D workforce, Samsung SDI operates a learning group where employees share their experience and knowledge. In addition, to nurture global talents, the company has increased its support for various systems, including academic training at site, in-house technology college, locally-led global talent nurturing center, global operation of educational portal, and dissemination of excellent contents. In 2013, Samsung SDI acquired global OLED material company, Novaled, and doubled its global R&D competence. Especially more than 60% of employees at Novaled have a Masters and/or Ph.D. degree and its number of patent applications are up to 530 cases. Novaled's original technology to maximize efficiency of materials in the transport layer and Samsung SDI's outstanding manufacturing and synthesizing capabilities are expected to work in harmony and create great synergy.

### BUSINESS CASE. Generating synergy in intellectual property rights



The merger between Samsung SDI and prev. Cheil Industries' material business unit has also combined their patents, and has created a foundation to generate patent synergy not just in battery materials but also in next-generation energy materials. Samsung SDI is pioneering the field of future business by discovering competitive patents, through in-depth support for major tasks in the area of next-generation batteries and materials.

Samsung SDI has filed a total of 59,498 patent applications in and out of Korea and maintains 14,668 registered patents as of the first quarter, 2015. With 8,329 registered patents in major markets, including the US, Europe, and China, Samsung SDI is fortifying its patent readiness in the global markets.

## Major R&D activities and performance

### Energy Solution

#### Establishing Battery R&D Center's Mid/long-term Strategies

Samsung SDI has established and has been operating mid/long-term strategies in order to secure product leadership. Based on established strategies, Samsung SDI plans to structure the scientific technology-HR management system built on big data to establish a 'Strong and Lively R&D Center'.

#### R&D Center's Mid/Long-term Strategic Directions

Develop technologies to overcome difficult problems	Discover growth engines	Accelerate securing core technologies
<ul style="list-style-type: none"> <li>• Develop high-performance battery materials</li> <li>• Develop technologies to pioneer new markets</li> </ul>	<ul style="list-style-type: none"> <li>• Develop flexible batteries</li> <li>• Develop next-generation batteries</li> </ul>	<ul style="list-style-type: none"> <li>• Implement Open Innovation</li> <li>• Operate R&amp;D efficiently</li> </ul>

#### Core Strategies

##### Enhance R&D competitiveness and drive success in future battery business

- ① Overcome technological limitations by developing new materials and innovative element technologies
- ② Develop batteries that correspond to the era of wearable devices and IoT (Internet of Things)
- ③ Discover sustainable growth engines by developing next-generation battery technologies

#### Strengthening R&D Partnership

In order to take a lead in the ever-changing technology and market environment, Samsung SDI has been strengthening its R&D partnership. Samsung SDI conducts joint R&D projects with domestic/international universities and research institutes, to develop forward-looking element technologies and commercialize them. In addition, the company expands its overseas R&D locations to structure a system where, all processes from development to completion can be taken care of locally. At the same time, Samsung SDI concentrates on technologies such as cutting-edge battery materials at the Samsung Material Research Complex while collaborating with other affiliated companies located in the complex to generate synergy.

#### Strengthening R&D in Li-ion Battery Material

Recently, the core of Li-ion battery market has moved from small-sized Li-ion batteries to medium-to-large Li-ion batteries, including automotive Li-ion batteries and ESS. As it is becoming more important to increase the driving range while charging electric vehicles, and to secure competitiveness in system solutions, Samsung SDI focuses on developing technologies that can overcome limitations of the current materials. As more devices are using Li-ion batteries, and the competition amongst companies intensifies, the company is increasing research and development on upgrading existing materials and new materials with high-capacity to maximize usage time of applications time and reduce charging time of Li-ion batteries.

#### Securing Various Technologies Related to Flexible Batteries

Recently, the interest in new wearable IT devices is growing steadily. The launching of innovative products, including healthcare wristbands, smartwatches and eyeglasses in various fields forecasts the potential growth of flexible battery business. In November 2014, Samsung SDI introduced not only 'bendable', but also 'rollable' flexible batteries to the world for the first time. This flexible battery is equipped with Samsung SDI's own flexible structural design technology and material technology. This flexible battery has undergone numerous bending tests and has proved to be successful. Samsung SDI will focus on perfecting the degree of completion of the product so it can be used for various wearable devices.

## Electronic Materials Division

Samsung SDI's electronic materials division has been developing premier materials for cutting-edge IT products, including semiconductors, displays, and next-generation energy products. The company mainly focuses on developing competitive products with innovative technology and stable quality. In 2014, Samsung SDI was able to develop high efficiency electrode paste, a deposition material for OLED with high efficiency and longer life-span, and next-generation CR material that can deliver high resolution. In 2015, Samsung SDI will continue to secure its leadership in the future premier materials by targeting not just existing markets but also next-generation markets through the development of OLED materials, next-generation polarizing films, and high-brightness CR.

## Chemicals Division

### Creating New Values with 'Emotional Materials'

When making a purchase, customers these days tend to choose 'emotional value based on emotional experience' over 'technology-driven usage value. Due to such customer tendencies, 'emotional material' that combines materials with heart-warming emotions is taking the limelight. In order to preemptively respond to such tendencies, Samsung SDI has developed a variety of materials including emotional material to be applied to its products, increasing the added values. As a result, three products of Samsung SDI won the Professional Concept category at 'iF Design Award' held in Germany in 2015. The products are 'tactile material' with enhanced tactile quality, 'paper-like material' with a texture similar to that of paper, and 'emotional material' with natural textures.



The 'iF Design Award' hosted by International Forum Design has selected and announced products with design excellence every year in Hanover, Germany since 1953 and is one of three major design awards.



#### Tactile Material

The material developed to generate 'sleek', 'crisp', and 'crunchy' feelings without a post-manufacturing process including painting.



#### Paper-like Material

Paper-like material delivers colors beyond the existing color classification, and fibers similar to that of paper.



#### Emotional Material

In order to bring-out the elegant quality of plastics, emotional material delivers natural colors and possesses natural textures of particles such as fabric and stone, thereby realizing innovation and creativity in materials.

## 2014 PERFORMANCE & 2015 TARGET



**7.39%**  
Ratio of R&D  
investment to sales



**14,668 cases**  
Status of obtained intellectual  
property rights\*

### TARGET 1

Continue expanding investment cost in R&D

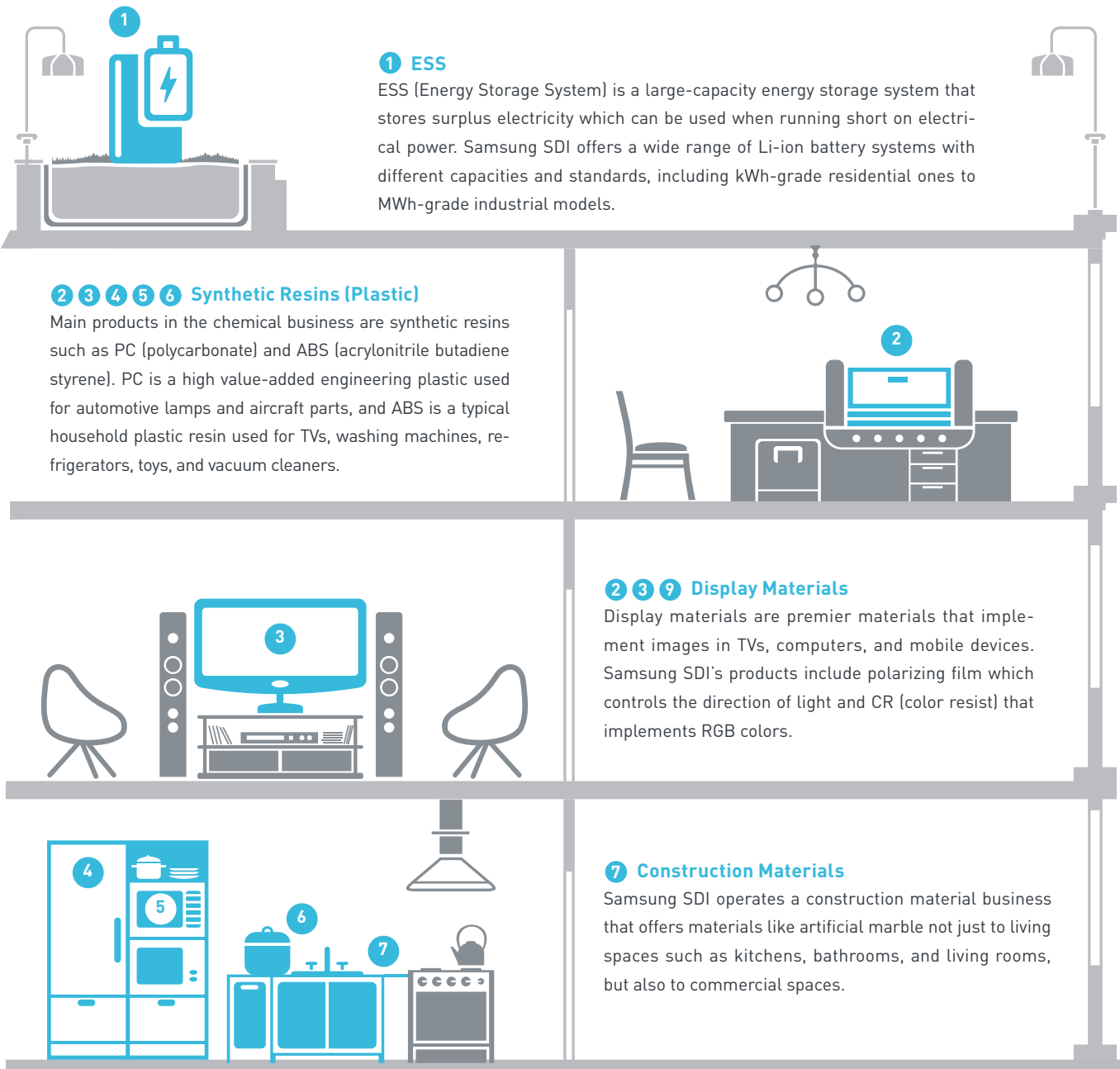
### TARGET 2

Continue increasing intellectual property rights

\* As of 1st quarter, 201

## Introducing Sustainable Products of Samsung SDI

Samsung SDI offers innovative products that understand the values of lives of customers and have eco-friendly values. Samsung SDI also strives to create better living and the company will continue to deliver sustainable products and values to its customers through innovations in technology and products.



### 1 ESS

ESS (Energy Storage System) is a large-capacity energy storage system that stores surplus electricity which can be used when running short on electrical power. Samsung SDI offers a wide range of Li-ion battery systems with different capacities and standards, including kWh-grade residential ones to MWh-grade industrial models.

### 2 3 4 5 6 Synthetic Resins (Plastic)

Main products in the chemical business are synthetic resins such as PC (polycarbonate) and ABS (acrylonitrile butadiene styrene). PC is a high value-added engineering plastic used for automotive lamps and aircraft parts, and ABS is a typical household plastic resin used for TVs, washing machines, refrigerators, toys, and vacuum cleaners.

### 2 3 9 Display Materials

Display materials are premier materials that implement images in TVs, computers, and mobile devices. Samsung SDI's products include polarizing film which controls the direction of light and CR (color resist) that implements RGB colors.

### 7 Construction Materials

Samsung SDI operates a construction material business that offers materials like artificial marble not just to living spaces such as kitchens, bathrooms, and living rooms, but also to commercial spaces.

### 8 Cutting-edge Materials for Automobiles

Samsung SDI builds a global competitive edge and a solid foundation for revenue by, providing a variety of materials for interiors and exteriors of automobiles, including ABS with added thermal resistance, and a non-coated metallic material which is less likely to peel and requires no painting process.

### 8 Automotive Li-ion battery

The necessity for highly efficient and eco-friendly automobiles is increasing and the interest for automotive batteries, the main power source of such vehicles is also growing. Samsung SDI develops and manufactures automotive Li-ion batteries to play a leading role in responding to such trends.



\*BMW i8(PHEV model)



Automotive Li-ion battery(Battery module for HEV)



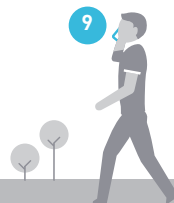
## Samsung SDI's small-sized Li-ion battery and materials for Samsung Electronics' Galaxy S6

### 9 Small-sized Li-ion battery

Major products that use Samsung SDI's small-sized Li-ion Batteries are IT devices like smartphones. Samsung SDI's polymer battery is thinner and it is easier to manufacture it in different forms that can be applied to various mobile and wearable devices. This was used for Samsung Electronics' Galaxy S6, launched in April, 2015.

### 10 Curved Batteries for Smartbands

Samsung Electronics launched 'Gear Fit' equipped with the world's largest-capacity 210mAh curved battery for smartbands, developed by Samsung SDI after its continuous investment in R&D. 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.





# Creating Safe Workplace and Eco-Value Creation

## Why is This Material Issue?

According to an internal analysis, one of the main reasons for untoward incidents was lack of safety awareness of the employees. Since Samsung SDI conducts its business at production sites and subsidiaries in 16 countries across the globe, raising employees' safety awareness and strict safety management at sites are critical. Meanwhile, global interest in environmental issues, including environmental pollution and global warming, has been increasing substantially. The demand for companies to disclose their environmental management data has increased and the scope of information it demands has also increased. In addition, there has been a growing tendency to apply such information to evaluate company values. As a world class material and energy solution provider, Samsung SDI has to strengthen its products' environmental competitiveness, and enhance the competitive edge and future value of the company through eco-friendly product development and service creation.

### RISK

- Incurring costs and damage to reputation in the event of untoward incidents
- Increased demand for a company to disclose data on safety and environmental activities
- Strengthened laws and regulations related to safety and environments
- Imposed duty to reduce GHG

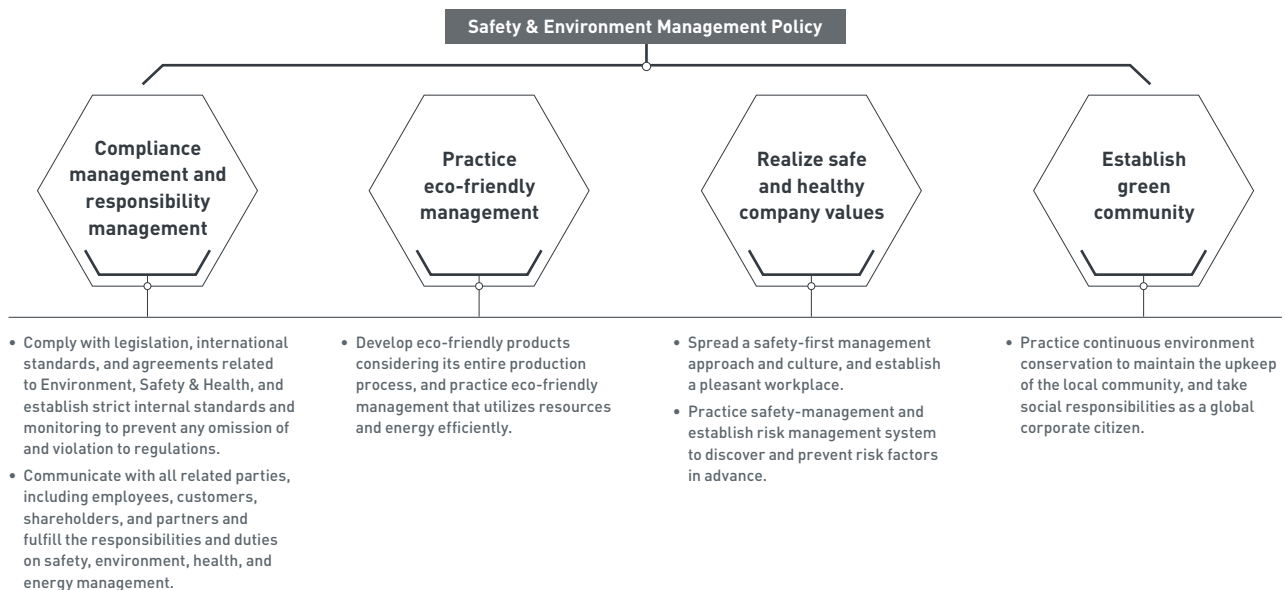
### OPPORTUNITY

- Minimized damage of human lives and property by preventing safety incidents
- Sharing and spreading a culture of safety among employees, suppliers, and local communities
- Enhancement of company value by obtaining various certifications related to safety and environment
- Cost reduction through reduction in energy usage and GHG emission

## Our Approach

Samsung SDI establishes eco-friendly and safe workplaces based on its CEO's volition saying, 'safe environment is the management's No. 1 principle.' Therefore, the company makes various efforts to minimize its impact on the environment while spreading the management and culture of safety as top priority. Samsung SDI will continue its efforts to create safe, healthy, and environmentally friendly working environment as a world-leading company.

### Safety & Environment Management Policy



## How we create value?

### Strengthening Safety Management Group and System

Chairperson	CEO
Members	President of strategy, CFO, Head of HR department, Head of business division, Head of business site
Secretary	Chief of EHS & Infra Team

To prepare and handle the risk of safety incidents and to create a safe work environment, Samsung SDI is strengthening its safety management system by reorganizing and expanding the scope of work by the department in charge of safety. EHS & Infra Team, which plays the role of a control tower for maintaining the entire environment, safety and health of both domestic and international businesses, conducts various initiatives including establishing, educating, supervising, and assessing the policies relevant to safety issues. In 2014, EHS & Infra team expanded its supervision to encompass the electronic materials division and the chemicals division. In addition, Samsung SDI holds Safety and Environment Committee for entire company and sites twice every year. The committee is responsible for establishing environment, safety and health management plans and goals, and sharing the result of its operation. Meanwhile, the main business sites of Samsung SDI run the Health & Safety Management System (OHSAS 18001\*) to strengthen its safety management procedures.

### Spreading a Culture of Safety, All in! All Safe!

#### Setting up a roadmap to establish a safety-driven culture

Samsung SDI sets up and operates a roadmap to establish a safety-driven culture which is the standard at every business site, and to minimize the number of safety incidents and disasters.

#### Roadmap to Establishing Culture of Safety (2015)

1 Step(first half) Set Standard	2 Step(first half) Set Mind/Training	3 Step(second half) Evaluation/Audit
<ul style="list-style-type: none"> <li>Reestablishment of standard management system (policy-&gt;rule-&gt;&gt;manual-&gt;SOP)</li> <li>Declaration of Safety &amp; Environment by the management</li> <li>Establishment of integrated Ground Rule</li> <li>Early establishment of site's responsibility system</li> </ul>	<ul style="list-style-type: none"> <li>Special education on Safety &amp; Environment for executives</li> <li>Incorporation of emergency drills</li> <li>Provision of educational program by each level of positions (Repetitive training/evaluation/review)</li> </ul>	<ul style="list-style-type: none"> <li>Diagnosis and assessment of culture of safety</li> <li>Assessment of safety performance (business site)</li> <li>Operation of Year-round Inspection group</li> <li>Enforcement of management and evaluation of suppliers</li> </ul>

#### Safety Culture Management

#### Declaration of Safety, Environment & Health Policy

After its integration with materials business unit, Samsung SDI established a company-wide safety & environment policy. In May 2015, Samsung SDI held a ceremony to declare and share the policy with the entire company. The CEO of the company has strengthened the resolve to comply with the approved management policy and signed the declaration.

#### Operating Year-round Inspection Group

Samsung SDI operates Year-round Inspection Group to continuously discover and respond to potential risk factors and to horizontally implement best practice cases. The Year-round Inspection Group consists of each site's workforce in the departments related to safety & environment, production, and infrastructure innovation. The group conducts self-inspection of its site every week and cross-inspection with other sites every month. The result of self-inspection goes to the chief of the respective site and that of cross-inspection is reported to CEO.

#### Year-round Inspection Roadmap

1 Step(until June, 2015) 'Improve inadequate inspection process'	2 Step(until Dec. 2015) 'Establish system and specialize workforce'	3 Step(2016) 'Embody year-round inspection'
<ul style="list-style-type: none"> <li>Implement inspection cycle 1</li> <li>Complete 6 business sites' cross-inspection</li> <li>Make improvements on inspection check-sheet</li> <li>Improve inadequate self-inspection of each business site</li> <li>Accumulate cross-inspection know-how</li> </ul>	<ul style="list-style-type: none"> <li>Establish a system to register and manage inspection results</li> <li>Organize and specialize workforce in charge of audits</li> <li>Upgrade inspection tool for five departments</li> <li>Horizontally implement best practice cases of each site</li> </ul>	<ul style="list-style-type: none"> <li>Announce and award site's best practice cases</li> <li>Enact Samsung SDI white paper</li> </ul>

### Safety Training

To prevent safety incidents and raise the awareness levels, Samsung SDI carries out site-specific safety training to all employees. The training consists of incident examples and their effects. Samsung SDI has improved effectiveness of training by offering customized sessions for different position levels i.e. executives/group leaders, managers/front-line supervisors, and employees. Points were given on completion of the training to encourage enthusiastic participation. In 2014, 8,271 employees completed special training in incident prevention.

### Emergency Drill

In order to prevent safety incidents and raise the awareness on safety, Samsung SDI annually holds 'Fire-fighting Technique Competition' which consists of three events that assess the ability to suppress fire and to care for emergency patients. The competition raises safety consciousness of employees and helps them to develop capabilities to calmly respond to emergency situations. In addition, each business site regularly carries out emergency drills with various scenarios. In case of a drill, even foreign buyers and interviewees are encouraged to participate, thereby creating a sense of realism. After the drills, a self-evaluation process is conducted which helps to establish plans for improvement which can be applied to subsequent drills.



Event 1. Fire-fighting relay



Event 2. CPR on emergency patient



Event 3. Emergency drill for each manufacturing process

### Establishing Healthy Working Environment

To establish a healthy working environment and improve employees' health, Samsung SDI carries out various activities, including an anti-smoking campaign and prevention of muscular skeletal diseases, and has expanded to provide general health check-ups for employees at the ages of 30 and/or older. For employees who are willing to quit smoking, the company encourages their participation by providing counseling sessions, supplements to quit smoking, and creating a non-smoking fund\*.

\* Employees who are willing to quit smoking pay a certain amount of money (n), and those who successfully pass mid/final nicotine test take 1/n of the sum.

## BUSINESS CASE. Endeavors to make safe environment

All employees, including Safety & Environment managers, of Samsung SDI's Battery R&D Center voluntarily carry out Safety & Environment activities to minimize untoward incidents and disasters. Lab coats and safety shoes are mandatory to enter any laboratories while reagents are managed strictly. The MSDS for all chemical substances used in the lab are located at site, and the safety & environment bulletin board is used to share safety-related issues.

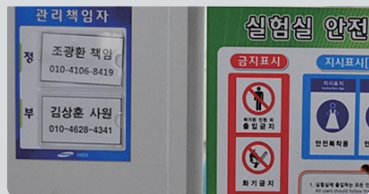
#### Laboratory Standardization

- Create safe environment to prevent incidents
- Safety inspection performed by the head of the R&D center and the head of each lab



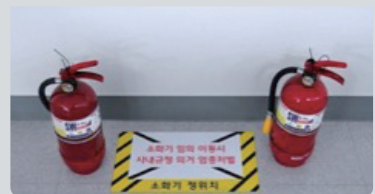
#### My Area Responsibility Management

- Safety & Environment inspection by the head of the center carried out every month and by head of the lab every week



#### Other safety activities

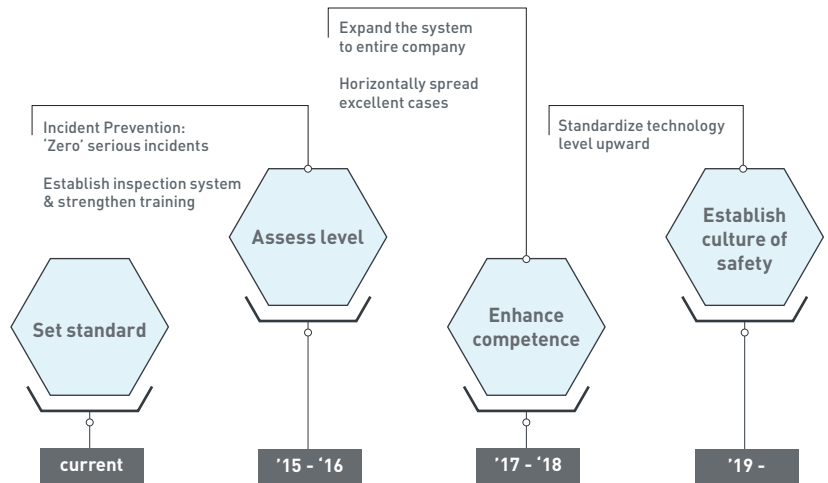
- Operate lab & lab table using real-name-based system
- Install emergency light, pest control box, fire extinguisher, etc.





## Strengthening Safety Management at Overseas Sites

**Establishing Mid/Long-term Safety & Environment Strategies at Overseas Sites**  
 Samsung SDI realizes the importance of managing safety at overseas subsidiaries when conducting global business. With a goal to reach a top level in safety management, the company implements various activities for reducing and preventing risk factors at overseas subsidiaries and for establishing high safety management standards.



### 9 major initiatives to improve safety

To support the safety management of overseas subsidiaries and to strengthen internal capabilities, Samsung SDI carries out 9 major initiatives centered on intensifying inspection, fostering talents, and reinforcing education.

Intensifying Inspection	Fostering Talents	Reinforcing Education
<ol style="list-style-type: none"> <li>CEO inspects safety &amp; environment when visiting production subsidiaries</li> <li>Inspects entire facilities at overseas subsidiaries and introduces a regular integrated assessment</li> <li>Provides stage-by-stage support for new or enlarged subsidiaries</li> </ol>	<ol style="list-style-type: none"> <li>Train Korean expatriates to be specialized in safety &amp; environment by each country</li> <li>Provide human resources for safety &amp; environment inspection</li> <li>Secure domestic-class personnel in charge and help them obtain safety certificates</li> </ol>	<ol style="list-style-type: none"> <li>Provide safety &amp; environment training for the head of subsidiary and Korean expatriates</li> <li>Strengthen safety &amp; environment training for local employees</li> <li>Foster local experts and leaders in the field</li> </ol>

## Supporting Safety Management of Suppliers

At major manufacturing sites, 74 suppliers are in residence. Samsung SDI believes the safety of the resident suppliers is the safety of Samsung SDI, and establishes and operates initiatives to support the safety of suppliers.

### Support for Safety of Suppliers

#### Operate consulting body and strengthen safety inspections

- Operate consulting body hosted by the head of safety & environment group at each business site (Inspect incident cases and inadequate improvement)
- Conduct joint inspection by safety & environment group and CEO of suppliers every quarter
- Conduct 'Supplier Safety Management Inspection Meeting'
- Conduct walk-around inspection of suppliers by the respective contract management department every other day

#### Support professional safety training

- Support professional training on safety for CEO of suppliers to raise awareness and for personnel in charge of safety
- Pay incentives to those who obtain certificates on Safety & Environment

#### Assess safety levels and reflect it to company assessment

- Conduct one assessment in accordance with Safety Level Assessment Table for Suppliers in Residence prior to signing a new-contract, and conduct regular assessments after signing the contract
- When safety management is unsatisfactory, conduct rigorous inspection after the supplier establishes self-inspection plan

#### Support obtaining certificate (KOSHA18001) and conduct joint emergency drills

## Eco-friendly Technology and Products

Samsung SDI continues to develop eco-friendly technologies in an effort to minimize harmful substances in its products. Not only does the company comply with product environment regulations including RoHS\* and EU REACH\*, it also develops more eco-friendly products to create environmental value.

\* RoHS : Restriction on the use of certain hazardous chemical substances in electrical & electronic products

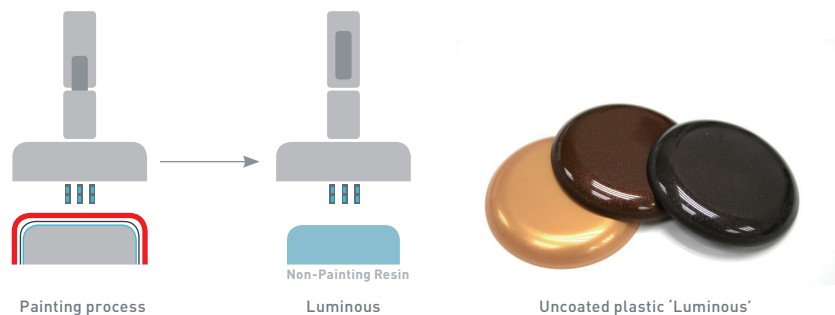
\* REACH : Regulation that governs the registration, evaluation, approval and reporting of chemical substances

### Eco-friendly Innovative Materials

Samsung SDI contributes to the reduction of carbon dioxide (CO<sub>2</sub>) by using recycled plastic. The chemicals division recycles used PET bottles to develop the world's best base material for 'Eco-friendly PCM (Post consumer material)'. The material is used for the exterior of mobile phones and automobiles, reduces CO<sub>2</sub> generation, and saves resources. In addition, it satisfies America's EPEAT (Electronic Product Environmental Assessment Tool) standard.

### Uncoated Solution

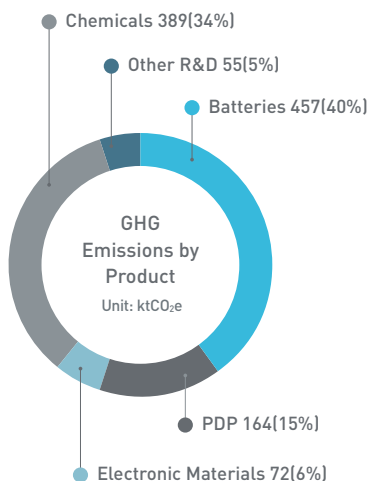
Samsung SDI aims at environmental friendliness by developing 'luminous', the uncoated plastic that does not require a painting process. Luminous is the world's first premium plastic with a metallic feel, manufactured by a simple process, requires no painting, and is considered as a more eco-friendly production method.



## Operating Eco-friendly Sites

### Reinforcing Environmental Management System

In 2014, there were no violations of environmental regulations or international environmental agreements at any of Samsung SDI's manufacturing sites around the world. In addition, the environmental management systems that are in full compliance with ISO 14001 were maintained. In 2014, Samsung SDI established and declared a new safety & environment management policy after its integration with materials business unit. Since then, each business site has been enriching its environment according to the management policy. In 2014, the company has spent 30.3 billion KRW to invest and operate environmental facilities.



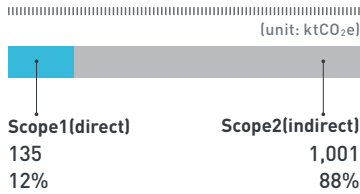
### Energy Management

Samsung SDI conducts low-carbon, clean energy management in accordance with its company-wide energy management principles. All domestic manufacture sites were certified with energy management system standard (ISO 50001) and continued their efforts in enhancing energy efficiency. Samsung SDI's head office in Giheung was the first in Korea to install and operate 1MW ESS, followed by Cheonan Plant's 7MW ESS and Ulsan Plant's 4MW ESS. Samsung SDI strives to structure a low energy-consuming production system through ESS demonstration. In addition, Samsung SDI is installing LED lights in all domestic sites which will be completed in 2015.

### GHG Emission Management

Samsung SDI strives to reduce the total amount of GHG emissions and to improve GHG intensity. The GHG emissions from Samsung SDI's business sites around the world amounted to 1,136,662 tCO<sub>2</sub>e, which is translated into 13.52 tCO<sub>2</sub>e/KRW billion in GHG emission intensity. In addition, all domestic business sites of Sam-

## Direct/Indirect GHG Emissions



## Guidelines for Calculating GHG Emissions

- Korea: Based on '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

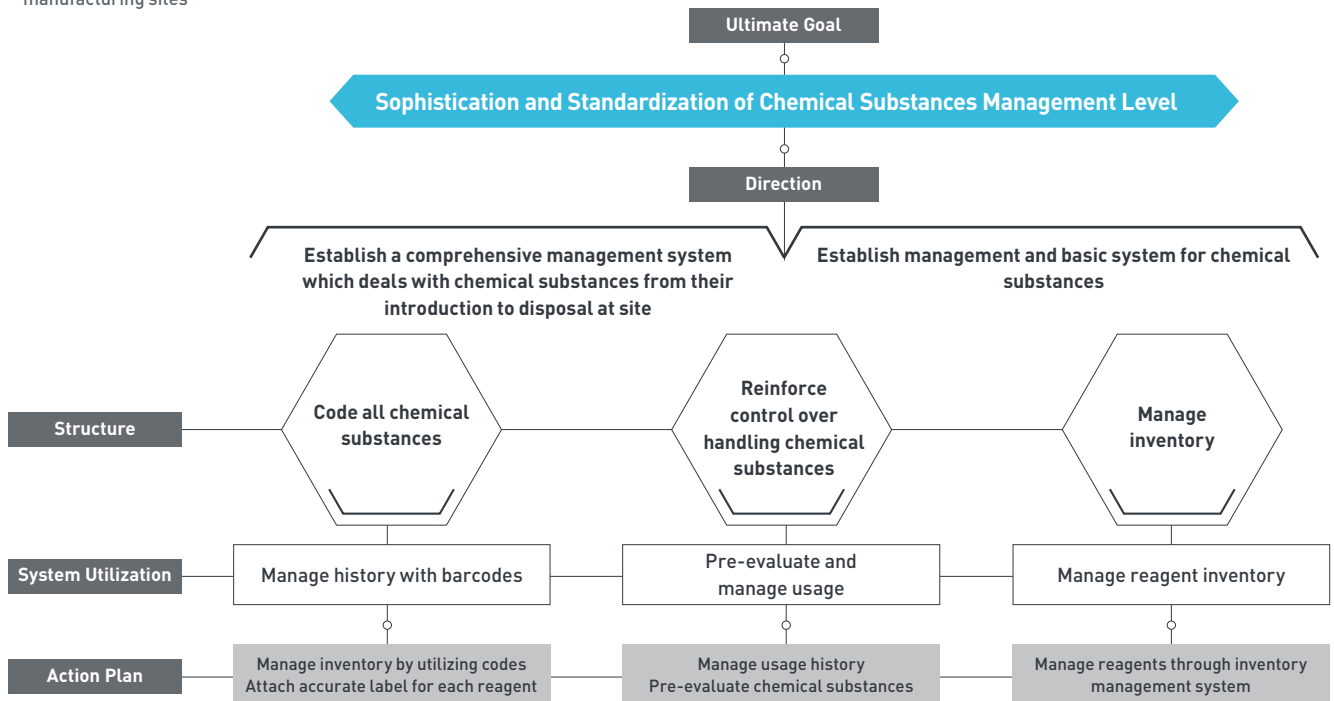
## Scope of GHG Emissions Calculation

- Korea: Scope 1 & 2 emissions from headquarters, R&D centers, and leased offices
- Overseas: Scope 1 & 2 from 11 manufacturing sites

sung SDI, including its head office, research centers, and production locations, are obliged to meet GHG emission reduction targets allocated each year in accordance with the Korean government's 'GHG & Energy Target Management System'. In 2014, GHG emissions from Samsung SDI's domestic sites amounted to 866,703 tCO<sub>2</sub>e (17,428TJ in energy usage) and met the target assigned by the government. Starting from 2015, Korea will implement Emissions Trading Schemes, and Samsung SDI was chosen as a target company. Meanwhile, Samsung SDI's Hungarian Subsidiary, as a member of the EU Emissions Trading Scheme sold a total of 21,392 tCO<sub>2</sub>e in surplus allowances in 2014. Samsung SDI's Shenzhen Subsidiary sold 2,896 tCO<sub>2</sub>e based on Shenzhen Emissions Trading Scheme.

## Strengthening the Management of Chemical Substances

As interest in chemical substances in and out of Korea has grown recently, the need for systematic procedures and systems, to safely use and efficiently manage chemical substances has been on the rise. To improve the level of chemical substance management, Samsung SDI has organized its processes related to chemical substances, and has developed and operates a Chemical Substance Management System. In addition, Samsung SDI also strengthened our activities to prevent chemical accidents. Samsung SDI further enhance our management capacity by organizing standards for chemical substances management in overall process including introduction, use and disposal and by introducing 'qualification certificate system' towards people in charge of hazardous chemical substances followed by training and assessment.



## 2014 PERFORMANCE & 2015 TARGET



0.03

Employee Injury Rate

[Total injury count/total hours worked\*200,000]



96%

LED Installation rate

[Domestic sites]



13.52 tCO<sub>2</sub>e/KRW billion

GHG emission intensity

### TARGET 1

'Zero' safety incident

### TARGET 2

LED lighting installation rate: 100%

### TARGET 3

Enhance GHG emission intensity by 3%, compared to the previous year



# Structuring a Healthy and Dynamic Corporate Culture

## Why is This Material Issue?

A corporate culture- a company's unique core competence- lays a psychological foundation of values, ways of thinking, and behaviors for its employees. As the global competition has become increasingly fierce, the significance of a healthy and dynamic corporate culture has grown. In 2014, Samsung SDI gave much thought on what kind of corporate culture it should form and share, in order to create an integrated synergy after its merger with prev. Cheil Industries' material business unit. The company has chosen to establish a 'healthy and dynamic corporate culture' as a breakthrough to create integrated synergy and carries out various activities to realize it.

### RISK

- Losing outstanding workforce and employee demoralization
- Decline of business efficiency caused by lack of communication

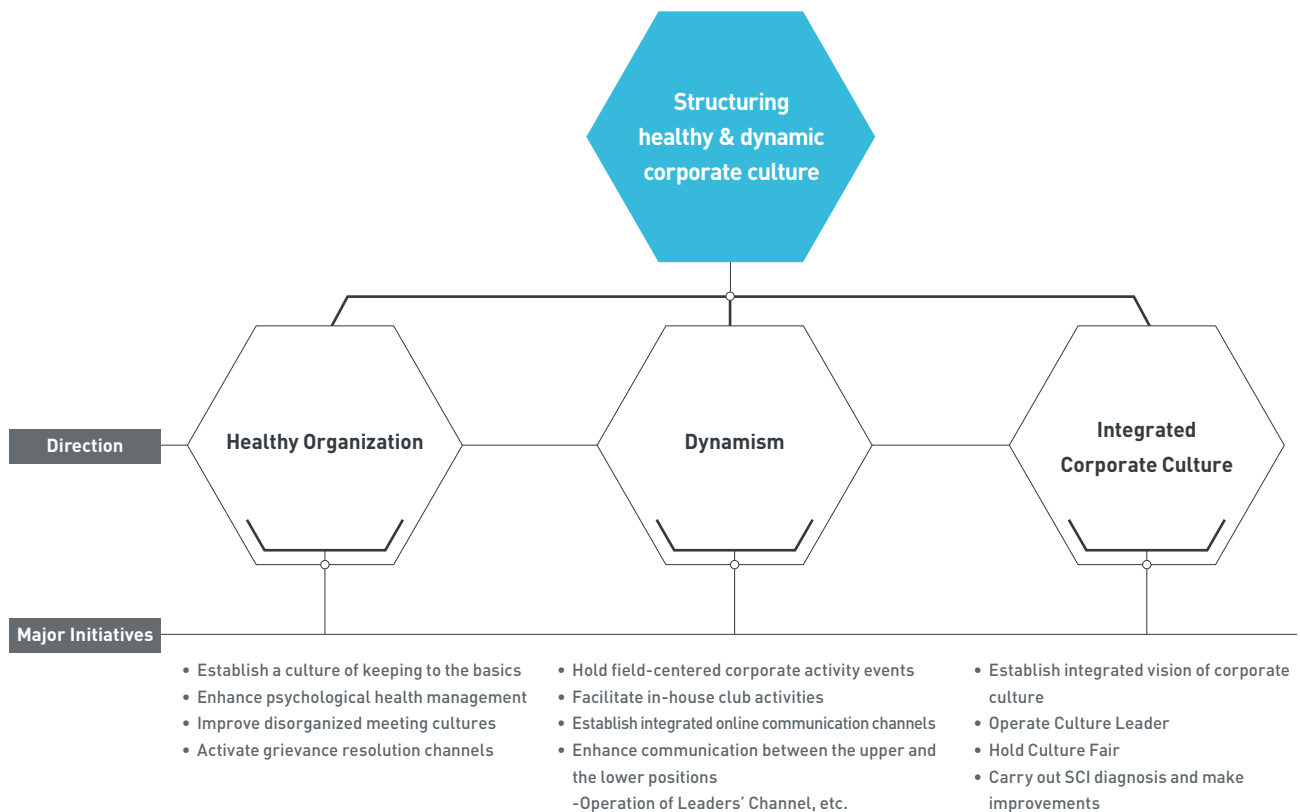
### OPPORTUNITY

- Contribution to employees' competence and value improvement
- Synergy created through communication and collaboration
- Creative ideas and new business opportunities drawn from employee diversity including female employees

## Our Approach

Samsung SDI has selected 'Healthy Organization', 'Dynamism', and 'Integrated Corporate Culture', as its strategic directions to achieve a healthy and dynamic corporate culture and carries out activities accordingly.

### Strategic Directions for Corporate Culture Activities

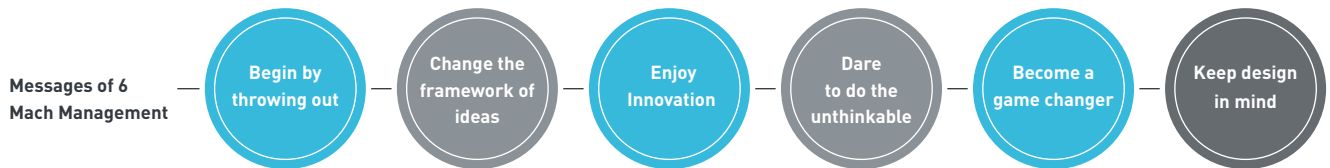


## Sharing Healthy Corporate Culture

## How we create value?

### Mach Management of changes and innovations

To generate an integrated synergy, Samsung SDI has realigned its merged strengths and competencies and seeks new opportunities in accordance with 'Mach Management'. In order to spread Mach Management, the company carries out various activities, including distribution of Mach Management message, preparation of the message of will to innovate, and operation of photo zone. In addition, Samsung SDI carries out training such as 'Mach Management! SDI Innovation 3.0' to disseminate a culture of creativity and innovation for the company and its employees.



#### \*What's Mach Management?

One of Samsung's well-known management philosophy that highlights the importance of fundamental and total changes to overcome a limitation just like the entire process of building a jet -from blueprint to the completion- is changed in order to break through the velocity of sound (1 mach, 340 mps).



Cherry Blossom Event at Chunan Site

### Operating Culture Leader

In an effort to establish a healthy and dynamic corporate culture filled with active communication to foster positive changes, Samsung SDI operates Culture Leader (CL) in every department. Regular workshops are held for Culture Leaders to enhance their abilities to lead the changes in corporate culture. In addition, a variety of activities, including sharing best cases of each department, are carried out to spread the power of creative minds and the positivity. Through the monthly 'Compliment to CL award', the company also encourages those who have strived to create new activities for the members of their department. Samsung SDI plans to elect and foster Culture Leaders also at the overseas production subsidiaries to uniformly create a corporate culture together.

## BUSINESS CASE. Integrated Synergy Creating Activities

### Holding educational sessions to introduce energy and material business unit to each other

As the merger has combined two different business units, energy and materials, Samsung SDI has provided educational sessions for all employees to generate an integrated synergy. The sessions cover the concepts of business, the understanding of products, mid/long-term business strategies, business history & current status, and introduction of organizational composition, sites and plants of each division. Through the educational sessions, employees not only understand each field in depth, but generate enhanced synergy and take an active part in responding to changes by sharing useful information.



Educational sessions of each department

### Offering Leadership-to-Change Trainings

In 2015, Samsung SDI carries out Leadership-to-Change Trainings for all employees to share the groups' strategies and Samsung SDI's vision, and to establish the corporate culture of passion, communication, and challenges. The trainings are on the changes and reformations such as the Group's management issues, visions, and the role of managers, and they are customized to serve different levels of positions (heads of the departments, managers, employees, etc.).



#### Composition of Leadership-to-Change Training

- **Training for department heads**  
Strengthen the chief's role as a key leader of managing corporate risks and accomplishing company's vision
- **Training for managers/employees**  
Raise the will to reform, powered by objective understanding of the management condition and by forming healthy awareness of crisis

### Facilitating Communication

Samsung SDI facilitates communication amongst employees through various communication activities



- Share company's issues, events, and employee interviews, and facilitate communication through the company portal, 'YeSDI'



- Operate Labor Council and sub-council meetings
- Operate Open Counseling Center
- Operate online bulletin board for resolving grievance

#### Online Communication Channel



- Select personnel in charge of planning various events to improve corporate culture
- Create a lively culture of communication through selecting a department and CL for excellence awards in facilitating corporate culture every year

#### Culture Leader

##### Internal online communication channel:

YeSDI, and ILMO Talk are currently in operation and an integrated communication channel is planned to be launched in July 2015.

#### Grievance Management Channel



- Hold club activity sharing events, communication activities for families, travel photo contests, etc.

#### Company-wide Communication Activities

##### Operation of the Labor Council

At Samsung SDI, the Labor Council is held every quarter to serve as a channel to protect worker's rights and ensure seamless communication. The Labor Council consists of equal numbers of employees 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 addition, Samsung SDI operates on and offline communication channels and company-wide communication activities to share and consider pending management issues and the direction it should take in the future which will contribute towards maximizing company value.

### Harmonious Work-Life Balance

#### Holding Activities Involving Families

In order to boost employees' morale and satisfaction, Samsung SDI holds various activities for their families such as children's day activity with families, Summer/Winter Camping for employees' children, 'Family Healing Camp' to spend 1 night 2 days glamping (glamorous camping), 'Movie Day' to watch movies and share memories with families, 'family clubs', etc. Especially In 2014, the company held 'Family Outing' program every month for employees and their families to participate in various activities such as exhibitions, festivals, and camping trips.

#### Psychological Health Management

Samsung SDI operates an 'Open Counseling Center' at every site to improve the psychological health of employees and their families. The resident counselors at the Open Counseling Center offer private counseling on employee grievances and perform psychological tests while offering counseling via phone, email, and messenger. A variety of programs, such as counseling center on the road, are also held for employees who cannot visit the counseling center. The company also makes various efforts to manage its employees' stress level by introducing meditation programs such as meditation during lunch and meditation by each department.

## Establishing Female-friendly Working Environment

Samsung SDI creates a working environment where female employees can harmoniously maintain a balance between their family and work life through the development of their competitive edge. The company operates S-WIN (SDI Women in Network), which consists of outstanding female managers selected from each business division to help build a strong network of female employees, to present a role model and growth vision for female leaders, and to assist them in building a competitive edge. In addition, the company has installed a maternity room at each business site for its female employees to take a rest, and also operates day-care centers at all domestic sites to help them take care of their children and work at the same time. More activities to support maternity are implemented, such as snack service for pregnant employees. In 2015, Samsung SDI will continue to strengthen its support on childbirth, pregnancy, and childcare, and on nurturing female leaders to build a corporate culture where female employees do not have to worry about discontinuation of their career and to increase the ratio of female managers.

## Enhancing the Ways of Working, 'Work Smart'

Samsung SDI takes a lead in changing the ways of working alongside the paradigm shift of the time. In 2014, the company established a corporate culture that is faithful to the basics, and implemented a campaign 'Me First, SMART Again, It Basic' to work smart and efficiently. In 2015, Samsung SDI plans to operate 'flexible working hours' for employees in an effort to increase their creativity and balance their work and family life.



### Improving Meeting Culture 1.1.1

- Share data and agenda at least 1 day prior to the meeting
- Start the meeting on time and observe 1 hour duration
- Share of the meeting minutes in 1 page

### Follow performance-enhancing work process

### Maintain information security at all times

- Notify and obtain approval from the head before sending external email
- Refrain from visiting non-business-related websites during work hours
- Don't open unconfirmed emails
- Strictly manage IDs and passwords



### Prevent sexual harassment

- Ban slangs denouncing opposite sex
- Prohibit unnecessary physical contact

### Lead changes in drinking culture

- Improve drinking culture

### Prevent verbal violence

- Use appropriate language
- Supervise business based on objectivity



### Establish smart working environment

- Manage time efficiently through flexible working hours and discretionary work
- Actively use PIMS (schedule management system)

### Refrain from non-work-related activities during working hours

- Focus on work during business hours and refrain from holding unnecessary meetings just for reporting

### Refrain from inefficient overtime

- Pursue work-life balance by working efficiently

## 2014 PERFORMANCE & 2015 TARGET



6.6%

Ratio of female managers



95.8%

Employee's grievance treatment rate

\*(184/192 cases)



72%

Club subscription rate

### TARGET 1

Ratio of female managers: more than 7%

### TARGET 2

Employee's grievance treatment rate: 98%

### TARGET 3

Club subscription rate: 75%

\* Provide answers through Grievance management bulletin board within 24 hours



# Securing Global Shared-Growth Competitiveness

## Why is This Material Issue?

As the competitive landscape amongst companies has broadened to include their supply chains, it is becoming more important to secure the competitive edge through the shared-growth with suppliers. Samsung SDI forms a partnership with approximately 250 suppliers, mostly manufacturing and installation companies. Since the combined global competitiveness of suppliers will strengthen that of the company, Samsung SDI considers suppliers as its partners and companions to grow together while undertaking various shared-growth initiatives.

### RISK

- Increasingly stringent laws and regulations related to fair trade establishment and shared growth activities
- Decline in company's reputation

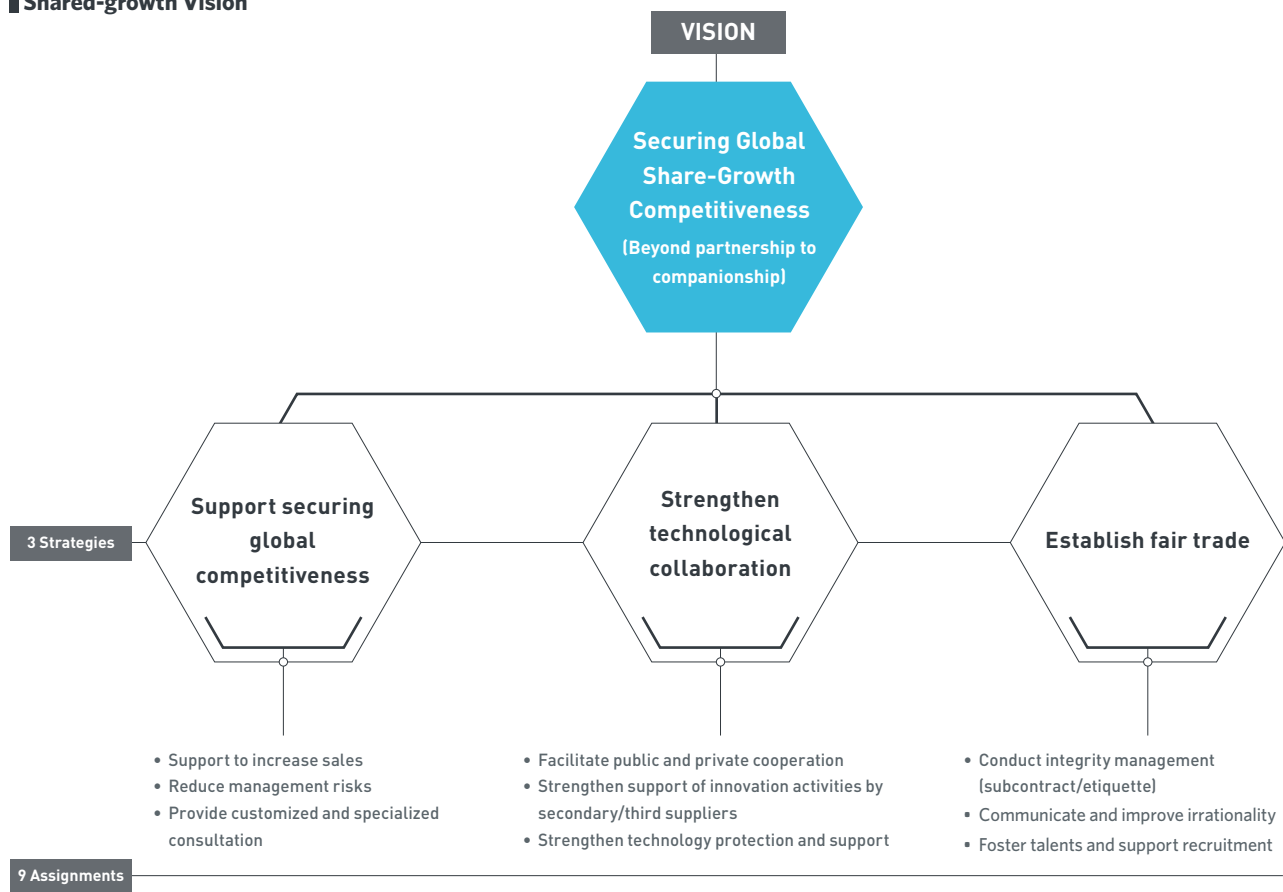
### OPPORTUNITY

- Improving suppliers' competitiveness link directly to improve Samsung SDI's product competitiveness
- Prevent economic, social, environmental risks from supply chain in advance

## Our Approach

Based on the value of shared-growth that 'We can go farther when we go together', Samsung SDI established not just a partnership but a companionship with its suppliers. The company secures shared competitiveness over the world by supporting not just primary suppliers, but also its secondary and tertiary suppliers.

### Shared-growth Vision





## How we create value?

### Reinforcing Share-Growth Infrastructure

In order to systematically shared-growth activity with its suppliers, Samsung SDI operates Win-win Cooperation Group in Strategic Sales Team under Corporate Management Office. The Win-win Cooperation Group undertakes various shared-growth programs to support suppliers, and preemptively identify and resolve major risks such as unfair price cuts and the misuse of technical documents. In addition, the group conducts year-round monitoring and themed audits on high-risk items such as violation of subcontract practices. To disclose contract-related data through the system and to make advances in procurement operations, Samsung SDI shares its information such as agreement on unit costs, order/shipment/delivery, and win-win partnership policy through Purchase Portal System in advance.

### Establishing Fair Trade

Samsung SDI establishes policies to enhance its suppliers' total competitiveness and to establish a custom of fair trade. In order to lay a foundation for reasonable subcontract practices, Samsung SDI operates the Guidelines for Contract Conclusion, Guidelines for the selection and management of suppliers, and internal Subcontract Review Committee to identify unfair or insufficient internal regulations and establish/revise them.

### Building a Global Low-carbon Green Partnership

Samsung SDI established Low-carbon Green Partnership with its suppliers to support SMEs with a global presence in building green management system and responding to global environmental regulations. The company operated the Partnership, which was the first in the Korean electrical & electronics industry, from Nov. 2012 to Oct. 2014 as selected subtasks for the Green Partnership between Large Businesses and SMEs\*, launched by the Korea Institute of Industrial Technology. Through the Partnership, Samsung SDI supported the formation of a management system that responds to the increasingly stringent environmental regulations of China, Vietnam, and Malaysia and the global product environment regulations, and developed country-specific guidelines to maintain a sustainable business operation. In 2014, Samsung SDI focused on establishing green management system, using energy efficiently, and reducing energy consumption for its suppliers with businesses in the Vietnam and Malaysian market.

### Major Fulfillments

Operation of guidelines for conclusion of contracts

Operation of guidelines for selection & management of suppliers

Operation of internal Subcontract Review Committee

Introduction and operation of standard form of subcontracts

Introduction and operation of guidelines for preserving written materials

\* 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 existing environmental crisis into an opportunity to create shared value.

### Green Partnership Performance

## 3 countries

Overseas Environmental Regulation Response Guide

## 38 SMEs

Fostered Green Officers at 38 SMEs which expanded overseas

### Major Activities

- Developed Global Partnership Guideline for Vietnam/Malaysia
- Fostered professional talents in suppliers that jointly entered overseas market
- Improved energy/GHG intensity
- Educated, diagnosed, and improved Environmental Quality System

### Spreading the Culture of Shared Growth to Secondary/Tertiary Suppliers

Samsung SDI has expanded its support to include not just its primary suppliers, but also secondary/tertiary suppliers to spread the culture of shared growth. In 2014, the company provided financial and technological support so that more contracts between primary and secondary suppliers could be signed. This also helped in connecting secondary/tertiary suppliers' innovations to primary suppliers and Samsung SDI's innovations. In addition, Samsung SDI helps its suppliers to gain competitiveness by providing consultations and optimizing their work process after inspecting their sites. The CEO of Samsung SDI also visits its suppliers twice to hear from them, facilitate communication, and help solve their problems.

## Shared-growth Program

Reflected requests to increase unit price

42 cases from 22 suppliers

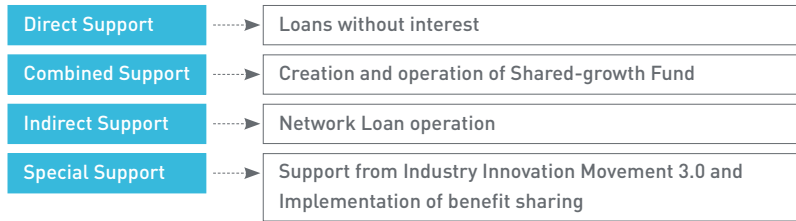
### Funding

#### Financial Support

Samsung SDI supports its suppliers to secure funds to sustain a stable growth. In order to support suppliers' financial soundness and stability, Samsung SDI implements direct support, combined support, indirect support, and special support.

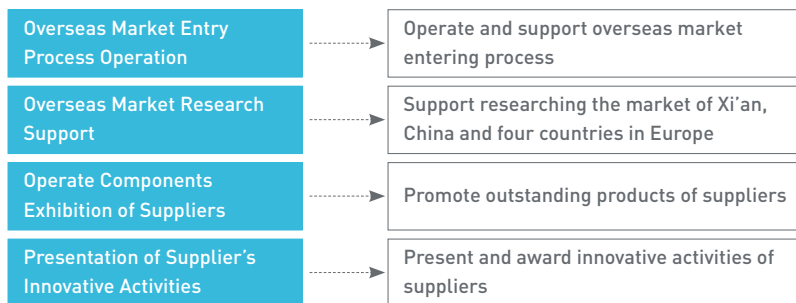
#### Mitigating Unit Price Negotiation Standard

By reasonably adjusting unit price, Samsung SDI creates a favorable management environment for its suppliers. In 2014, the company reflected requests from 22 suppliers and mitigated unit price of 42 cases in favor of suppliers as compared to the Standard Form of Subcontract.



### Support to Increase Sales

To help increase sales of its suppliers, Samsung SDI undertakes various programs such as operating processes to enter overseas markets, holding exhibitions to increase sales, supporting overseas market research, and holding presentations of innovative activities. In the future, Samsung SDI will continue to actively support its suppliers to enter overseas markets by supporting their research on the investment condition and market, and by providing related information on the process of establishing overseas subsidiaries.



## THE VOICE OF STAKEHOLDERS



Dae Myung Electronics President  
Ji Kang-man

### Please continue Samsung SDI's shared-growth program that incorporates secondary and tertiary suppliers

Since 2013, Samsung SDI has evolved its supporting program for suppliers which was initiated in 1997 to the 'Industry Innovation Movement 3.0' that includes not only its primary suppliers, but also secondary and tertiary suppliers like Dae Myung Electronics. Dae Myung Electronics manufactures PCBs (printed circuit board) that goes into li-ion battery packs. Before Samsung SDI's support, we were facing difficulties in management due to lack of technology and funding. Thanks to Samsung SDI's proactive support, we were able to establish a production management system, which led to the reduction of costs and number of defects. Its effect was larger than 0.2 billion KRW per year, and productivity of employees was increased by 8.7%. Without Samsung SDI, the Dae Myung Electronics of today would not exist. We would like to request Samsung SDI to kindly continue its shared-growth program for companies like us in the market.

## Supporting Capabilities-building

### Supporting Technology Development and Protecting Technology

To help suppliers establish a firm foundation and secure long-term growth engines, Samsung SDI carries out activities such as joint R&D, granting of licenses, and facilitating technology escrow system. In 2014, Samsung SDI and its suppliers conducted 82 national projects related to developing technologies, and deposited 15 technologies to protect their technology.

### Supporting with training and recruiting

Samsung SDI has sent experts to suppliers to help enhancing their competitiveness, and has operated online training to improve job competencies of new employees and other employees. In addition, Samsung SDI helped its suppliers to recruit future talents through their participation in 'Samsung Suppliers' Job Fair'.

## Expanding Exchanges

Samsung operates SSP (Samsung SDI Partner's Association) to create a sense of unity and increase exchanges with its suppliers. Through activities like regular general meetings, overseas benchmarking, seminars, and Grand Festival for Shared Growth, Samsung SDI creates a chance for suppliers to share information with one another and create new business opportunities.

In addition, the CEO of Samsung SDI pays a visit to suppliers and hears directly from them to spread the culture of shared growth between primary and secondary suppliers.

### Suppliers' Recruitment Support

49 persons for  
14 suppliers

### CEO visits to Suppliers

7 suppliers

(Including primary and secondary suppliers)



SSP Regular General Meeting (March 20, 2015)

## 2014 PERFORMANCE & 2015 TARGET



**20**suppliers

Supported innovative activities of secondary and tertiary suppliers

\*Supporting secondary/tertiary suppliers through Industry Innovation Movement 3.0

### TARGET 1

Support innovative activities of secondary and tertiary suppliers: 29 companies



**3** balance accounts per month,  
Payment in cash made within **10 days**  
Improved payment date of small and medium-sized suppliers

### TARGET 2

Keep payment date of small and medium-sized suppliers



KRW **810,182** million  
Sum of purchase from suppliers in agreement

### TARGET 3

Continue to enlarge purchase from suppliers in shared-growth agreement



# Creating Shared Value with Local Communities

## Why is This Material Issue?

The recent social contribution activities of companies have shifted from just making donations to CSV (creating shared value) activities where it creates corporate profits and social values at the same time. Samsung SDI considers communicating and contributing to the society as a prerequisite to be a world-class global company. Based on this idea, Samsung SDI's domestic and major overseas sites undertake social contributions that stick closely to local communities. For Samsung SDI, social contribution initiatives are a communication channel with local communities, and an endeavor to grow with them.

### RISK

- One-time or 'ostensible' social contribution activities are subject to be criticized
- Damaging company and brand image

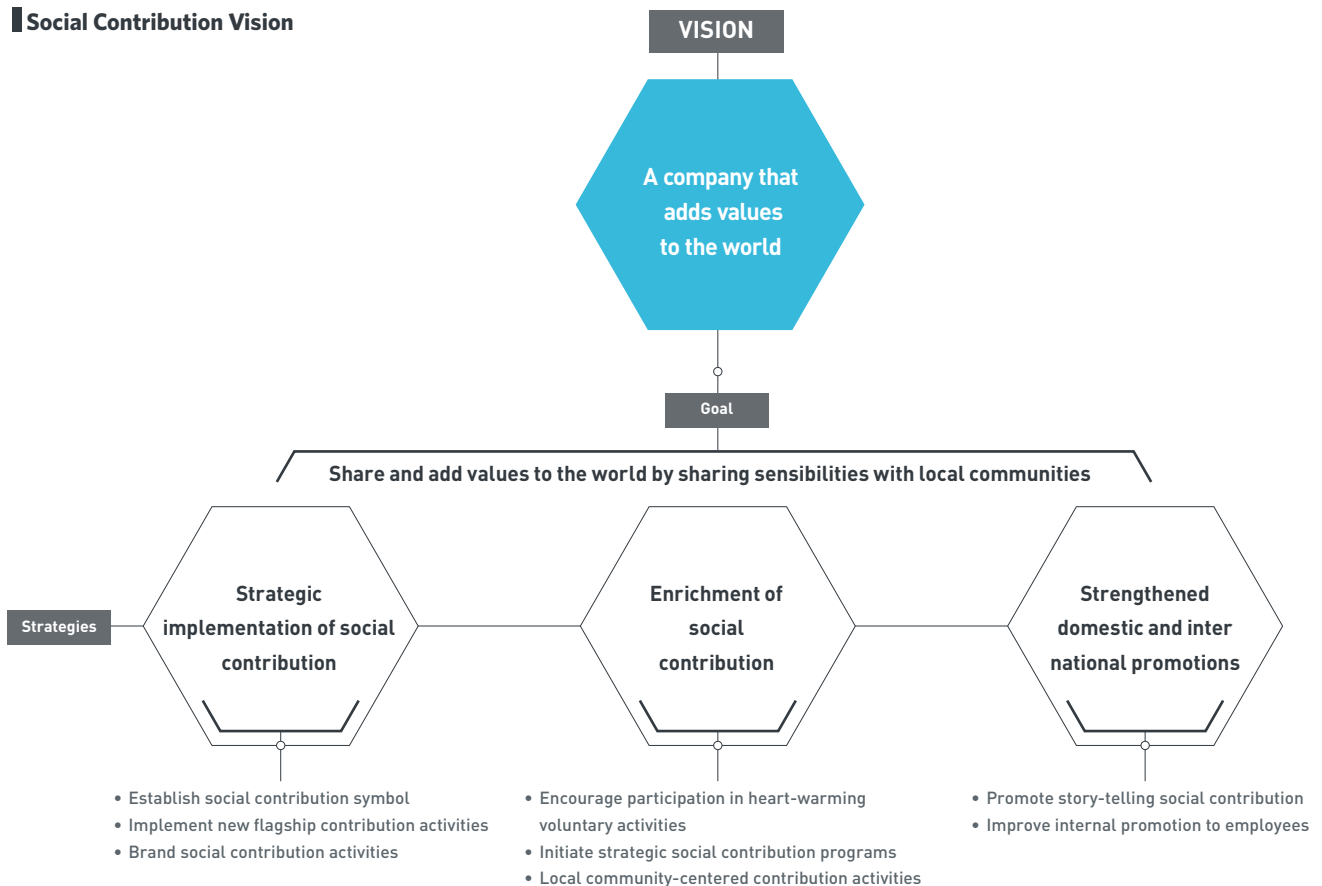
### OPPORTUNITY

- Establishment of a positive company image
- Enhancing employee satisfaction and support through social contribution activities

## Our Approach

Samsung SDI established its social contribution vision that incorporates the characteristics of its energy and material business unit - 'A company that adds values to the world'. Under three strategies, 'strategic implement of social contribution', 'Enrichment of social contribution', and 'Strengthened domestic and international promotion', Samsung SDI undertakes various activities. The company will continue to actively share and add values to the world by sharing sensibilities with its local communities.

### Social Contribution Vision



## Launching Social Contribution Brand

## How we create value?

In order to establish the identity of Samsung SDI's social contribution initiatives, it has launched a social contribution brand, 'wE Dream'. wE Dream is a brand that represents Samsung SDI's will to make the world valuable through sharing its technology and competency as an eco-friendly company while utilizing its employees' talents to support the dreams of children and teenagers who are the energy source of the future. Starting from the launch of the brand, Samsung SDI will undertake a variety of activities, so that 'wE Dream' can become a representational social contribution brand.



Social Contribution Brand 'wE Dream'

## Continuing Flagship Social Contribution Initiatives

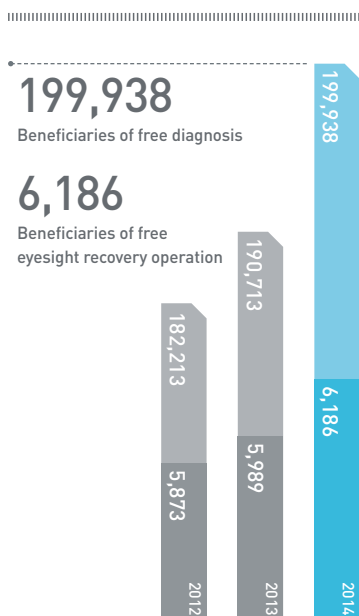


Green Planet School for Environment and Children

### Green Planet School for Environment and Children

Samsung SDI carries out social contribution activities for children who are the leaders and energy of future to suit its corporate vision of 'a world class material and energy solution provider'. Its flagship program is 'Green Planet School for Environment and Children', established in 2011, which offers opportunity to experience environmental activities. 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 experiencing environmental booths. Over the past four years, a total of 1,308 children graduated from this school, including 274 students in 2014.

### Free Eye Treatment Project Achievements



[Unit: persons, accumulative]

### Free Eye Treatment Project

Since 1995, the Free Eye Treatment Project has been held, as one of Samsung SDI's oldest social contribution activities to help the visually-impaired who cannot afford surgeries as per an arrangement with Siloam Eye Hospital. Samsung SDI has donated an 'ophthalmic treatment bus of love' equipped with cutting-edge medical equipment, including operating microscope and cataract surgical machine to Siloam Eye Hospital thrice. In 2014, 9,225 people were benefited from free diagnosis and 197 visually-impaired underwent surgery with support for their operation costs.

### Hold the Nanuri Marathon Race

Since 2005, Samsung SDI has been hosting 'Nanuri Marathon Race' with the participation of its employees to support under nourished children in local communities. Since 2008, the donation has been used to aid college enrollment fee for students of low income. In 2014, the accumulated donations from employees' participation in marathons and fund-raising reached KRW 269,724,000 This was provided to help 114 scholarship students from low-income families.



**‘Talent Nurturing Company’, support for musical talents of children with developmental disabilities**

Since 2007, Samsung SDI has supported the musical talents of ‘Heart to Heart Orchestra’, consisting of young people with developmental disabilities. In 2014, Samsung SDI sponsored ‘Heart to Heart Concert’ held in Seoul Arts Center to improve the awareness of disability. Approximately 1,500 people attended and showed their support to the heart-warming performances.

**Supporting atopic dermatitis treatment for children from low-income families**

Atopic dermatitis is an environmental disease that hinders social and emotional development of children and creates psychological difficulties, frustration and sense of guilt, to their families. Even though the Korean government is enforcing policies to treat atopic diseases, the aid for children from low-income families is still insufficient. In 2014, Samsung SDI helps 20 children, who have atopic disease and are in financial difficulties, to receive treatments.

**Global Social Contribution Activities**

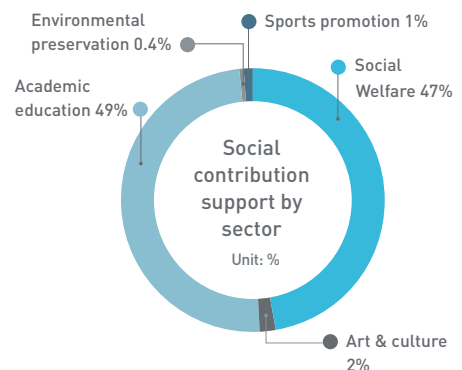
As Samsung SDI’s businesses expand worldwide, so do its social activities. Vietnam Subsidiary carried out activities such as mural painting to improve the environment of local elementary schools, donation of school supplies, education and technology learning opportunities through Dram Class at 2014 Samsung Global Volunteer Festival. Meanwhile, Suzhou Subsidiary in China performed voluntary work to help control the traffic, which is a problem within the industrial complex. Tianjin Subsidiary visited a local orphanage to help organize its farm.

**Encouraging Participation in Voluntary Activities**

Samsung SDI has a culture of sharing where its employees voluntarily participate in social contribution activities. Employees concentrate on sharing their expertise, techniques and competencies with the local communities. The company operates matching grant programs where employees donate a specific amount of money monthly and the company doubles the sum through one-to-one matching. The grant has reached approximately 1.3 billion KRW in 2014, and was used for flagship social contribution activities.

**Giving Back to Society**

In 2014, Samsung SDI gave a total of 9,820,910,000 KRW back to society and focused its social contribution investments on social welfare and academic education. Samsung SDI will continue to make efforts to develop local communities in and out of Korea by locally focused social contribution activities and facilitation of more voluntary work from its employees.





**1 Charity Auction Shin-Na-Gae (Trust, Joy, Love)**

Samsung SDI's Suwon site held a charity auction named Shin-Ne-Gae with articles voluntarily donated by its employees and sponsored the institute in sisterhood relationship with the profits.

**2 Career mentoring for junior-high and high school students**

Samsung SDI's Uiwang site holds 'wE Dream Nurturing Company', a career mentoring program for junior-high and high school students. The program holds a 'special lecture on dream' where employees from different occupations mentor teenagers and a 'Career Concert' where teenagers listen to the lecture at a concert of speeches.

**3 Stairs for health and sharing**

Samsung SDI's Giheung site created a staircase for health and sharing project in 2014, where employees can be healthy and make donations at the same time. Approximately 7,200 employees have participated.

**4 Sponsoring sports activities for students with disabilities in Chungnam**

Samsung SDI's Cheonan site sponsors the sports activities of students with disabilities, providing an objective in life and opportunities to challenge themselves. The 'Chungnam athletics competition for students with disabilities' is held every September and the outstanding athlete from the competition is supported to be the representative player for the national athletic meet with the help of 'SDI Sports School for Elite Students with Disabilities.'

**5 Sharing love with neighbors**

Samsung SDI's Cheongju site enhances the quality of local residents by improving residential environment and supporting their health.

**6 Year-end Festival filled with love**

Samsung SDI's Gumi site combined a year-end festival with social contribution activities to spend a meaningful time. Through the Festival, scholarships were given to students in a sister school, and activities to support children with incurable diseases were held, such as writing messages of hope and sponsoring operation fee.

**7 wE-Dream Global Voluntary service**

As a part of global social contribution activities, Samsung SDI's Ulsan site held a voluntary donation campaign, and delivered 800 pairs of used shoes and 12,000 shirts to Africa, Togo and Madagascar.

**8 Creating Beautiful World Event**

Samsung SDI's Yeosu site cooperates with local outreach institutes to provide integrated social service to the residents in isolated areas with poor social and cultural infrastructure, by offering improvements in residential environments and cultural benefits.



2 Career mentoring for junior-high and high school students



6 Year-end Festival filled with love



8 Creating Beautiful World Event

**2014 PERFORMANCE & 2015 TARGET**



**90.6%**  
Voluntary work participation rate



**100%**  
Social contribution participation rate\*



**10.7 hrs.**  
Time of voluntary work per person

**TARGET 1**

Voluntary work participation rate: 92%

**TARGET 2**

Social contribution participation rate: 100%

**TARGET 2**

Time of voluntary work per person: 12.5 hrs.

\* Employees who made donations or participated in voluntary service

1

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Governance

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# SUSTAIN — ABLE MANAGEMENT

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Risk Management  
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**4**  
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# Sustainable Governance

## The Board of Directors

As the chief decision-making body, the Board of Directors (BOD) is responsible for deliberating and deciding on matters stipulated by applicable laws and by the BOD bylaws, basic management guidelines, and other important matters. The BOD as on March 2015 consists of a total of nine directors i.e. four internal directors and five external directors. The company CEO serves as the Chairman of the BOD to utilize his managerial expertise and carry out responsibility management. Two internal directors (Cho Nam Seong and Lee Seoung Ku) and three external directors (Hong Serck Joo, Kim Nan Do, and Kim Jai Hie) were appointed after the merger with prev. Cheil Industries' material business unit on July 1st, 2014.

## Operation of the BOD

Samsung SDI convenes regular quarterly board meetings along with ad-hoc meetings when required, to address important matters. In 2014, five regular meetings and five ad-hoc meetings were held to handle a total of 41 agendas – 38 decisions and 3 reports- such as SM (Sustainability Management) report, reporting on the merger with prev. Cheil Industries' material business unit and the termination of PDP business. The BOD also avoids any conflict of interest among stakeholders concerning its decision-making by thorough examination of rel-

evant regulations and gathering feedback from stakeholders in advance. In addition, Samsung SDI prevents conflict of interest and ensures independent BOD operation by limiting the voting rights of directors who have a special stake in the BOD agenda.

## Appointment of Directors

In order to guarantee fairness and independence in appointing the BOD, the external experts with rich knowledge and experience in business, economy, law, and technology are nominated by the BOD when appointing internal directors and by the Outside Director Candidates Recommendation Committee when appointing external directors. Final appointment decisions are made at the general shareholder meetings.

## BOD Committees

The BOD operates five committees; the Management Committee, Audit Committee, Related Party Transaction Committee, Outside Director Candidates Recommendation Committee, and Compensation Committee. For efficient and quick decision making, some of the BOD's authorities are delegated to committees for thorough examination of issues. The Management Committee, supervised by the company CEO, discusses and has direct responsibility for Samsung SDI's economic, environmental, and social performance.

## BOD Independence

Samsung SDI defines the standard of the independence of external director in accordance with Korean Commercial Act. If an external director falls under any of the following subparagraphs, he/she is removed from his/her position as outside director:

- Directors, executives, and employees who are engaged in regular business of the relevant company, or directors, auditors, executives, and employees who have been engaged in regular business of the relevant company within two years.
- The principal, his spouse, lineal ascendants, and lineal descendants, in cases where the largest shareholder is a natural person.
- Directors, auditors, executives, and employees of the corporation, in cases where the largest shareholder is a corporation.
- Spouses, lineal ascendants, and lineal descendants of directors, auditors, and executives.
- Directors, auditors, executives, and employees of a parent company, or a subsidiary company of the relevant company.
- Directors, auditors, executives, and employees of a corporation which has a significant interest in the relevant company, such as business relations with the company.
- Directors, auditors, executives and employees of another corporation for which directors, executives, and employees of the relevant company work as directors or executives.

## BOD Composition

Category	Name	Current Position	Gender	Year of Birth
Internal Director	Nam Seong Cho	CEO	male	1959
	Young Sik Kim	Head of Corporate Management Office, CFO	male	1958
	Seong Ku Lee	Head of Chemical Division	male	1956
	She Woong Jeong	Head of Automotive and ESS Battery Division	male	1962
External Director	Sung Jae Kim	External Director, member of Audit Committee	male	1953
	Min Gee No	External Director, member of Audit Committee	male	1955
	Serck Joo Hong	External Director, member of Audit Committee	male	1953
	Ran Do Kim	External Director, member of Audit Committee	male	1963
	Jai Hie Kim	External Director, member of Audit Committee	male	1953



Further information on the work experience of the directors can be found on the website or Business Report


Website: <http://www.samsungsdi.com/about-sdi/ir/corporate-governance/composition-of-bod>

Business Report: <http://dart.fss.or.kr/dsaf001/main.do?rcpNo=20150331004233>

Category	Composition	Purpose
Management Committee	3 internal directors	Deliberate and decide on issues commissioned by the BOD in accordance with the Articles of Association, Regulation, and the Resolution by the BOD
Audit Committee	5 external directors	Perform audits on business operations, accounting management, and the operation of BOD members, etc.
Related Party Transaction Committee	5 external directors	Establish a self-initiated fair trade compliance system and improve the transparency of internal transactions
External Director Candidates Recommendation Committee	4 internal directors, 5 external directors	Nominate external director candidates to be appointed at the general shareholder meeting
Compensation Committee	1 internal director, 2 external directors	Deliberate the ceiling of director compensation and other issues commissioned by BOD

### Communication with Stakeholders

Samsung SDI operates various communication channels in and out of the company to deliver greater shareholder and investor value. Through the disclosure channel, the company discloses quarterly business outcomes in addition to immediate disclosure of major management decisions to promptly provide management information. Diverse IR activities, including IR road shows in Korea and abroad, attendance at conferences hosted by securities firms, and one-on-one meetings are held. Moreover, Samsung SDI's website enables shareholders and investors to search for corporate financial information and business results and to submit their opinions in real-time. Furthermore, online communication channel and grievance resolution system are in use for employees to share their opinions alongside with internal networks, such as S-WIN (SDI Women in Network) to facilitate communication.

 [Further IR information can be found on the website. \[www.samsungsdi.com/about-sdi/ir/stocks/stock-quotes/current-price\]](http://www.samsungsdi.com/about-sdi/ir/stocks/stock-quotes/current-price)

### Assessment and Compensation

The remuneration of the BOD is paid within the limit approved at a general shareholder meeting, and consists of a base salary and performance pay. In 2014, 25,000 million KRW was approved at the general shareholder meeting while 6,913 million 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 45th Business Report.

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.

(unit: KRW million)

Category	Headcount	Total remuneration	Average remuneration per person
Registered director	4	6,466	1,617
External director	-	-	-
Audit Committee and auditors	5	447	89

\* Registered director refers to internal director and the remuneration includes the remuneration for retired board members.

\* All five external directors are the members of Audit Committee.

\* Average remuneration per person is calculated as a simple average: a total remuneration divided by the number of people at the end of this term.

## Sustainability Management (SM) System

Samsung SDI operates Sustainability Management (SM) Office and SM Steering Committee to enhance the momentum and efficiency of socially responsible management. Also, the activities and strategies related to sustainability management commissioned by the Board of the Directors are reported to the BOD.

### SM Steering Committee

To pursue sustainability management and raise employees' awareness on the subject, Samsung SDI operates SM Steering Committee, a high-level consulting body, on a regular basis. Since its commencement in March 2004, the company CEO and other executive members have participated to establish strategies and goals, major action plans, and performance results of sustainability management by areas. In 2014, the Committee deliberated and decided on agendas such as prevention of safety & environment incidents, plans on energy reduction, management of compliance risks, strategies on shared-growth with suppliers, and strategic promotion of social contribution initiatives. Since 2009, to minimize CSR risks on the BOD-level through preemptive responses, SM Steering Committee reports its sustainability management activities and performance to the BOD once every year.

### SM Office

For an efficient operation of sustainability management, Samsung SDI operates SM Office. The SM Office's role is to plan and establish strategies for sustainability management commissioned by SM Steering Committee, and to monitor its major issues and activities. Through close corporation with employees in the field, the SM Office enhances its executive capabilities. The SM Office plans, writes, and participates in the final review of sustainability report every year, and reports it to the SM Steering Committee.

## Major SM Steering Committee Agendas

### Strategy and Goal for each area

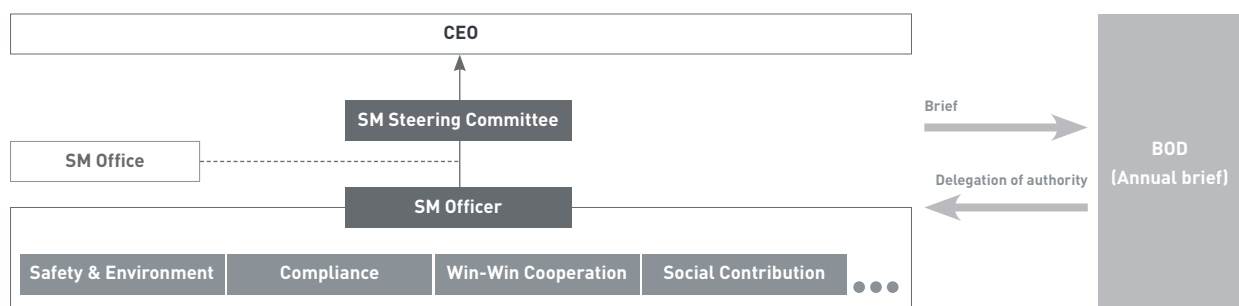
### Major Action Plans

- Safety & Environment incident prevention activities, Energy Reduction Plan, Safety & Environment Infra-IT system establishment
- Compliance risks management initiatives
- Shared-growth with suppliers strategies
- Promotion of strategic social contribution
- Major SM issues and their countermeasures (SM Report, Supply chain CSR management, Conflict minerals, GHG, etc.)

## Major Reported Issues

### Major initiatives and achievements in 2014


- Enhancement of compliance risk management
- Establishment of chemical substance and health management system
- Establishment of efficient safety & environment infrastructure
- Upgraded shared-growth program
- Dissemination of CSR green partnership with suppliers



# Risk Management System

## Risk Management System

To manage risks in advance, Samsung SDI keeps a keen eye on financial risks such as credit risks, liquidity risks, and market risks, in addition to compliance risks, and reputation risks. Through a consulting body managed by the company CEO, Samsung SDI establishes plans and activities to take counter measures and resolve important management risks.

 Further information on the management of financial risks can be found on the Business Report  
[\[http://dart.fss.or.kr/dsaf001/main.do?rcpNo=20150331004233\]](http://dart.fss.or.kr/dsaf001/main.do?rcpNo=20150331004233)

Samsung SDI has prepared strategies and countermeasures on supply chain risks that can have significant impact on its business, and potential risks such as safety risks at site. Samsung SDI promotes Business Continuity Management principles to prevent grave impact on the company due to unsuspected emergency state.

### Supply Chain Risk Management

Since Samsung SDI creates economic values through its relations with the suppliers such as manufacturers and installation companies, it is essential to manage their CSR risks. Specifically, Samsung SDI is strengthening its supply chain CSR management, because regulations such as those on conflict minerals, are becoming increasingly stringent.

 Further information on Supply Chain Risks can be found on p.66-67 of this report.

### Safety Risk Management at Site

Through a self-analysis, Samsung SDI identified that most incidents occurring at the site were caused by unsafe behaviors of employees. Therefore, the company makes various efforts, including reinforcing safety inspection at sites, and raising safety consciousness of employees, to minimize damage on lives and assets.

 Further information on Safety Risk management at Site can be found on p.38-41 of this report.

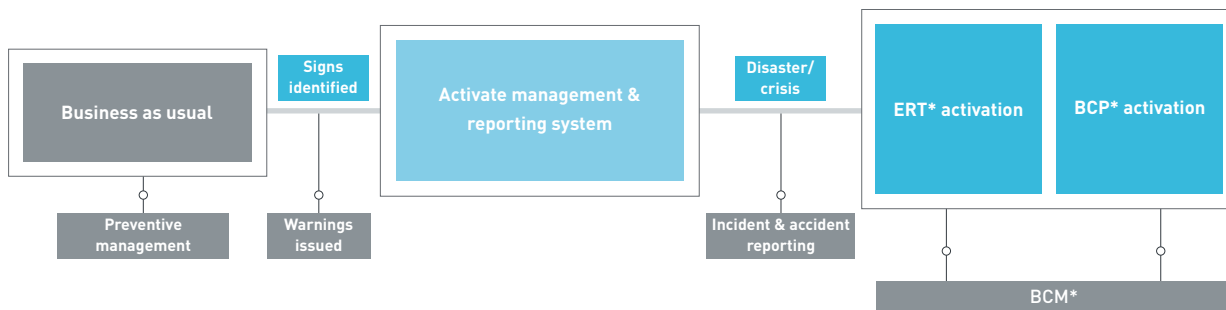
## Business Continuity Management (BCM)

Samsung SDI operates the Business Continuity Management (BCM) system to minimize uncertainties in the business environment such as discontinuity in business due to disaster and/or other untoward incidents. Through the system, the company achieves business continuity by minimizing the damage and resuming its core business within the targeted time. Since its first establishment of BCM system for small-sized li-ion battery business in 2008, Samsung SDI has continuously pushed the system further to cover overseas areas. In 2014, Samsung SDI established BCM system in Small-sized Li-ion Battery Division in domestic sites (Cheonan, Ulsan, Giheung), Tianjin Subsidiary in China, Vietnam Subsidiary, and Malaysia Subsidiary in accordance with ISO 22301, the certification of business continuity management. In 2015, Samsung SDI is providing BCM training to suppliers in Korea and abroad to be prepared for 'the discontinuation of raw and subsidiary material supply' which is a significant risk in operating business. In addition, the company supports its suppliers to establish BCM system. Samsung SDI plans to expand its BCM system to satisfy the stakeholders' demand related to securing business continuity and to embed its emergency response system through continued training and education.

### ERT Operation

Since 2013, Samsung SDI has operated Emergency Response Team (ERT) to respond in the early stages to accidents occurring in sites, and has also increased its employees' ability to respond systematically in case of incidents through emergency response drills. In addition, each business site sets risk levels in relation to 11 key risks and develops risk-specific, phased-in response scenarios.

## Risk Management System



\* BCM: Business Continuity Management

\* ERT: Emergency Response Team

\* BCP: Business Continuity Plan

# Compliance and Ethics Management

## Our Approach

- Strengthen Compliance & Ethics Management
- Internalize Compliance & Ethics Management
- Enhance Compliance Execution Abilities
- Reinforce Compliance Initiatives of Overseas Subsidiaries

## How we create value?

### Strengthening Compliance & Ethics Management

#### Organization Operation

Samsung SDI understands that ethics management is mandatory to realize sustainable management, and operates the Legal Compliance & IP Team that inspects the education on and the status of ethics management. In addition, the company appoints compliance leaders and compliance managers in each team to identify and make improvements on compliance risks.

#### Operation of Task Force for Integrated Compliance

Prior to the merger with prev. Cheil Industries' material business unit, Samsung SDI operated a task force (TF) team to integrate compliances of each company. In order to create an integrated synergy, the team complemented compliance regulations, strengthened pre-risk management, and carried out compliance benchmarking. In addition, the team inspected the status of internal business enhancement of the company and shared the results. In future, Samsung SDI aims to accomplish more sophisticated levels of operation by integrating compliance infrastructures and sharing strengths and best practice cases of each department.

#### Integrated Compliance Operational Regulation

Samsung SDI is currently undertaking a process of unifying compliance regulations by comparing and reviewing the operational regulations on compliance from Samsung SDI and from prev. Cheil Industries' material business unit. In 2015, Samsung SDI will review and organize related operational regulations, including Compliance Control Standard, Compliance Supervision Regulation, and self-initiated Fair Trade Compliance Regulations.

#### Main Tasks of Compliance TF

- **Execute a successful merger**  
Strengthen the management of risks that could occur during merger i.e. succession of personal information, redetermination of compliance regulations, etc. in advance (emerging risk, etc.)
- **Maximize synergy**  
Benchmark compliance
- **Analyze the difference between the two companies and establish measures**  
Compliance-related scheme, operational program, system, and assessment

## Internalize Compliance & Ethics Management

### Customized Training

Samsung SDI executes anti-corruption and compliance trainings for all employees to raise employees' sense of ethics and prevent unethical risks in advance. The company offers trainings customized by the level of job position and the duties to be more effective.



#### By position level

Carried out customized trainings for each position level (employees, executives, Compliance Manager) (8,926 persons)



#### By online training

Carried out online training for all employees (5,056 persons)



#### By job position

Carried out customized trainings for subcontracting certification, for domestic and for overseas (5,472 persons)



#### Others

Carried out dissemination trainings for the heads of overseas subsidiaries and suppliers (766 persons)



#### Anti-corruption training

For all domestic/overseas employees, new/career employees, suppliers (Employees: 24,060 persons, suppliers: 40 persons)

### Self-initiated Compliance Review

Samsung SDI encourages all employees to review compliance risks related to their jobs through the 'self-check' functionality of the compliance system. In 2014, the risks such as trade secrets, anti-corruption, cartel, related-party transaction were taken into special consideration. Each team, not just individuals, voluntarily carries out compliance projects to develop business-centered compliance activities. In addition, the compliance index evaluation system is established to evaluate each department and reflect the results in appraising its executives. In 2014, Samsung SDI conducted audits on registration process and transaction records of suppliers, recruitment process, product and material management status, and strict measures were taken for any violations to the corporate regulation. Followed by the anti-corruption audits in 2014, a total of 77 employees\* who committed corruption received disciplinary measures, and contracts with nine business partners\* involved in corruptions were terminated.

\* Data of prev. Cheil Industries' Material Business Unit is included due to the merger.

## Enhancing Compliance Execution Abilities

### Fortifying site inspection

Samsung SDI regularly carries out inspections for the departments most likely to face legal risks such as purchase, sales, and production management. The company conducts a comprehensive inspection to check employees' contact with competitors, and strengthens its inspection on major risks, including fair trade and subcontracting, to eliminate collusion. Also, Themed audits by job categories are carried out to see whether they are in compliance with relevant regulations. In 2015, the company plans to change its periodic inspection to year-round inspection in order to enhance its ability in compliance execution.

### Facilitating Communication

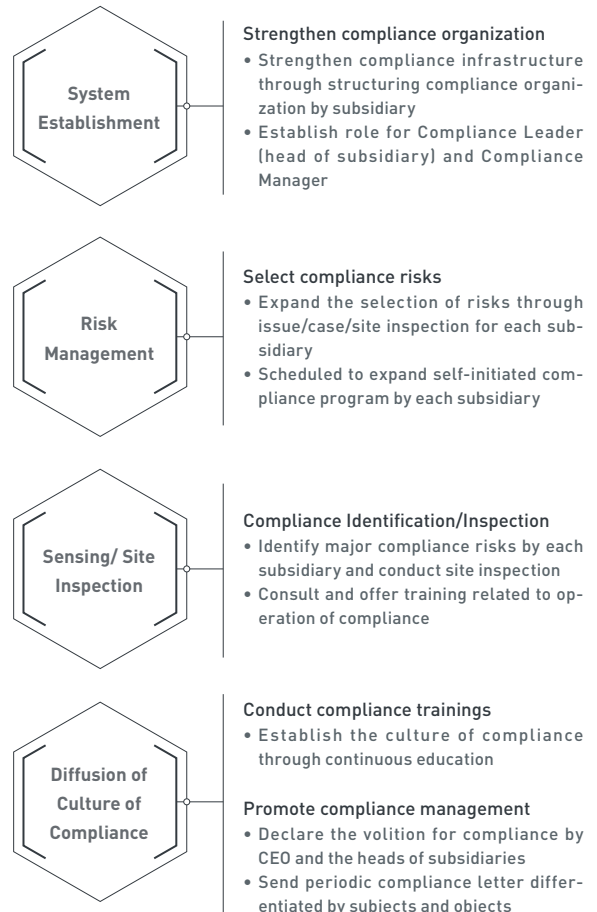
Samsung SDI holds meetings to gather opinions on and discuss about compliance with the sites. In addition, online and offline report channels are in service to collect opinions of stakeholders and information on violation of compliance management, unfair business conduct, etc.

### 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 US, EU, Japan, and Korea. This case was closed with a court decision to impose penalties on Samsung SDI in Korea, the US and several countries, and 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 2014, there were never any fines or sanctions imposed on Samsung SDI in relation to violations of country-specific laws or regulations.

## Strengthening Compliance Management of Overseas Subsidiaries Activities

As its business enlarges in overseas markets, Samsung SDI implements compliance activities to abide by each country's laws and global standards.



## 2014 OUR PERFORMANCE



**19,985 persons**

Participated in compliance & ethics management trainings



**36 times**

Number of compliance inspection on sites



**24,060 persons**

Participated in anti-corruption trainings

# Talent Management

## Our Approach

- Operation of Talent Management System
- Recruitment of Outstanding Talents
- Achievement in Business Expertise
- Enhancement of Global Competence
- Fair Performance Assessment and Compensation

## How we create value?

### Operation of Talent Management System

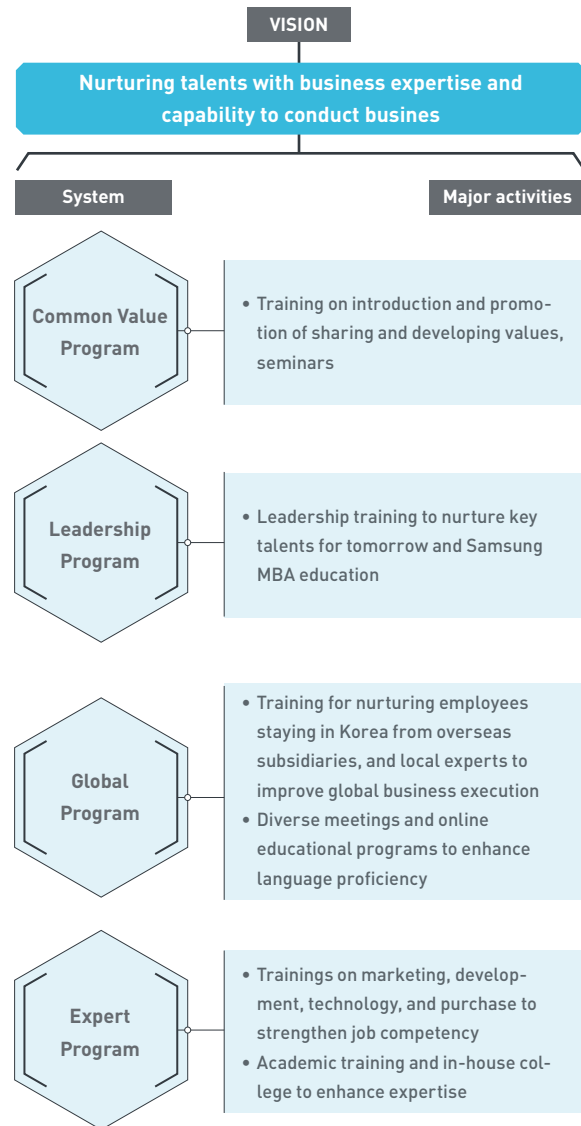
Samsung SDI undertakes its talent management with a strong belief that 'it is neither strategy nor value but talent that creates our future'. The company nurtures talents and aims to have expertise and competence to conduct business through its talent nurturing system. The talent nurturing system consists of value program, leadership program, global program, and expert program. Samsung SDI plans to fully integrate training systems to enhance employees' competence in accordance with the strategy of the merged company.

### Recruitment of Outstanding Talents

To secure global competitiveness and to enlarge its presence in the global market of new businesses, Samsung SDI makes continuous efforts in recruiting outstanding talents for each country, especially in strategic business locations. In addition, the company is committed to increase programs that engage foreign employees and mentoring programs that help new recruits adapt to the company. Meanwhile, Samsung SDI offers special recruitment for the socially disadvantaged such as for those with just a high-school diploma, the disabled, and those with flexible work schedules. Since 2012, Samsung SDI has been recruiting those who showed outstanding performance at skill competitions. In 2015, the company will activate more channels, including overseas recruiting, Ph.D. conferences in Korea, membership loan programs, and internship programs, to discover and secure outstanding talents.

### Securement of Job Expertise

Samsung SDI strengthens employees' expertise by expanding its job training related to new business. We also run the 'Edu-park' system on the intranet to create a self-learning culture and also provide support to employees for assessing their job capacity and planning their self-improvement measures. Furthermore, we are currently in the process of reforming the system to support receiving government registered certificates.



## THE VOICE OF STAKEHOLDERS

**"The trainings at the headquarters in Korea gave me a chance to experience Samsung SDI's culture and learn about the company's vision."**

The off-the job training\* at the headquarters in Korea was very useful to share and understand the goal and direction of Samsung SDI's businesses. The followings were the merits of the training:

- Share the company's goals, vision, strategies, and culture
- Understand the culture that Samsung SDI pursues
- Learn about global system operation

Beside the knowledge I've obtained, it was meaningful to finally meet the co-workers that I had only contacted via conference calls. I believe these trainings can be the opportunity to bridge overseas subsidiaries with headquarters, which will eventually serve as a foundation for Samsung SDI to grow. I hope trainings like this will continue regularly alongside with hands-on trainings.

**- Rod Dayrit, manager at the US Subsidiary -**

\*held from July 7th to July 11th, 2014/ participated by 12 employees from the US, Japan, Taiwan, etc.



## Enhancement of Global Competence

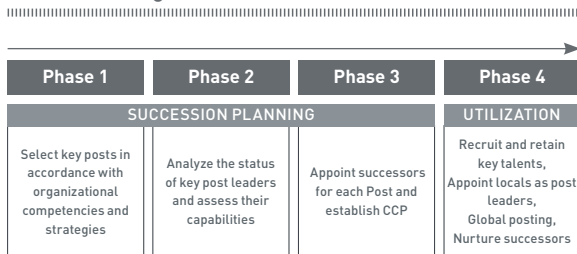
Samsung SDI focuses on boosting its employees' global competence to nurture global talents who have tolerance to accept diversity and global capabilities. The company provides educational programs on language and global cultures, and operates global standard system, SSPM (SDI Policies & Procedures Management). In 2014, employees from overseas subsidiaries from six countries, including the US, Japan, and Taiwan, were dispatched to the headquarters in Korea to learn about Samsung SDI's corporate culture, vision, business goals, and strategies, and to acquire a general understanding of the company and its marketing process.

### Localization Policy

Samsung SDI structures its local management system through the enhancement of overseas subsidiaries and the standardization of systems. The company utilizes STaR (Samsung Talent Review), a tool to assess the organization and individual competence, to conduct capability assessment of the heads of major departments, and to nurture and dispatch talents at the right places.

In 2014, the company undertook diverse initiatives – increasing locally-hired heads, promoting outstanding talents, strengthening evaluation authority- in accordance with 'authority expansion of local employees' and 'reinforcement of global mobility' policies. As of the end of 2014, there are 70 locally-hired heads which consists of 44% of entire heads of departments. In 2015, Samsung SDI will continue to increase the ratio of outstanding locally-hired heads of departments through internal training and recruitment.

### STaR(Samsung Talent Review)



## Fair Performance Assessment and Compensation

### Performance Assessment and Compensation

Samsung SDI motivates its employees through fair compensation based on fair performance assessment. 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 capability assessment conducted of necessary job capacities by the position.

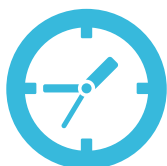
### Welfare & Benefits Programs

Category	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, their spouses, and children
Others	Support for private pension plans, comprehensive/general health check-ups, welfare points, family events, guesthouse facilities, etc.

### Operation of Retirement-preparation Programs

Samsung SDI operates Career Development Center to help employees relieve some of their anxiety about life after retirement and to prepare a new path for their later years in advance. In addition to pre-retirement training for soon-to-be retirees, the Career Develop Center offers full support for reemployment and/or startups.

## 2014 OUR PERFORMANCE



**125 hours**

Annual average training hours per person



**44%**

Ratio of locally-hired post heads

# Supply Chain CSR

## Our Approach

- Continuous Spreading of S-Partner Certification Program
- Respond to Conflict Minerals Restriction

## How we create value?

### Continuous Dissemination of S-Partner Certification Program

Samsung SDI's S-Partner Certification Program was designed to diagnose and resolve CSR issues across its supply chain. This program aims to comprehensively evaluate five areas – labor, environment, health and safety, ethics, and system. Each year, the evaluation items are supplemented in consideration of regulations and global standards, customer requirements, and major issues. This program allows Samsung SDI to encourage its suppliers to identify CSR risks and improve their outcomes. Following the merger, Samsung SDI will expand the program to include the suppliers of Electronic Material Division.

#### S-Partner Certification Process



#### Assessment Process

All Samsung SDI suppliers in contract relationship are subject to self-initiated diagnoses and on-site inspections by Samsung SDI at least once every two years. The assessment items include labor, environment, health and safety, ethics, compliance management, and management system. Suppliers that satisfy criteria are given S-Partner Certification. If a supplier fails to score the targeted points or if a major risk factor is discovered, the supplier is asked to submit improvement plans within one month and Samsung SDI reassesses it within three months.

Evaluation Item	Details
Labor	Child labor, work hours, wages and compensation, humanitarian treatments, etc.
Environment	Licensing, pollutant management, wastewater/waste, product environment, etc.
Health & Safety	Safety devices, emergency awareness, occupational injuries, occupational hygiene, etc.
Ethics	Guidelines/procedures, business integrity, management systems, etc.
Management system	ISO14001, OHSAS18001, BCM, etc.
Process	<ol style="list-style-type: none"> <li>1 Self-initiated diagnosis (suppliers)</li> <li>2 On-site inspections (Samsung SDI)</li> <li>3 Submission of improvement plans (within one month)</li> <li>4 Reassessment (suppliers who failed to satisfy evaluation criteria)</li> </ol>
Assessment result	<ul style="list-style-type: none"> <li>• Outcomes are reflected in overall supplier evaluation</li> <li>• Suppliers who failed must undergo reassessment               <ul style="list-style-type: none"> <li>- Existing suppliers: over 80 points out of 100 points</li> <li>- New suppliers: over 70 points out of 100 points</li> </ul> </li> <li>• The termination of transaction is reviewed in cases where mandatory requirements are not satisfied (Child labor, etc.)</li> </ul>

In 2014, Samsung SDI has selected mandatory requirements, including child labor, pollutant discharge facility parameters, and waste treatment methods. Suppliers were informed that their transaction with Samsung SDI may be terminated if they failed to meet the mandatory requirements. In addition, the program was reinforced to add penalty when suppliers fail the reassessment, as a means to encourage them to improve their weak areas. In addition, Samsung SDI has strived to prevent the violation of major CSR-related issues by requiring suppliers to sign a written pledge to ban child labor and providing training on compliance for its suppliers' employees.

### Achievement and Direction for Improvement

In 2014, Samsung SDI conducted the assessment for 98 suppliers in Korea, China, Malaysia, and Vietnam. 6 suppliers (3 in Korea and 3 in overseas) failed to satisfy the qualification standard, submitted improvement plans, and were reassessed. According to the assessment results in 2014, there were no violations of mandatory requirements including child labor.

### S-Partner 2014 Achievement & 2015 Plan

	2013 Achievement	2014 Target	2014 Achievement	2015 Target
Korea	85	84	67	95 <sup>1</sup>
Overseas <sup>2</sup>	17	19	31	30
Total	102	103	98	125

1. Includes 5 suppliers of Electronic Material Division

2. Local suppliers in China, Malaysia, and Vietnam

Samsung SDI plans to make improvements in the following process which were identified while operating the program.

### Main Initiatives

Provide suppliers trainings on the details of S-Partner Program

Reestablish assessment standard and method

Guide and support suppliers subjected to reassessment

Support establishment of suppliers' environment management system

### Respond to Conflict Minerals Restrictions

The use of 'conflict minerals' is emerging as a serious worldwide business ethics issue. With EICC playing a leading role, the electronics industry is 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 understands the purpose of the restriction of four major conflict minerals (tantalum, tin, tungsten, and gold) and is investigating the use of those minerals in an effort to proactively respond to the restrictions.

### Establishment of Conflict Mineral System

Samsung SDI has established and operated conflict material investigation and status analysis system in supplier portal and the company's intranet (SMIS) in order to respond to strengthened restriction and customers' opinions on the conflict minerals, and to systematically investigate the use of the conflict minerals from its suppliers and analyze the result,

#### Supplier Portal (Mega Step): Established investigation system

- Whether a supplier used conflict minerals or not
- Smelter information
- Regulations and management system regarding conflict minerals

#### Intranet (SMIS): Established Current Status Analysis System

- Identify Current status and accreditation regarding conflict minerals
- Analysis on conflict minerals

### Major correspondence activity

In 2014, Samsung SDI investigated the stocked materials of its primary suppliers of small-sized Li-ion battery division and automotive and ess battery division to check whether conflict materials were used and the conditions of their smelters. In 2015, the company will expand its investigation to include Electronic Material and Chemical Division, while making efforts to transform the smelters that provide four minerals to suppliers into accredited 'conflict-free smelter' if they don't have the already possess the accreditation.

## 2014 OUR PERFORMANCE



**98 suppliers**

Current Status of S-Partner  
Certification



**127 suppliers**

Participating in the investigation  
of conflict minerals

# Customer Satisfaction Management

## Our Approach

- Enhancement of Quality Competitiveness
- Quality Management Activities by Each Division
- Customer Satisfaction Initiatives

## How we create value?

### Enhancement of Quality Competitiveness

#### Company-wide Quality Exchange Meeting

Samsung SDI holds a quality exchange meeting to improve quality competitiveness for the entire company and to share excellent practices from each division. The heads of the quality teams in four divisions and the team leader of quality management team in the headquarters participate in the meeting. In 2014, following topics were discussed and shared at the meeting i.e. discovering internal lecturer and operating company-wide training on quality management, the plan to introduce Quality Management Award, benchmarking amongst divisions on quality index, and quality management achievements.

#### Major Achievements of Company-wide Quality Exchange Meeting

##### Consultation on Quality Certification Program

- Complete designated hours of education on quality, Implement Q-Test (Quality Knowledge Level Test)
- Introduce Quality Certification Program

##### Consultation of the introduction plan for SDI Quality Management Award (tentative name)

- Identify and share best practice cases on quality enhancement from each division and location
- Operate task force team responsible for holding SDI Quality Management Award

##### Quality Index-related benchmarking by each division

- Identify excellent cases and introduce them to the entire company
- Share the current status of operation of 4 divisions on quality index and standardize



## Major Quality Management Activities

### Small-sized Li-ion Battery Division

Samsung SDI's Small-sized Li-ion Battery Division analyzes the actual cause of a phenomenon based on objective data. Through the 'Daily Issue Inspection Meeting', the company shares the result of inspections by the areas of VOC (Voice of Customer) and by issues, and selects items for quality activities. In addition, the company operates 'Eradicate Chronic Defects Task Force (TF)' to minimize rate of defects and to focus on innovating product quality in order to provide better products for its customers. The TF figures out the root cause of a malfunction to minimize its recurrence, standardizes quality management factors, and gauges and quantifies a product's specification.

### Automotive and ESS Battery Division

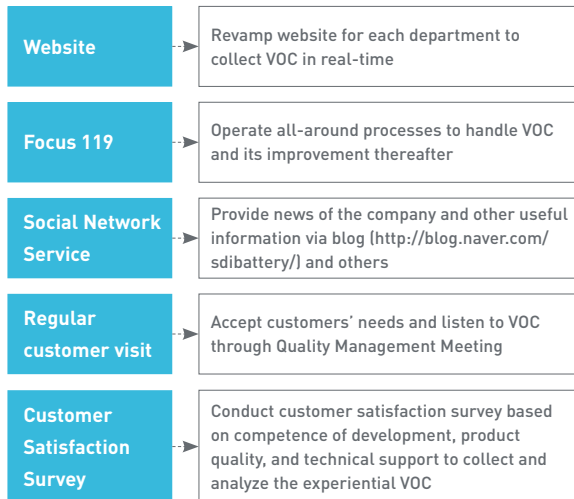
Through a constant effort to enhance quality management, automotive and ESS battery division strives to achieve 'zero defects' and customer satisfaction. Prior to launching a product, the division demonstrates and verifies it in an environment equivalent to that of customers. The division also operates a special task force to minimize defects occurring during the manufacturing process. In addition, the division conducts internal inspections based on analyzed VOC and Real-time monitoring customer's usage environment through web monitoring system. The division performs an inspection of standardization on entire battery cells from stocking to shipment. In addition, the customer safety system is operated to enhance traceability. Meanwhile, the division has newly established SQE (Supplier Quality Engineer), a quality management team, to supervise the suppliers' quality management and enhance product competitiveness.

### Electronic Material and Chemical Division

Electronic Material and Chemical Division operates the 'Focus 119' system to clarify the process of handling VOC and compensation. Focus 119 systematically manages and handles every step from receiving VOC to resolving in a prompt manner. It is also used to identify improvements of previous issues and compensate customers. Meanwhile, the product safety of Chemical Division was certified by Underwriters Laboratories (UL), America's well-known safety certification company. As of 2014, the division has approximately 430 certifications. The test duration was shortened from 8 weeks to 4 weeks after its 'in-house fire-resistance test lab' was certified by UL. The four test items certified by UL include horizontal, vertical, and panel burning tests, and two researchers obtained certifications related to fire resistance test.

## Customer Satisfaction Initiatives

Samsung SDI operates a variety of communication channels in order to reflect 'voice of customers (VOC)' to its business to conduct it in a more efficient manner.



## Product Safety Enhancement

Samsung SDI makes various efforts to secure product safety for its customers' safety and health. As a response to the increasing anxiety of customers caused by the incidents of battery causing a smartphone to ignite or explode, the company is developing 'all solid battery' that can substitute liquid electrolyte and separator, with solid electrolyte to remove the root cause of such accidents. In addition, safety technology to prevent over-charge, over-discharge, and overheat is applied from the developmental stage. Prior to production, a product goes through a test in an environment that replicates that of the ignition incident and only the products that pass the test are offered to customers.

## Four Safety Tests

Test Item	Test Method
Penetration	Penetrate battery with nail
Crash	Give powerful external impact such as dropping weight on the product
Compression	Bend battery with a potent force
Exposure to heat	Expose the product in high heat for designated time

In addition, an integrated quality management system (IQM) discloses information on safety requirements, status of processes, and number completed in real time.

## Strengthened Customer Response

Samsung SDI's Customer Environment Test (CET) system allows its customers to utilize new products for their project smoothly. The CET 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. In 2014, Samsung SDI handled customers' needs stably by differentiating the system by each application to ensure a more prompt and systemic response to customer projects on diverse new applications.

## 2014 OUR PERFORMANCE



**8 times**

Operation of Quality Management Exchange Meeting<sup>1</sup>



**100%**

Early approval rate on new compulsory certification standard<sup>2</sup>



**345 cases**

CET<sup>3</sup> Achievements

1. as of the end of April, 2015

2. Taiwan BSMI

3. CET(Customer Environmental Test)

# APPENDIX

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## Economic Performance

### Summary of Consolidated Financial Statements

Unit: KRW million

Category	2010	2011	2012	2013	2014
Current Assets	2,451,455	2,364,109	2,414,856	2,063,192	3,535,555
Non-current Assets	5,482,112	6,163,302	8,480,231	8,492,479	12,432,995
Total Assets	7,933,567	8,527,411	10,895,087	10,555,671	15,968,550
Current Liabilities	1,098,399	1,749,983	2,004,041	1,526,957	2,254,255
Non-current Liabilities	604,307	462,901	1,326,564	1,486,298	1,887,384
Total Liabilities	1,702,706	2,212,884	3,330,605	3,013,255	4,141,639
Stockholders' Equity	240,681	240,681	240,681	240,681	356,712
Capital Surplus on a Consolidated Basis	1,255,831	1,258,120	1,258,440	1,262,958	5,032,601
Other Capital on a Consolidated Basis	(169,965)	(165,395)	(163,787)	(163,442)	(10,849)
Accumulated Other Comprehensive Income on a Consolidated Basis	1,333,567	1,173,912	1,051,350	1,001,907	1,345,646
Retained Earnings on a Consolidated Basis	3,391,052	3,610,804	4,986,541	5,035,989	4,862,322
Minority Interests	179,695	196,405	191,257	164,323	240,479
Total Stockholder's Equity	6,230,861	6,314,527	7,564,482	7,542,416	11,826,911
Revenue	5,124,275	5,443,881	5,771,185	5,016,465	5,474,222
Operating Income	286,812	203,714	186,874	(27,394)	70,818
Income from discontinued operations	-	-	-	-	(232,433)
Net Income	385,112	351,055	1,486,814	147,916	(80,314)
Total Comprehensive Income	1,106,302	156,950	1,324,530	79,601	243,881

\*The PDP Business and the Solar Battery Business were classified as discontinued operations in 2014. These businesses during the period between 2010 and 2013 are prior to its classification as discontinued operations.

## Environmental Performance

### INPUT

#### Energy and Water

The amount of energy consumption was 21,152 TJ in 2014, 2,312 TJ less than the previous year, and the amount of water consumption in 2014 was 8,929 kilotons, which is 1,133 kilotons less than the previous year. The reduction in energy and water consumption was caused by the termination of the PDP business.

#### Hazardous Chemicals

Samsung SDI used 222,418 tons of hazardous chemicals, which was 63,117 tons more than the previous year. Most of the hazardous chemicals were used in the material business, and the increase in consumption was influenced by the Chemical Division.

### OUTPUT

#### GHG

The GHG emissions amounted to 1,136,622 tCO<sub>2</sub>e. It was decreased by 127,583 tCO<sub>2</sub>e compared with the previous year. The other GHG emissions generated by employee business trips and the transport of products amounted to 3,085 tCO<sub>2</sub>e. Due to the discontinuation of the PDP business, which created a relatively large amount of GHG emissions, the amount of GHG emissions was decreased compared with the previous year.

#### Waste

The waste generated in 2014 was decreased by 7,057 tons compared with the previous year, and amounted to 91,857 tons. The re-

cycling rate of the waste is 95%. Samsung SDI considers recycling waste very important in terms of enhancing resource circulation.

#### Managing Pollution Level

Samsung SDI manages the wastewater and air pollutant generated during the business process in accordance with its own standard which is even more stringent than the legally-binding requirements. Ozone-depleting substances are not directly used in manufacturing: the number represents refrigerators' supplementary refrigerants converted into CFC11eq. Samsung SDI will gradually replace the refrigerators with lowered efficiency to minimize the emissions of ozone-depleting substances.

#### Environmental KPI Status for Energy

Major environmental KPI for energy section reported every year is represented in the following chart. Samsung SDI plans to establish and disclose company-wide environmental goals, including material business unit.

Indicator	Unit	Base Year [2005]	2014 Performance	2015 Target
GHG Efficiency	KRW 100 million/ 1000 tCO <sub>2</sub> e	45.47	64.11(1.4times)	2.0times↑
Water Efficiency	KRW 100 million/kiloton	3.06	8.67(2.8times)	2.5times↑
Hazardous Chemicals Efficiency	KRW 100 million/ton	1.11	4.31(3.9times)	2.0times↑
Waste Efficiency	KRW 100 million/ton	0.42	1.12(2.7times)	2.0times↑
Waste Recycling Rate	%	89.8	95.0	Above 95%
Waste Landfill Rate	%	10.2	5.0	Below 5%

## INPUT

Indicator	Category		Unit	2010	2011	2012	2013	2014
Energy	Total		TJ	20,685	21,388	23,006	23,464	21,152
	Energy Biz.	Korea	TJ	11,080	11,935	12,251	11,613	8,623
		Overseas	TJ	3,198	3,160	3,145	3,360	3,401
	Material Biz.	Korea	TJ	6,407	6,293	7,610	8,491	8,806
		Overseas	TJ	-	-	-	-	323
	Intensity		TJ/KRW 100 million	0.24	0.23	0.23	0.25	0.25
Water	Total		kiloton	12,354	11,749	11,479	10,061	8,929
	Energy Biz.	Korea	kiloton	4,884	5,293	5,098	4,538	3,156
		Overseas	kiloton	3,491	3,258	3,011	1,809	1,625
	Material Biz.	Korea	kiloton	3,979	3,197	3,371	3,714	4,148
		Overseas	kiloton	-	-	-	-	-
	Intensity		kiloton/KRW 100 million	0.14	0.13	0.11	0.11	0.11
Hazardous Chemicals	Total		ton	155,110	146,077	157,321	159,302	222,418
	Energy Biz.	Korea	ton	27,619	24,661	24,891	21,724	9,436
		Overseas	ton	1,322	1,251	777	245	187
	Material Biz.	Korea	ton	126,170	120,165	131,653	137,333	212,795
		Overseas	ton	-	-	-	-	-
	Intensity		ton/KRW 100 million	1.78	1.56	1.57	1.69	2.65

## MATERIAL FLOW MAP

## INPUT



## Materials (ton)

Chemicals	1,074,023
Glass	27,044
Filler&metal	93,332
Others	25,209
Papers	27,229
Plastics	33,269
Wood	1,756



## Energy (TJ)

21,152



## Water (kiloton)

8,929

## OUTPUT

GHG (tCO<sub>2</sub>eq)

Direct & Indirect Emissions	1,136,622
Employee Business Trips	2,472
Product Transports	613



## Waste (ton)

Discharged Amount	91,857
Recycle	86,899
Recycling Rate	95%



## Treated water (kiloton)

6,140



## Pollutants (ton)

\*based on the sites in Korea

COD	140
SS	62
Dust	46

## CUSTOMERS

Product Sales 1,184,921 tons



## OUTPUT

Indicator	Category		Unit	2010	2011	2012	2013	2014	
GHG	Direct & Indirect Emissions	Global	tCO2e	1,150,947	1,171,655	1,223,596	1,264,205	1,136,622	
		Energy Biz.	Korea	tCO2e	554,614	597,001	580,027	545,761	399,783
			Overseas	tCO2e	239,021	240,558	247,838	275,067	246,854
		Material Biz.	Korea	tCO2e	357,312	334,096	395,731	443,376	466,920
			Overseas	tCO2e	-	-	-	-	23,064
	Intensity	tCO2e/KRW 100 million	13.21	12.54	12.23	13.41	13.52		
	Other Emissions	Global	tCO2e	-	-	3,531	2,460	3,085	
		Employee Business Trip	Energy Biz.	tCO2e	-	-	2,825	1,860	1,325
			Material Biz.	tCO2e	-	-	-	-	1,148
		Product Transport	Energy Biz.	tCO2e	-	-	706	600	418
Material Biz.			tCO2e	-	-	-	-	194	
Waste	Amount	Global	ton	109,731	116,529	104,090	98,913	91,857	
		Energy Biz.	Korea	ton	35,686	48,407	33,324	32,258	30,298
			Overseas	ton	19,635	16,155	18,619	12,119	6,606
		Material Biz.	Korea	ton	54,410	51,968	52,146	54,536	54,953
			Overseas	ton	-	-	-	-	-
	Intensity	ton/KRW 100 million	1.26	1.25	1.04	1.05	1.09		
	Recycling Rate	Global	%	85.2	86.9	86.3	91.1	94.6	
		Energy Biz.	Korea	%	91.8	93.8	93.9	94.6	95.0
			Overseas	%	83.0	86.2	90.7	89.7	85.4
		Material Biz.	Korea	%	78.4	78.3	78.7	88.3	94.4
			Overseas	%	-	-	-	-	-
	Landfill Rate	Global	%	14.8	13.1	13.7	8.9	5.4	
		Energy Biz.	Korea	%	3.4	3.6	4.3	3.5	2.9
			Overseas	%	17.0	13.8	9.3	10.3	14.6
		Material Biz.	Korea	%	21.6	21.7	21.3	11.7	5.6
Overseas			%	-	-	-	-	-	
Treated Water	Wastewater Treatment Amount	Global	kiloton	10,504	9,788	8,563	8,159	6,140	
		Energy Biz.	Korea	kiloton	5,803	5,428	4,521	4,387	2,820
			Overseas	kiloton	1,538	1,827	1,461	759	425
		Material Biz.	Korea	kiloton	3,164	2,532	2,582	3,013	2,896
	Overseas		kiloton	-	-	-	-	-	
Intensity	kiloton/KRW 100 million	0.12	0.10	0.09	0.09	0.07			
Pollution Level	Water-quality (Korea)	BOD	kg/KRW 100 million	3.67	3.09	2.14	1.56	0.53	
		COD	kg/KRW 100 million	3.94	3.93	3.25	2.58	1.67	
		SS	kg/KRW 100 million	2.12	2.17	1.76	2.28	0.74	
	Air (Korea)	Nox	kg/KRW 100 million	1.90	1.16	0.90	1.26	1.43	
		Sox	kg/KRW 100 million	0.49	0.11	0.20	0.03	0.05	
		Dust	kg/KRW 100 million	0.49	0.48	0.48	0.45	0.54	
	Ozone-depleting Substances	Global	kgCFC11eq	1,401	1,330	849	454	266	
		Energy Biz.	Korea	kgCFC11eq	38	28	37	47	65
			Overseas	kgCFC11eq	1,328	1,215	729	283	65
		Material Biz.	Korea	kgCFC11eq	35	88	82	125	136
Overseas			kgCFC11eq	-	-	-	-	-	
Intensity	kgCFC11eq/KRW 100 million	0.016	0.014	0.008	0.005	0.003			

### Notes related to the generation of data

1. The scope of data collection includes all production subsidiaries, headquarters, and research centers in Korea and overseas except sales subsidiaries and offices
2. The sales used for calculating intensity is the sum of annual sales of both energy and materials businesses.
3. Wastewater output represents the amount of treated process water and excludes sewage water(municipal wastewater).
4. Hazardous chemicals data is based on the substances in Korea's Chemicals Control Act.
5. Air and water pollution output data is limited to Korean operations, since overseas subsidiaries have different measurement standards and therefore impossible to sum up the total amount.

## Social Performance

Category		2010	2011	2012	2013	2014	
Employment (unit: Headcount)	Total	12,662	14,155	15,451	16,449	20,222	
	By Region	Korea	6,384	7,263	7,043	8,529	11,175
		Asia	5,093	5,856	7,589	7,239	8,581
		Europe	535	411	300	138	308
		America	650	625	519	543	158
	By Employment	Regular	11,439	13,085	13,990	14,397	18,794
		Contractual	245	239	263	1,177	1,018
Outsourced		978	831	1,198	875	410	
Turnover Rate (unit: %)	Total	21.0	11.3	26.3	25.6	25.8	
	By Region	Korea	3.1	2.6	3.2	2.7	6.8
		Asia	50.5	20.1	49.1	50.8	46.0
		Europe	36.7	35.8	48.3	115.9	61.4
		America	35.6	21.8	27.9	28.3	289.8
	By Gender	Female	34.9	21.3	41.8	51.0	46.0
		Male	13.8	7.5	18.4	15.5	18.5
	By Age	Under 30	30.8	16.2	44.0	47.1	39.0
		30-50	9.3	7.0	6.4	8.2	14.8
		Over 50	13.0	7.3	7.3	7.9	26.7
Per Capita Training Hours (Unit: hours) *Based on Korea		107	122	104	126	125	
Parental Leave *Based on Korea	No. Employees using parental leave	85	118	145	154	172	
	Percentage of employees returning after leave (unit: %, No. of returners/No. of leave*100)	81	93	90	90	77	
	Retention rate (unit: %, employees remaining at work for 12 months or longer after returning from leave)	83	86	83	96	88	
Injury Rate (unit: %, total injury count/ total hours worked*100)	Total	0.36	0.15	0.09	0.07	0.03	
	By Region	Korea	0.03	0.02	0.04	0.03	0.04
		Asia	0.61	0.27	0.09	0.11	0.01
		Europe	0.00	0.15	0.62	0.31	0.00
		America	2.26	0.93	0.64	0.70	0.00
Loss Day Rate (unit: %, No. of loss days/ total hours worked*200,000)	Total	11.41	4.50	3.72	3.72	2.42	
	By Region	Korea	4.08	0.52	3.68	1.83	3.56
		Asia	10.61	7.88	1.94	6.22	0.59
		Europe	0.00	1.95	6.21	0.00	0.00
		America	97.09	37.60	36.54	21.81	0.00
Matching Grant Funds Raised (unit: KRW million)	Total	538	600	674	1,328	3,099	
	Employees	269	300	337	664	1,832	
	Samsung SDI	269	300	337	664	1,266	
Accumulated No. of Beneficiaries of Free-of-Charge Eye Surgery (unit: headcount, in Korea and Yanbian prefecture in China)		170,672	178,733	187,303	196,702	206,124	

\*Injury rate and loss day rate in 2014 are the combination of those of Samsung SDI and those of prev. Cheil Industries' material business unit.



## Third Party's Verification Statement

### ■ Introduction

Korean Foundation for Quality (hereinafter 'KfQ') has been engaged by SamsungSDI Co., Ltd.(hereinafter the 'Company') to independently verify its 2014Greenhouse Gas Emission Report of domestic corporations and 11 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. 2014-186 of Ministry of Environment)' and 'ISO 14064-1:2006', and KfQ has responsibility to conduct verification based on the ISO 14064-3to provide verification opinion on compliance of the Report against verification criteria.

### ■ Verification Scope

In this verification, domestic corporations and 11 overseas subsidiaries under operational control of Samsung SDI Co., Ltd., and reported emission in 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) 2014 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 2014 domestic Greenhouse Gas Emission(Scope 1 and Scope 2), materialdiscrepancy is less than the criteria of 2.5% for the organization who emits more than 500,000tCO2e/yrin accordance with the requirements of the 'Greenhouse Gas and Energy Target Management Scheme' :
- 3) For the 11 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 calorific value and electricity emission factor were preferentially used but net calorific 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 of 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 correctiveness is substained in 2014 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 2014 Samsung SDI Co., Ltd., Greenhouse Gas Emission Report.

(unit : ton CO<sub>2</sub> eq)

Report year		2014. 1. 1 ~ 2014. 12. 31									
Verification Scope		Domestic	Overseas								
			Tianjin	Suzhou	Shenzhen	Dongguan	Malaysia	Vietnam	Hungary	Mexico	Sum
GHG Emission	Scope 1,2	866,703	155,596	2,955	3,838	3,264	84,643	5,755	6,891	6,976	269,918
	Scope 3	3,085									

[2014 Samsung SDI Co., Ltd., Greenhouse Gas Emission]

April 16th, 2015

Daehyun Nam  
President & CEO Korean Foundation for Quality

## Independent Assurance Statement

### Introduction

DNV GL Business Assurance Korea. (hereinafter “DNV GL”) is commissioned to carry out the assurance engagement of the Sustainability Report 2014 (hereinafter “the Report”) of Samsung SDI Co.,Ltd.(hereinafter “Samsung SDI”). This engagement focused on the information provided in the Report and the underlying management and reporting processes.

Samsung SDI is responsible for the collection, analysis, aggregation and presentation of all information within the Report. DNV GL’s responsibility in performing the work follows terms of reference and scope of work agreed. The assurance engagement is based on the assumption that the data and information provided to us is complete, sufficient and authentic. Samsung SDI’s stakeholders are the intended recipients of the assurance statement.

### Scope of Assurance

This Assurance Engagement covered data from the calendar year 2014. The scope of DNV GL’s Assurance Engagement includes only for operations under control in Korea the review and assessment of followings:

- Evaluation of adherence to Accountability principles provided in AA1000 Accountability Principles Standard (APS) 2008 with Type 1, a moderate level of assurance as stated in AA1000 Assurance Standard (AS) 2008.
- Verification of disclosures to check the Report is prepared ‘In accordance’ with the GRI Guidelines G4 (Core option) (Aggregated level of data that refers to the period between January and December in 2014)
- Visit to Samsung SDI Head office in Seoul, Korea in April 2015.

### Limitations

The engagement excluded the sustainability management, performance and reporting practices of Samsung SDI’s suppliers, contractors and any third-parties mentioned in the Report. DNV GL did not interview external stakeholders as part of this Assurance Engagement. Any financial information from Samsung SDI’s annual report and company reporting on operations in 2014 or other sources are not included in the scope of the Assurance. Economic performances based on the financial data were cross-checked with internal documents and the audited financial statements. The aggregation and calculation process for building economic performances is reviewed and tested by the verification team. The baseline data for Environment and Social performance are not verified, while the aggregated data are used for the verification. DNV GL expressly disclaims any liability or coresponsibility for any decision a person or an entity may make based on this Assurance Statement.

### Verification Methodology

The Assurance Engagement was planned and carried out in accordance with the AA1000AS(2008). As part of the verification, we challenged the sustainability-related statements and claims made in the Report and assessed the robustness of the underlying data management system, information flow and controls.

In accordance with the Protocol, the Report was evaluated with regard to the following criteria: DNV GL has examined and reviewed documents, data and other information made available by Samsung SDI. We acquired the information and technical data from the certified management systems. We performed sample-based audits of;

- The process for determining the materiality of the contents to be included in the Report;
- The process for generating, gathering and managing the quantitative and qualitative data included in the Report.
- The accuracy of data verified.

### Conclusion

In DNV GL’s opinion, the Report provides a reliable and fair representation of Samsung SDI’s policy, practices and performance in 2014. DNV GL confirms that the report is ‘in accordance’ with the Guidelines – Core.

Further conclusions and observations on the Adherence to the principles of Inclusivity, Materiality and Responsiveness, as set forth in the AA1000APS(2008) are made below:

#### Inclusivity

Regarding sustainability issues, Samsung SDI has engaged with a wide range of stakeholders. Seven stakeholder groups which are Industry Association/Academy/Research Institutes, Local communities/NGO, Employees, Customers, Shareholders & Investors, Suppliers and Gov-

ernment are defined in the Report. It is clearly defined how to communicate with each stakeholder. Various ways of engaging stakeholders and key issues associated with respective stakeholder groups are also presented in the Report.

### **Materiality**

The materiality determination process is clearly presented in the Report. Issue pool to identify material issues is formed by analysing internal and external information sources. The frequency of internal and external issues is considered in the materiality determination process, and material issues were selected based on the materiality test results through stakeholder interviews. The material issues are identified and prioritized based on the stakeholder's opinion. Identified twelve material issues are grouped into five main aspects.

### **Responsiveness**

Stakeholders' views, interests and expectations have been considered in the preparation of the Report. Communication process to stakeholders has in place. For the material aspect, Samsung SDI presents background, risk and opportunity, approach, performance and activities are reported systematically. Response to material issues are mainly covered in the Report.

### **Opportunities for Improvement**

The following is an excerpt from the observations and opportunities reported to Samsung SDI's management. However, these do not affect our conclusions on the Report and are provided to encourage continual improvement.

- Samsung SDI is recommended to reestablish a consistent data collection standard across all organization level operation (including domestic and foreign) in merged organizations, and to introduce an auditing process to ensure the reliability of the Report.
- Periodic review the suite of targets and KPIs is recommended to ensure they are aligned with the core business strategy and set the sustainability KPIs (long term and short term) to identify the maturity of the sustainability management system. The periodic review on target and performance should be considered.

### **Statement of Competence and Independence**

DNV GL is a leading provider of sustainability services, including the verification of sustainability reports. Our environmental and social assurance specialists operate in over 100 countries. DNV GL was not involved in the preparation of any statements or data included in the Report except for this Assurance Statement. DNV GL maintains complete impartiality toward stakeholders interviewed during the verification process.

May 2015  
Seoul, Republic of Korea

In-Kyoon Ahn



**AA1000**  
Licensed Assurance Provider  
000-47

## GRI G4 Index

## GENERAL STANDARD DISCLOSURE

Classification	G4	Indicators	Page	Additional Information	External Verification
Strategy and Analysis	G4-1	Statement from the most senior decision-maker	6,7		
	G4-2	Provides a description of Key impacts, risks, and opportunities	30		v
Organizational Profile	G4-3	Report the name of the organization	83		v
	G4-4	The primary brands, products, and services	14-23,36,37		v
	G4-5	The location of the organization's headquarters	83		v
	G4-6	The number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report	9		v
	G4-7	The nature of ownership and legal form	83		v
	G4-8	The markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries)	9		v
	G4-9	Scale of the organization	8		v
	G4-10	Total workforce	8, 74		v
	G4-11	The percentage of total employees covered by collective bargaining agreements	46		v
	G4-12	The organization's supply chain	48		v
	G4-13	Any significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain	12-13		v
	G4-14	Whether and how the precautionary approach or principle is addressed by the organization	61		v
	G4-15	List Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses	78-83		
	G4-16	Memberships in associations (such as industry associations) and/or national/international advocacy organizations in which the organization	27		
	Identified Material Aspects And Boundaries	G4-17	List all entities included in the organization's consolidated financial statements or equivalent documents	Report Outline	
G4-18		The process for defining the report content and the Aspect Boundaries	26-29		v
G4-19		List all the material Aspects identified in the process for defining report content	29		v
G4-20		For each material Aspect, report Aspect Boundary within the organization	29		v
G4-21		For each material Aspect, report the Aspect Boundary outside the organization	29		v
G4-22		The effect of any restatements of information provided in previous reports, and the reasons for such restatements	Report Outline		v
Stakeholder Engagement	G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries	12,13		v
	G4-24	List of stakeholder groups engaged by the organization	26-27		v
	G4-25	Basis for identification and selection of stakeholders with whom to engage	27		v
	G4-26	Organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group	26-27		v
Report Profile	G4-27	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting	26-27		v
	G4-28	Reporting period such as fiscal or calendar year for information provided	Report Outline		v
	G4-29	Date of most recent previous report (if any)	Report Outline		v
	G4-30	Reporting cycle such as annual, biennial	Report Outline		v
	G4-31	Provide the contact point for questions regarding the report or its contents	Report Outline		v
	G4-32	Report the 'in accordance' option the organization has chosen	Report Outline		v
	G4-33	Report the organization's policy and current practice with regard to seeking external assurance for the report	76,77		v

Classification	G4	Indicators	Page	Additional Information	External Verification	
Governance	G4-34	Report the governance structure of the organization, including committees of the highest governance body	58,59		v	
	G4-35	Report the process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees	60		v	
	G4-36	Report whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body	60		v	
	G4-37	Report processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics. If consultation is delegated, describe to whom and any feedback processes to the highest governance body	60		v	
	G4-38	Report the composition of the highest governance body and its committees	58,59		v	
	G4-39	Report whether the Chair of the highest governance body is also an executive officer (and, if so, his or her function within the organization's management and the reasons for this arrangement)	58		v	
	G4-40	Report the nomination and selection processes for the highest governance body and its committees, and the criteria used for nominating and selecting highest governance body members	58		v	
	G4-41	Report processes for the highest governance body to ensure conflicts of interest are avoided and managed	58		v	
	G4-42	Report the highest governance body's and senior executives' roles in the development, approval, and updating of the organization's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental and social impacts	60		v	
	G4-43	Report the measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental and social topics	60		v	
	G4-45	Report the highest governance body's role in the identification and management of economic, environmental and social impacts, risks, and opportunities	60		v	
	G4-46	Report the highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental and social topics	60		v	
	G4-47	Report the frequency of the highest governance body's review of economic, environmental and social impacts, risks, and opportunities	60		v	
	G4-48	Report the highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material Aspects are covered	60		v	
	G4-49	Report the process for communicating critical concerns to the highest governance body	60		v	
	G4-50	Report the nature and total number of critical concerns that were communicated to the highest governance body and the mechanism(s) used to address and resolve them	60		v	
	G4-51	Report the remuneration policies for the highest governance body and senior executives	59		v	
	G4-52	Report the process for determining remuneration. Report whether remuneration consultants are involved in determining remuneration and whether they are independent of management. Report any other relationships which the remuneration consultants have with the organization	59		v	
	Ethics and Integrity	G4-56	Describe the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics	13,62		v

## SPECIFIC STANDARD DISCLOSURE - ECONOMIC

Classification	G4	Indicators	Page	Additional Information	External Verification
Economic Performance	EC1	Direct economic value generated and distributed	26-27, 71		v
	EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	38,42,43		v
	EC3	Coverage of the organization's defined benefit plan obligations	65	Defined Benefit (DB)/ Defined Contribution (DC)	v
	EC4	Financial assistance received from government	GRI Index	N/A	
Market Presence	EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	GRI Index	218% (University Graduates)	
	EC6	Proportion of senior management hired from the local community at significant locations of operation	65		
Indirect Economic Impacts	EC7	Development and impact of infrastructure investments and services supported	52-55		v
	EC8	Significant indirect economic impacts, including the extent of impacts	52-55, 65, 74	Overseas Local Community Education Support, Overseas Recruitment, etc.	v
Procurement Practices	EC9	Proportion of spending on local suppliers at significant locations of operation	51		v

## SPECIFIC STANDARD DISCLOSURE - ENVIRONMENTAL

Classification	G4	Indicators	Page	Additional Information	External Verification
Materials	EN1	Materials used by weight or volume	72		v
	EN2	Percentage of materials used that are recycled input materials	72		v
Energy	EN3	Energy consumption within the organization	71-72		v
	EN4	Energy consumption outside of the organization	71,72		v
	EN5	Energy intensity	72		v
	EN6	Reduction of energy consumption	42		v
	EN7	Reductions in energy requirements of products and services	42		v
Water	EN8	Total water withdrawal by source	72		v
	EN9	Water sources significantly affected by withdrawal of water	GRI Index	N/A	
	EN10	Percentage and total volume of water recycled and reused	72		
Biodiversity	EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas	GRI Index	N/A	
	EN12	Description of significant impacts of activities, products, and services on Biodiversity	GRI Index	N/A	
	EN13	Habitats protected or restored	GRI Index	N/A	
	EN14	Total number of IUCN red list species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	GRI Index	N/A	
Emissions	EN15	Direct greenhouse gas(GHG) emissions (scope	43,73		v
	EN16	Energy indirect greenhouse gas(GHG) emissions (scope	43, 72-73		v
	EN17	Other indirect greenhouse gas(GHG) emissions (scope	43, 72-73		v
	EN18	Greenhouse gas (GHG) emissions intensity	73		v
	EN19	Reduction of greenhouse gas(GHG) emissions	42,43		v
	EN20	Emissions of ozone-depleting substances (ODS)	71,73		v
	EN21	Nox, Sox, and other significant air emissions	71,73		v
Effluents and Waste	EN22	Total water discharge by quality and destination	71-73		v
	EN23	Total weight of waste by type and disposal method	71-73		v
Products and Services	EN27	Extent of impact mitigation of environmental impacts of products and services	42		v
	EN28	Percentage of products sold and their packaging materials that are reclaimed by category	GRI Index	N/A	



Classification	G4	Indicators	Page	Additional Information	External Verification
Compliance	EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	GRI Index	None	
Transport	EN30	Significant environmental impacts of transporting products and other goods and materials of the organization's operations, and transporting members of the workforce	71-73		
Overall	EN31	Total environmental protection expenditures and investments by type	42		
Supplier Environmental Assessment	EN32	Percentage of new suppliers that were screened using environmental criteria	67		
	EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	66-67		
Environmental Grievance Mechanisms	EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	GRI Index	None	

## SPECIFIC STANDARD DISCLOSURE - LABOR PRACTICES AND DECENT WORK

Classification	G4	Indicators	Page	Additional Information	External Verification
Employment	LA1	Total number and rates of new employee hires and employee turnover by age group, gender, and region	74		v
	LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	65		v
	LA3	Return to work and retention rates after parental leave, by gender	74		v
Labor/Management Relations	LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	46		
Occupational Health and Safety	LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	39		
	LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	74		v
	LA7	Workers with high incidence or high risk of diseases related to their occupation	39-41		v
	LA8	Health and safety topics covered in formal agreements with trade unions	39		
Training and Education	LA9	Average hours of training per year per employee, by gender, and by employee category	65		
	LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	65		
	LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	65		
Diversity and Equal Opportunity	LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	74		v
Equal remuneration for women and men	LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	65		
Supplier Assessment for Labor Practices	LA14	Percentage of new suppliers that were screened using labor practice criteria	67		
	LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	66-67		
Labor Practices Grievance Mechanisms	LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	47		

Classification	G4	Indicators	Page	Additional Information	External Verification
Investment	HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	67		v
	HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	66-67		v
Non-discrimination	HR3	Total number of incidents of discrimination and corrective actions taken	GRI Index	None	
Freedom of Association and Collective Bargaining	HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	46		v
Child Labor	HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	66		
Forced or Compulsory Labor	HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures taken to contribute to the elimination of all forms of forced or compulsory labor	66		
Indigenous Rights	HR8	Total number of incidents of violations involving rights of indigenous peoples and actions taken	GRI Index	None	
Assessment	HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	67		
Supplier Human Rights Assessment	HR10	Percentage of new suppliers that were screened using human rights criteria	67		
	HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken	66		
Human Rights Grievance Mechanisms	HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	GRI Index	None	
Local Communities	S01	Percentage of operations with implemented local community engagement, impact assessments, and development programs	52-55		v
	S02	Operations with significant actual and potential negative impacts on local communities	GRI Index	None	
Anti-corruption	S03	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	62-63		
	S04	Communication and training on anti-corruption policies and procedures	62-63		
	S05	Confirmed incidents of corruption and actions taken	62		
Public Policy	S06	Total value of political contributions by country and recipient/beneficiary	GRI Index	N/A	
Anti-competitive Behavior	S07	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	GRI Index	None	
Compliance	S08	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	GRI Index	None	
Supplier Assessment for Impacts on Society	S09	Percentage of new suppliers that were screened using criteria for impacts on society	67		
	S010	Significant actual and potential negative impacts on society in the supply chain and actions taken	66		
Grievance Mechanisms for Impacts on Society	S011	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	GRI Index	None	
Customer Health and Safety	PR1	Percentage of significant products and services categories for which health and safety impacts are assessed for improvement	69		
	PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	GRI Index	None	
Product and Service Labeling	PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant products and services subject to such information requirements	69		
	PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	GRI Index	None	
	PR5	Results of surveys measuring customer satisfaction	69		
Marketing Communications	PR6	Sale of banned or disputes products	GRI Index	None	
	PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes	GRI Index	None	
Customer Privacy	PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	GRI Index	None	
Compliance	PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	GRI Index	None	

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