

SAMSUNG SDI

Sustainability Report 2016



Creative Energy & Materials
Solution Leader

SAMSUNG SDI

SAMSUNG

About This Report

Samsung SDI hereby presents its 14th sustainability report.

This report is a channel through which Samsung SDI communicates with the stakeholders, and focuses on eight sustainability achievements and activities that we accomplished in 2016. This year's report adopted the Integrated Reporting Framework to convey our comprehensive insight while striving to specify Samsung SDI's business values and risk factors from economic, social and environmental points of view.

Reporting Standard

1. Global Reporting Initiative (GRI) G4 Guideline
2. International Integrated Reporting Council (IIRC) Integrated Reporting Framework
 - Quantitative data not defined by the GRI G4 protocol was reported in line with our management policy.

Reporting Boundary Samsung SDI and its subsidiaries

Reporting Scope Economy (K-IFRS), society and environment

Reporting Period 1 January 2016 – 31 December 2016. The report contains certain achievements from 2014 to March 2017.

Reporting Frequency Annual (Last Report: June 2016)

Report Verification **Financial Information** : Samjong KPMG

Non-financial Information : Lloyd's Register AA1000AS (2008) standard
(excluding GHG emission and energy use)

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Significant changes since the last reporting period

- Performances from the Chemical Division were categorized as loss from discontinued operation (disposed on 29 April 2016) and business performances in 2015 were re-considered for reporting.
- Established Samsung SDI(Wuxi) Battery Systems Co., Ltd. (SWBS) (Jan. 2017)

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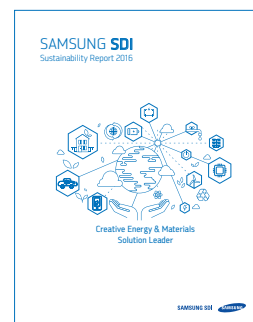
Sustainability management <http://www.samsungsdi.co.kr/sustainable-management/index.html>

Ethics management <http://www.samsungsdi.co.kr/cyber-audit/ethics-management.html>

VOC System (Customer Inquiry)

Customers can visit the following website to suggest additional opinions.

<http://www.samsungsdi.co.kr/information.html>



COVER STORY

A hexagon is considered the most perfect shape in engineering and geometry. Samsung SDI products were placed in hexagons as icons, emphasizing reliability and excellence. Our corporate vision, "Creative Energy & Materials Solution Leader," and both hands of our employee at the bottom of the image deliver the message that Samsung SDI will continue to create human prosperity and clean environment through its products.

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CEO Message



“Samsung SDI promises to bring prosperity to humanity, and become a leader of technology and industry through continuous innovation.”

Dear Samsung SDI Stakeholders,

It is my great pleasure to greet you all through Samsung SDI Sustainability Report 2016.

I would like to express my deepest gratitude towards your unwavering support and interest in us.

As a "creative leader of energy and state-of-the-art materials," every employee at Samsung SDI across the globe is striving relentlessly to achieve innovation that will open a new, prosperous future for humanity.

The year 2016 was a challenging year for us, due to many reasons such as the stagnant economies in the emerging markets, the U.S. interest rate hike, and intensifying competition in technology and cost. Nonetheless, all our employees as a team had a very meaningful year with determination to create the foundation for the next leap.

First, our Automotive Battery Division worked hard to enhance technology competitiveness and customer response. By introducing highly advanced products including batteries featuring high energy density and fast charging technology and light-weighted expansible modules, we were able to take the lead in the battery market. Furthermore, as the construction for the Hungary factory plant geared towards mass production in 2018 H1, has been finalized, we are now able to show a prompter response to European market demands.

Our ESS Business gained a stronger dominance in the market as we were able to satisfy the rigorous safety standards of the U.S market and participated in the Power Supply Chain Project in California.

Although our Small-Sized Battery Division went through difficult period due to safety issues, we took it as an opportunity to upgrade product reliability by solving the issue at an early stage. Also, power tools and electric vehicles helped us strengthen our position in the non-IT industry.

The Electronic Materials Business secured competitiveness in China, the largest photovoltaic product industry, by initiating the operation of the new paste plant in Wuxi. We are now ready to stand not only as the brand with the largest share in the Chinese paste industry but also in the global market.

Many achievements were made to promote sustainability values, including ethics, safety, environment, and community relations. Some of our activities include: our pre-emptive response to the Improper Solicitation and Graft Act; expanding the scope of safety environment assessment as one of employee's task goals; industry cooperation for next generation technology development and expansion of research foundation; running the Green Planet Environment School as one of our philanthropic activity. In particular, Our strong will and capability for sustainable management were acknowledged externally, as we were given A- from CDP and listed on the DJSI World Index.

Of course, we do expect continuous volatility and uncertainty in our business environment in 2017. Nevertheless Samsung SDI will continue to step forward into the future by enhancing our fundamental competitiveness. In sustainability aspects, by putting a great emphasis on employee communication and engagement, we will create a horizontal and open corporate culture that encourages discussions and steer the company towards the right direction.

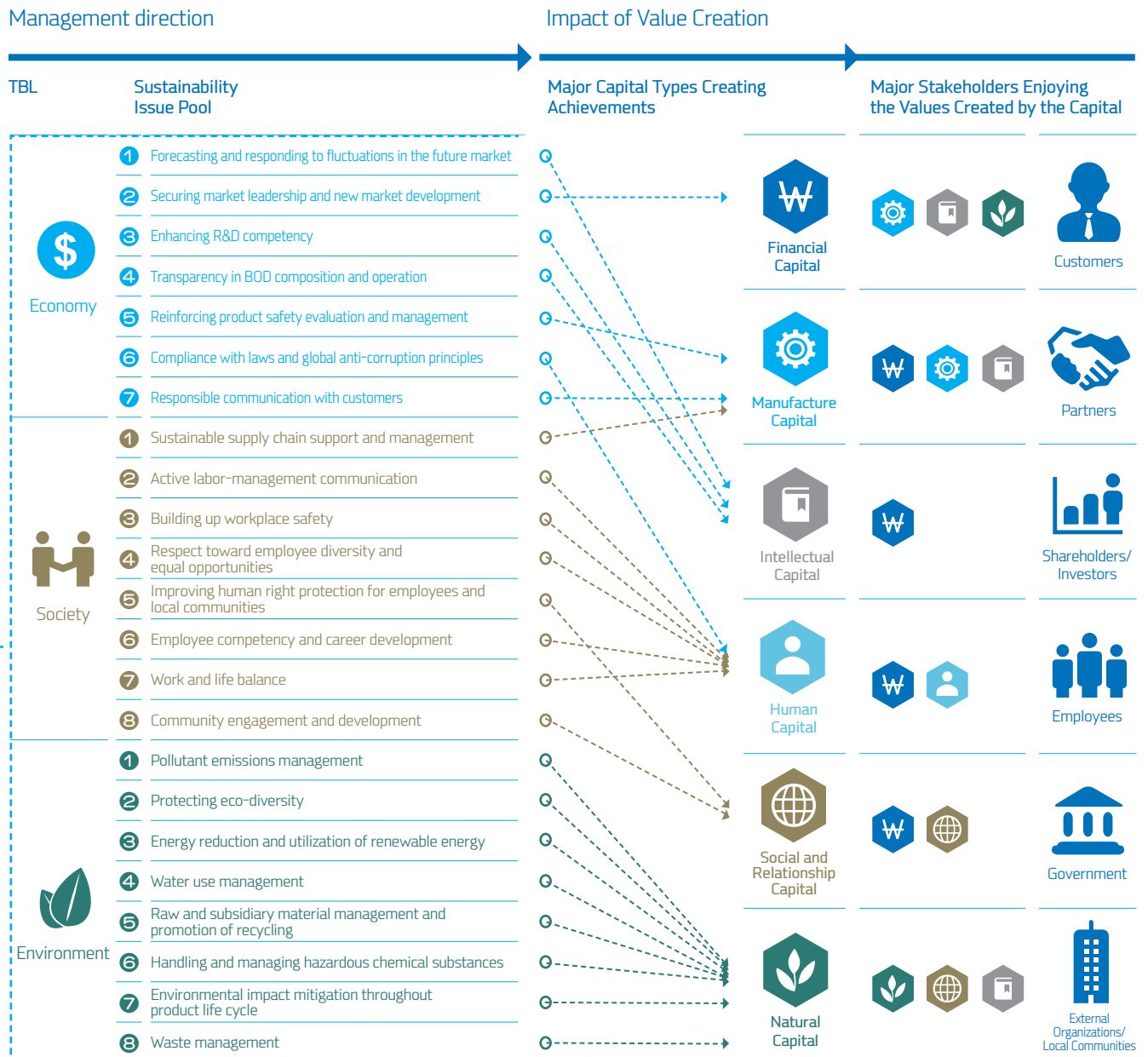
Samsung SDI has declared its drive for implementation of sustainable management, starting with our first Sustainability Report in 2003. Currently, sustainable management is an ultimate value that Samsung SDI must pursue as a global corporation. We hope that this report will act as a channel that communicates our achievements and future directions to our stakeholders. We, Samsung SDI, will stay committed to the pursuit of our vision and upholding stakeholder's values through bold innovation and challenges. Do not hesitate to express different opinions that will nurture us to grow together. We ask for your continuous support and interest.

Thank you.

Young Hyun JUN
President and CEO



Every value creating factor in business is a growth opportunity for Samsung SDI and a risk factor that minimizes the risks, which provides the company-wide direction for organizational management. We identified 23 issues as our management direction to create sustainable values, and we are utilizing them as an issue pool for materiality assessment. Furthermore, we analyzed from an integrated point of view the types of capitals through which management achievements are created for each issue, and the stakeholders who are ultimately provided with these values.



2016 Samsung SDI Value Creation Results

Input

Business Activity

Financial Capital

- Listed on Korea Stock Exchange in 1979
- No. of issued stocks (common): 68,764,530
- Financial capital procurement from shareholders and investors
- Disclosure of management status (e.g. general meeting of shareholders)

Manufacture Capital

- No. of production corporations: 16
- Production capacity (e.g. small-sized Li-ion battery): 1.41 billion
- Polarizing film production capacity: 52,646,000m²
- Tangible Asset: KRW 2.50 trillion
- Building and Structure: KRW 992.1 billion
- Equipment: KRW 671.6 billion

Intellectual Capital

- Intangible Asset: KRW 941.7 billion
- R&D Investment (R&D to Sales Ratio): KRW 552.5 billion (11%)
- Ratio of R&D employment: 2,174 (24%) (to the entire company-wide R&D employees ratio)

Human Capital

- Total Employment : 19,353
- Internal Director : 4, External Director : 5
- Newly Hired: 4,697
- Training Cost : KRW 7.7 billion
- Average Tenure : 11.1 years (full-time positions in Korea)

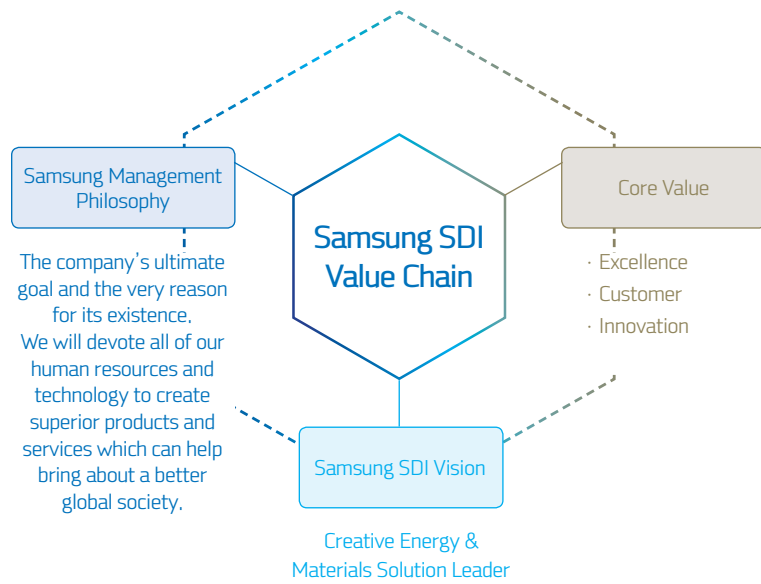
Social and Relationship Capital

- Operational in 11 countries
- Social contribution and local community activities (e.g. Green Planet Environment School and free eye surgery)
- Social Contribution Investment : KRW 4.9 billion

Natural Capital

- Certified to ISO14001
- Energy Savings Investment : KRW 2.31 billion
- Energy Use: 12,876 TJ

Long-term Strategic Foundation (Mission and Vision)



Value chain



Business & Products

Small-sized Li-ion Batteries



- IT Devices
- Power Devices
- Trans Devices

Automotive Battery



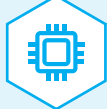
- Battery Cell
- Battery Module
- Battery Pack

ESS



- Battery Pack
- Battery System

Electronic Materials



- Semiconductor
- LCD/OLED
- Photovoltaic

2016 Performance and Activities

High Material Issue

- 1 Securing market leadership and new market development
- 2 Reinforcing product safety evaluation and management
- 3 Forecasting and responding to fluctuations in the future market
- 4 Compliance with laws and global anti-corruption principles
- 5 Building up workplace safety
- 6 Enhancing R&D competency
- 7 Sustainable supply chain support and management
- 8 Energy reduction and utilization of renewable energy

Medium & Low Material Issue

- 1 Transparency in BOD composition and operation
- 2 Employee competency and career development, and three other issues
- 3 Community engagement and development
- 4 Pollutant emissions management, and two other issues

Please refer to page 16-17 for Samsung SDI's risks and opportunities (incl. external environment).

Output/Outcome



Financial Capital

- Revenue
- Energy Solution: KRW 3.43 trillion
- Electronic Material: KRW 1.77 trillion
- Net Income: KRW 211.1 billion
- Q-cost: 3.35% (to-revenue ratio)
- The sum of inspection cost, prevention cost, failure cost, etc.



Manufacture Capital

- Major outputs
- Small-sized Li-ion battery, etc: 1,053 million units
- EMC: 6,218 tons
- Polarizing film: 45,023,000m²
- S-partner certificate: 91 companies
- Purchase cost: KRW 3.77 trillion



Intellectual Capital

- Established and approved strategic directions for each business division
- Developed and approved 2017 business plans
- Established and approved mid/long-term strategies
- Patent registration: 11,886



Human Capital

- Ratio of local recruitments: 57%
- Ratio of female managers: 7.7%
- Ratio of quality management qualification (except for ISO 9001): 29% (to the entire company-wide quality management employees ratio)
- Employee injury/loss rate: 0.40/26.89



Social and Relationship Capital

- Corporate tax: KRW 57.8 billion
- Terminated partnership due to illegal conduct: 0
- No. of free eye surgery beneficiaries: 218,639 (cumulative)
- No. of green planet environment school beneficiaries: 8,616 (cumulative)



Natural Capital

- GHG emissions: 747,926 tCO₂e
- Energy saving results
- Fuel saving: 194TJ/year
- Electricity saving: 899TJ/year

Long-term Impact



Financial Capital

To improve capital procurements from the shareholders and capital investors, and maintain desirable proportion of the financial capital to achieve both growth and distribution



Manufacture Capital

To apply our production technology and capability to the manufacturing process efficiently to produce high-quality products and maintain our supply chains



Intellectual Capital

To apply innovative and special technologies to develop new products and services which meet each individual customer's expectations



Human Capital

To uphold equality and diversity in recruitment process, and attracting talented employees to help them foster their skills and pursue mutual growth



Social and Relationship Capital

To present products and technologies that contribute to social growth with our customers, and help local communities grow with our tax payments and products



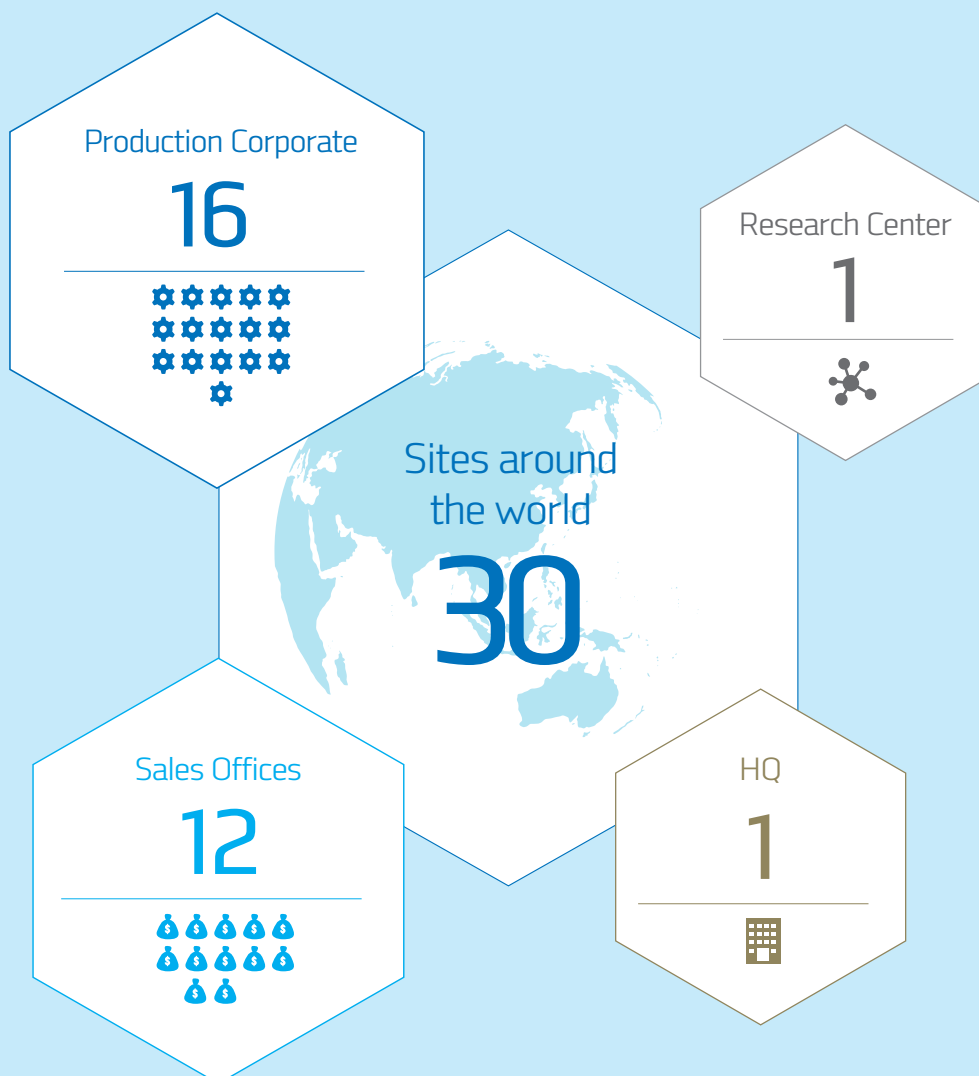
Natural Capital

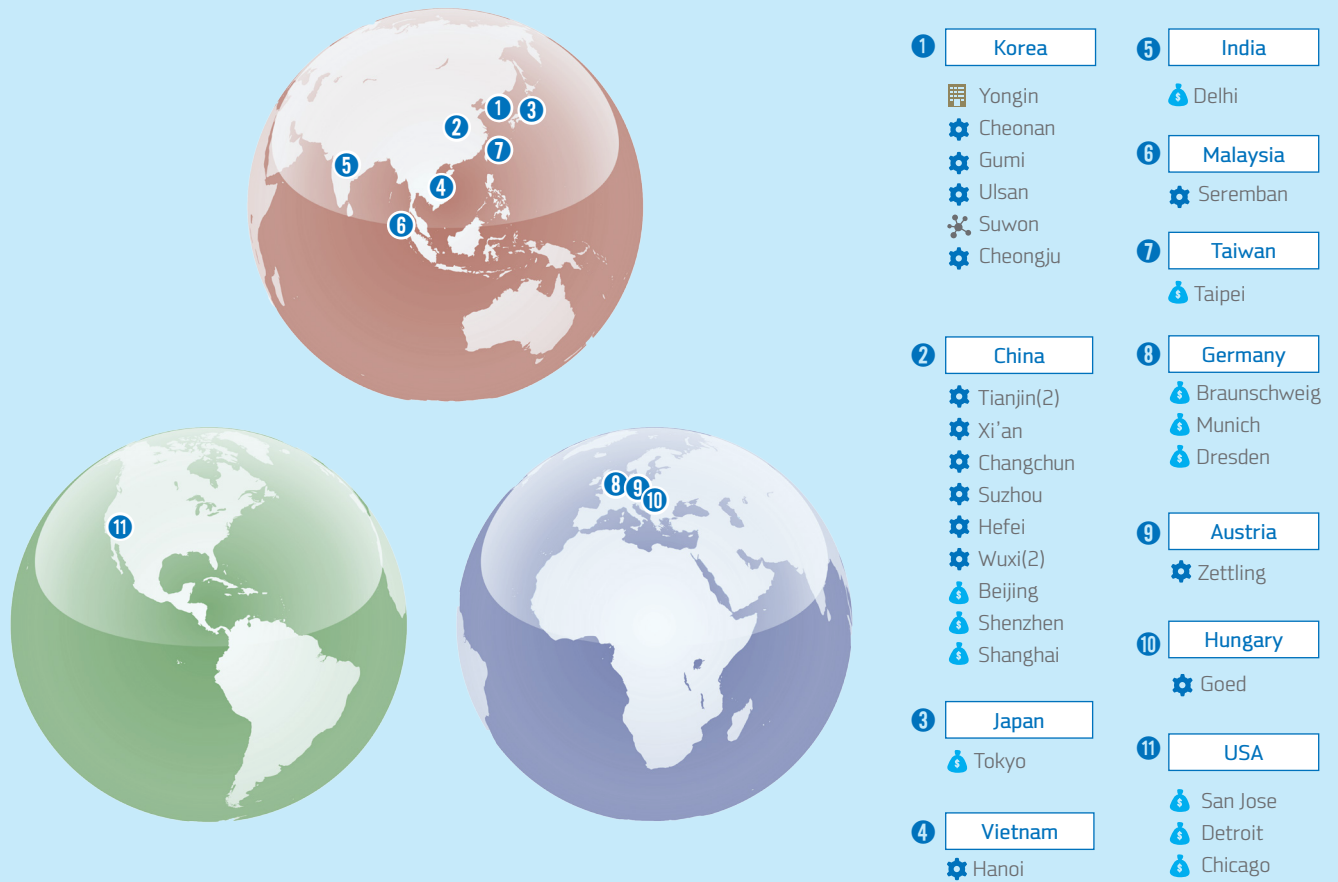
To be a responsible company that not only minimizes the environmental impact of the production process, but also leads to environmental responsibility for customers using the product and the supply chain

Samsung SDI Business Overview

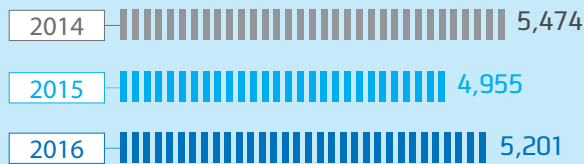
Samsung SDI is composed of two main business areas in charge of development, production and sales of a range of products. Our Energy Solution business presents products such as small-sized Li-ion batteries and automotive batteries. Our Electronic Materials business is involved in semiconductors, display materials, etc.

As of the end of 2016, Samsung SDI operates 16 production sites and 12 sales offices around the world. 92% of our batteries are directly delivered to the customers and 8% are sold through the agencies. Electronic materials are 100% delivered to customers via direct channels.





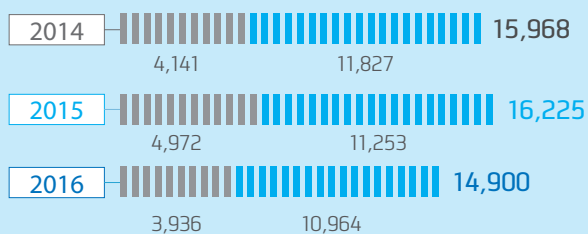
Revenue (Unit: KRW billion)



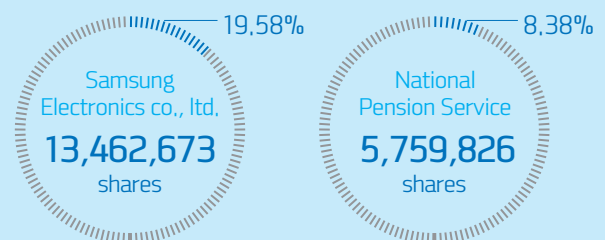
Operating Income and Net Income (Unit: KRW billion)

	2014	2015	2016
Operating Income	71	-267	-926
Net Income	-80	26	211

Total Asset (Unit: KRW billion)



Shareholders owning more than 5% of the shares (As of 31 December 2016)



* In consolidated financial statement, Revenue and operating income in 2015 was restated due to the disposal of the Chemical Division.

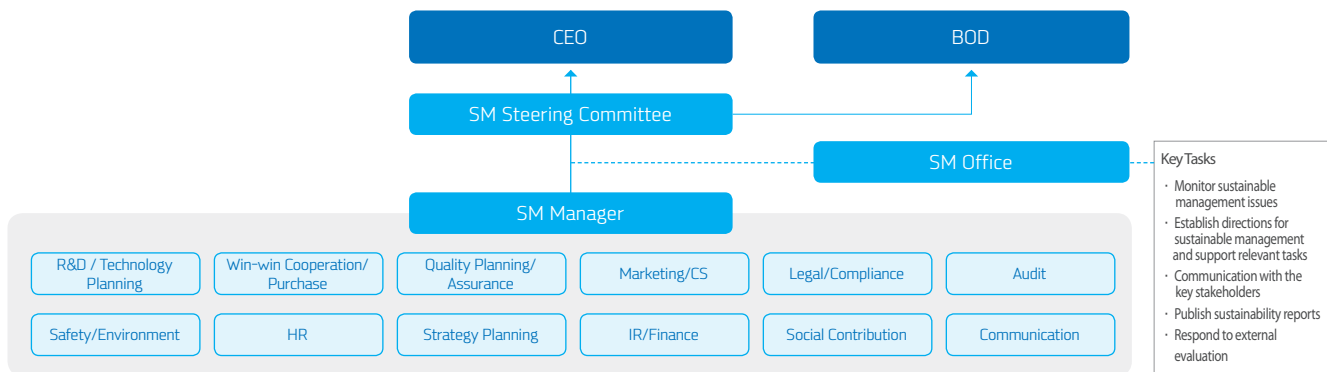
Sustainability Management System

Our sustainable management is directed towards providing the frame that identifies opportunities and risk factors in terms of the economy, society and environment. Also, it is to solve and improve the issues with our stakeholders. To this end, we supervise sustainable management in an integrated form, based on various policies and conferences. Since 2004, Samsung SDI has operated the SM Steering Committee, a management-level consultative group that plans the company-wide directions, responds to the stakeholder's expectations and makes relevant decisions. The CEO and other key managements participates in the SM Steering Committee to share major issues on sustainable management, goals and directions, in addition to reviewing and approving the key agendas including our Sustainable Reports.

SM Office

The SM office is fully in charge of securing the drives behind the entire company's sustainable management, while improving execution capabilities for detailed agendas. Its key roles include identifying domestic and international sustainable management trends. Also that manages and supports sustainable management activities within the organization. In particular, the SM office drafts agendas for discussion and approval at the SM Steering Committee and for reporting to the BOD when decision-making at the management level is required. Lastly, the office cooperates with relevant SM personnel to respond to stakeholder's expectations and requests.

SM Operational System



Stakeholder Engagement and Communication

We believe that understanding and meeting expectations of our stakeholders is the first step to securing sustainability. We define stakeholders as anyone who directly or indirectly influences and is influenced by our management, and classify them into customers, partners, shareholders/investors, employees, the government, external organizations, and local communities. Samsung SDI operates communication channels for different stakeholders and reflects their expectation as well as others business impacts onto the following year's plan. These plans are reviewed by the SM Steering Committee and disclosed to the stakeholders through Sustainability Reports.

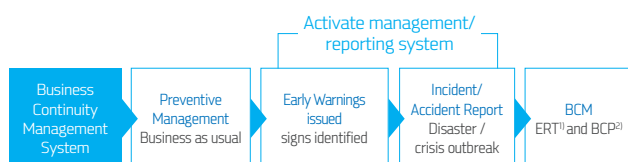
Customers	Partners	Shareholders / Investors	Employees	Government	Local Communities and Civil Organizations	Industrial Associations, Universities, Research Institutes
<ul style="list-style-type: none"> Customer visits Quarterly Business Review (QBR) Meetings Operating website Operating Focus 119 	<ul style="list-style-type: none"> Purchase portal system Hosting Samsung SDI Partner's Association (SSP) Holding Partners Exchange Meetings CEO and executive visits to the partners 	<ul style="list-style-type: none"> General meeting of shareholders IR earnings conference call IR road show IR conference Regular public disclosure IR website IR contact Ad hoc meetings 	<ul style="list-style-type: none"> Labor-Management Council Open Counseling Center Management seminars Satisfaction surveys Culture Leader SDI Talk Publishing newsletters 	<ul style="list-style-type: none"> Participating in national projects Operating joint cooperation program Hosting conferences and meetings 	<ul style="list-style-type: none"> Local community council Social contribution activity Sisterhood 	<ul style="list-style-type: none"> Membership in different associations or societies (e.g. Korea Battery Industry Association) R&D (Open innovation) Joint cooperation program

Risk Management System

We have established a comprehensive system that manages financial and non-financial risks to realize sustainable growth and development. Our risk management takes a balanced approach towards economic, social and environmental issues and prevents a biased focus on financial achievements from damaging non-financial values. For this purpose, Samsung SDI not only manages liquidity, credit and market risks that may affect capital procurements and operations, but also non-financial risks such as compliance, supply chain and reputational risks through diverse points of view. Conferences presided by the CEO provide a system that reviews response plans and improvements on key risks, facilitating a decision making process that pursues balanced growth of different stakeholder's values.

Business Continuity Management (BCM) System

Samsung SDI is inherently exposed to operational risks such as fire due to the nature of the battery industry. In this regard, we operate a business continuity management (BCM) system to prevent risks and make quick responses. We pursue policies that diversify the risks in each stage from product development to operation, and strive to identify in advance risks through risk mitigation and elimination. In order to be ready for unexpected incidents, we set up possible scenarios and conduct regular trainings for all of the employees to internalize risk awareness.



1) ERT : Emergency Response Team

2) BCP : Business Continuity Plan

Compliance Risk Management

Samsung SDI operates an IT-based Internal Control System to ensure information transparency and monitor compliance in every management process. The system consists of internal accounting managements that enhance the credibility of financial information, as well as certification and evaluation to protect the assets and prevent fraudulent conduct. To respond to changing compliance environments, we conduct annual reviews on internal policies, regulations, procedures and update the system if deemed necessary.

Supply Chain Risk Management

As a manufacturing company, Samsung SDI works with partners across the world. We manage sustainable management risks of the partners by operating the S-Partner Certification Program. The program conducts a comprehensive evaluation on five key areas – labor, environment, health and safety, ethics, and management system – and certifies our partners according to the results. A total of 91 domestic and international partners were certified in 2016. In addition, we strive to mitigate risks on supply chains by helping establish the BCM system for partners that provide raw materials and facilities. In 2016, Samsung SDI provided education programs on implementation of Business Continuity Plan for 43 partners in and out of Korea. We plan to expand these efforts to all of our partners.

Tax Risk Management

We are aware that complying with the tax system and strictly managing tax risks is a major contributing factor not only to the national finances but also to maximize our shareholders' benefit. In response to the increasing global efforts to reinforce regulations against offshore/domestic tax avoidance and evasion, Samsung SDI has established documented internal standards and procedures in regards to tax treatments. In addition, we regularly monitor policies of tax authorities in different regions and countries for correct tax payment and declaration, as well as prepare ourselves for possible risks. In particular, we established transfer price policies to monitor whether transfer pricing decisions and applications are appropriate. Furthermore, we inspect whether our global business sites and partner companies comply with our transfer price policy.

2016 Tax Payment by Country (Unit: KRW)

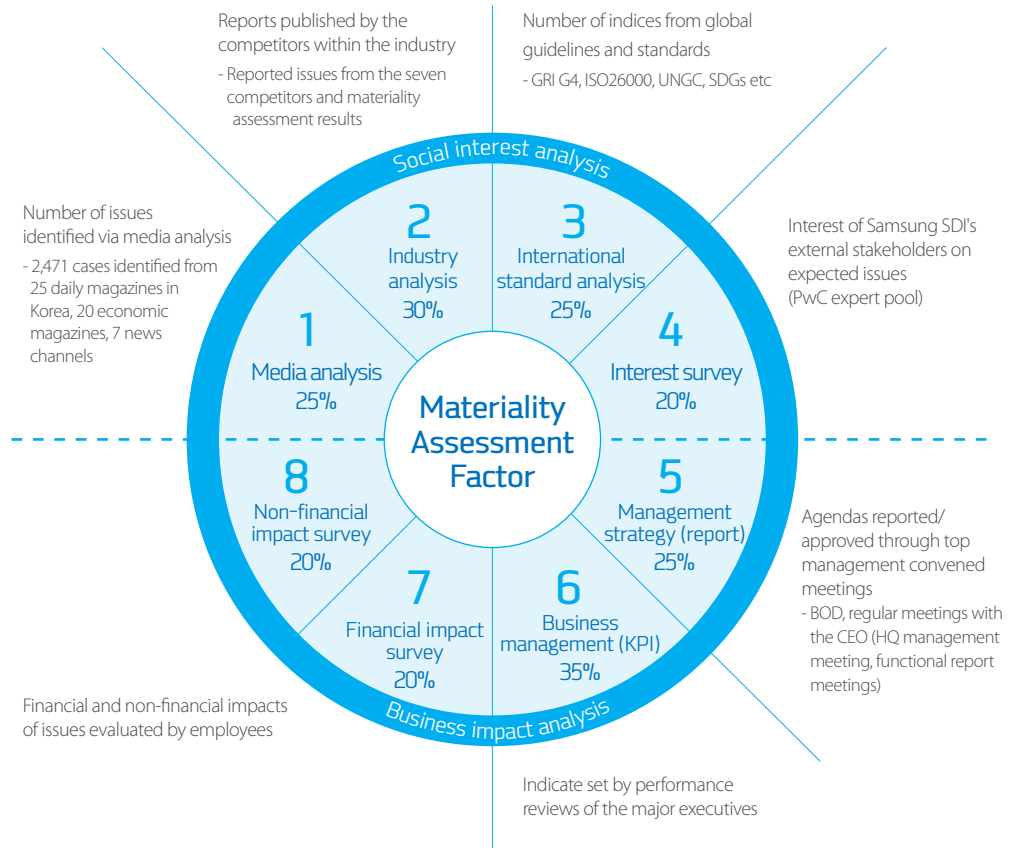
Korea	233,924,173,168	South East Asia	187,705,911
Japan	101,645,720	China	13,216,189,214
America	-9,292,286,188	Latin America	214,231,574
Europe	18,618,372,066	Hong Kong	22,691,580,225

Safety Risk Management

Safety risk management at work sites is a crucial component of business competitiveness and survival. We focus on preventing safety accidents in advance through the operation of pursue various programs such as the Safety Culture Roadmap and regular work-site inspection teams. After declaring "Safety as the No.1 Management Principle" in 2016, we have been committed to enhancing employees' safety awareness with safety education and safety accident response trainings.

Materiality Assessment

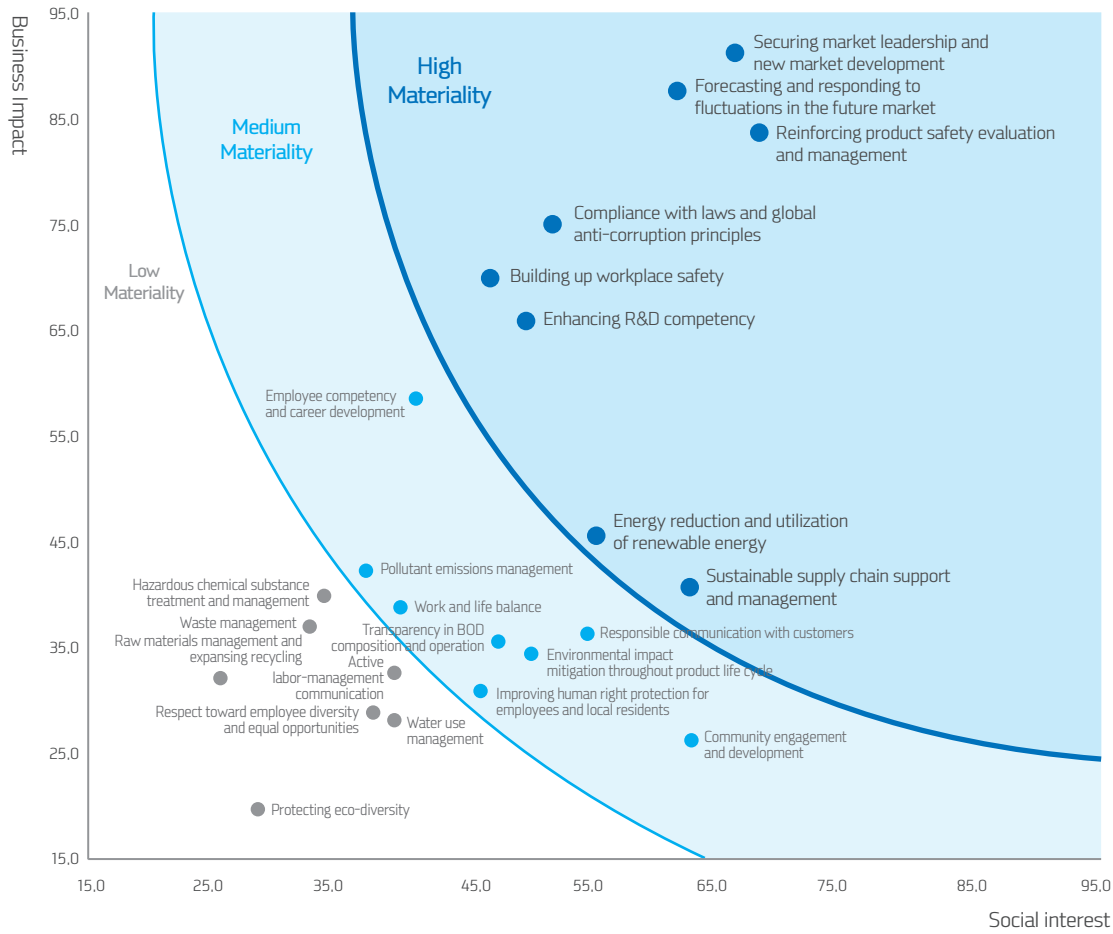
Samsung SDI engages in a wide array of activities to enhance the organization's sustainability and satisfy stakeholders. We disclose in detail the results and achievements in detail by publishing the Sustainability Report. In order to determine the core issues that should be covered in the report, we conduct materiality assessment.



Financial/Non-financial relevance analysis on High Material Issue

Rank	Issue	Relevance to financial performance
1	Securing market leadership and new market development	Maintaining the existing customer base to strengthen market dominance and discovering new markets is directly related to the revenue, as well as impacts the business growth.
2	Reinforcing product safety evaluation and management	Product safety is an issue relevant to customer's life and health. Customer claims can cause financial loss and terminate business relations.
3	Forecasting and responding to fluctuations in the future market	Business planning that considers market forecasts and responses to regulations for each business and country enables efficient distribution of financial capital.
4	Compliance with laws and global anti-corruption principles	Penalties or fines may be imposed from violating the regulations. In extreme cases, operations might be ceased, causing critical impacts on the business operation.
5	Building up workplace safety	Safety accidents at the business sites cause a substantial operation failure due to a halt in operation. Material loss eventually causes monetary loss.
6	Enhancing R&D competency	R&D can lower expenses by reducing the cost and increase the sales with high-quality products.
7	Sustainable supply chain support and management	Sustainability in supply chain not only affects the revenue influenced by the product quality, but also makes adverse impacts on the business if the partner companies do not fulfill their social responsibilities.
8	Energy reduction and utilization of renewable energy	Inefficient energy consumption increases production cost, causing financial loss from paying penalties in case of environment law or regulation violation during production processes.

Materiality Assessment Result



In 2016, a total of 8 were selected as High Material Issues to be the main focus of reporting. We also disclosed additional information on Medium and Low Material Issues that required by international standards and guideline.

Relevance to non-financial performance

Maintaining the existing customer base and securing new customers is fundamental factor in building an overall trust-based relationship with the customers.

The first element of customer satisfaction is trust on product, and thorough quality management is fundamental in operating operation.

Market and industry forecast, as well as strategy and response establishment, ensures quick decision making and is crucial for further business development.

Unethical decision making and management directly damages company's reputation and brand value.

The treatment of hazardous and dangerous substances is inevitable given the nature of our business, and securing safety for local communities and employees is the most basic responsibility.

The source behind market leadership is securing R&D capability. For the battery business, excellent technological performance eventually contributes to building an eco-friendly society and guarantees sustainability of the business.

Shared growth with the supply chain is an integral part of CSR and sustainable supply chain management is ultimately related to our competitiveness and reputation.

Attention to reducing GHG emissions and energy use is increasing. Therefore, active responses to climate change issues are integral to eco-friendly business and growth.

Management Approach

High Material Issue	Definition & Relevance	Opportunity and Risk	Boundary
<p>01 — Securing market leadership and new market development</p>	<p>Expand business by securing new markets and strengthening dominance on the existing markets</p>	<ul style="list-style-type: none"> ▸ Heightened competition among battery manufacturers ▸ Potential market growth slowdown due to low oil price ▸ Increasing demand for renewable energy 	<ul style="list-style-type: none"> ▸ Internally : sales/marketing ▸ Externally : customers, shareholders/investors
<p>02 — Reinforcing product safety evaluation and management</p>	<p>Strict compliance with specification and strengthened reliability testing management to secure product safety</p>	<ul style="list-style-type: none"> ▸ Stricter regulations imposed by aviation authorities in regards to loading batteries on aircrafts ▸ Securing and applying design and verification technology to enhance product safety 	<ul style="list-style-type: none"> ▸ Internally : R&D, manufacture ▸ Externally : customers, partners
<p>03 — Forecasting and responding to fluctuations in the future market</p>	<p>Forecast and manage the market risks such as industrial trends and regulations from different countries</p>	<ul style="list-style-type: none"> ▸ Higher entry barrier due to protectionism ▸ Enhancing end-user perception on electric vehicles following technical improvements 	<ul style="list-style-type: none"> ▸ Internally : R&D, purchase, manufacture, sales/marketing ▸ Externally : customers, partners
<p>04 — Compliance with laws and global anti-corruption principles</p>	<p>Domestic and overseas activities to enhance compliance</p>	<ul style="list-style-type: none"> ▸ Stricter legal sanctions on foreign corporations ▸ Continuous compliance trainings and inspections to reinforce compliance awareness 	<ul style="list-style-type: none"> ▸ Internally : R&D, purchase, manufacture, sales/marketing
<p>05 — Building up workplace safety</p>	<p>Safety management activities and establishment of improvement Targets for Strengthening safety at Korea and overseas workplaces</p>	<ul style="list-style-type: none"> ▸ Further request to disclose safety and environmental information ▸ Sharing and expanding safety culture to the employees and partner companies 	<ul style="list-style-type: none"> ▸ Internally : manufacture
<p>06 — Enhancing R&D competency</p>	<p>Investment status for R&D enhancement main direction and performance</p>	<ul style="list-style-type: none"> ▸ More competitive environment in battery and materials industry ▸ Pursuing special capability to obtain future growth momentum 	<ul style="list-style-type: none"> ▸ Internally : R&D ▸ Externally : research institutes
<p>07 — Sustainable supply chain support and management</p>	<p>Supports to enhance the supply chain and promote sustainable management</p>	<ul style="list-style-type: none"> ▸ Higher economy, environment, society risks due to poor supply chain management ▸ Enhancing product competitiveness by Securing more competitive partner companies 	<ul style="list-style-type: none"> ▸ Internally : purchase ▸ Externally : partners
<p>08 — Energy reduction and utilization of renewable energy</p>	<p>Energy saving and GHG emissions management</p>	<ul style="list-style-type: none"> ▸ Stricter regulations on GHG emission (e.g. emission trading) ▸ Promoting an image as a green company 	<ul style="list-style-type: none"> ▸ Internally : manufacture ▸ Externally : local communities

GRI Aspect	KPI	Major Activities	Responsible Teams
Economic Performance, Market Presence	Revenue, operating income, market share	<ul style="list-style-type: none"> ▸ Win more orders and improve profitability ▸ Increase market share based on customer trust 	Marketing and Planning team of each division
Customer Health and Safety, Product and Service Labeling, Marketing Communications	Customer satisfaction, nurturing quality talents, quality improvement achievements	<ul style="list-style-type: none"> ▸ Quality competitiveness enhancement project ▸ Customer satisfaction survey 	Quality Assurance team
Economic Performance, Market Presence	Revenue, operating income, market share	<ul style="list-style-type: none"> ▸ Eco-friendly technology development ▸ Expand production lines and provide region based service 	Marketing and Planning team of each division
Ethics and Integrity, Anti-corruption, Compliance, Anti-Competitive Behavior	Compliance/ethics training, compliance inspection status, disciplinary action result	<ul style="list-style-type: none"> ▸ Fulfill social responsibility through legal compliance ▸ Pre-emptive anti-corruption practices 	Audit team and Legal Compliance & IP Team
Occupational Health and Safety, Training and Education, Supplier Environmental / Human Rights / Labor / Social Assessment for Impact	Safety environment investment, number of improvement cases on safety environment, employee accident rate	<ul style="list-style-type: none"> ▸ Host safety environment meetings ▸ Monitor compliances of mandatory safety regulations 	Safety Environment Infra team
Training and Education	R&D investment amount, R&D staff, patent registration	<ul style="list-style-type: none"> ▸ Build a foundation for new technology development ▸ Expand industry-academia cooperation 	Technology Planning group and Development/ Patent team
Procurement Practices, Supplier Environmental / Human Rights / Labor / Social Assessment for Impact	Shared growth agreements, financial/HR/ Technology investment status, S-Partner certification results	<ul style="list-style-type: none"> ▸ Expand financial, HR, technical support for shared growth ▸ Active communications 	Win-win Cooperation Team under Purchasing Strategy Group
Energy, Emissions	Energy use, energy savings, GHG emissions	<ul style="list-style-type: none"> ▸ Energy saving activities ▸ Establish carbon management system in preparation for emissions trading system 	Safety Environment Infra team

Samsung SDI

Total Impact Measurement and Management (TIMM)

Samsung SDI is aware of the positive impacts on the economy, society, and environment as well as negative impacts that are inevitably induced by direct and indirect business activities. Samsung SDI, as part of the society that grows and develops hand-in-hand with stakeholders, has measured its impact on the economy, taxes, society and the environment during 2016 by applying PwC Korea's TIMM methodology. We hereby present these results in our Sustainability Report.







Total Impact **KRW 6.03 Trillion**
 Period: 1 Jan - 31 Dec 2016



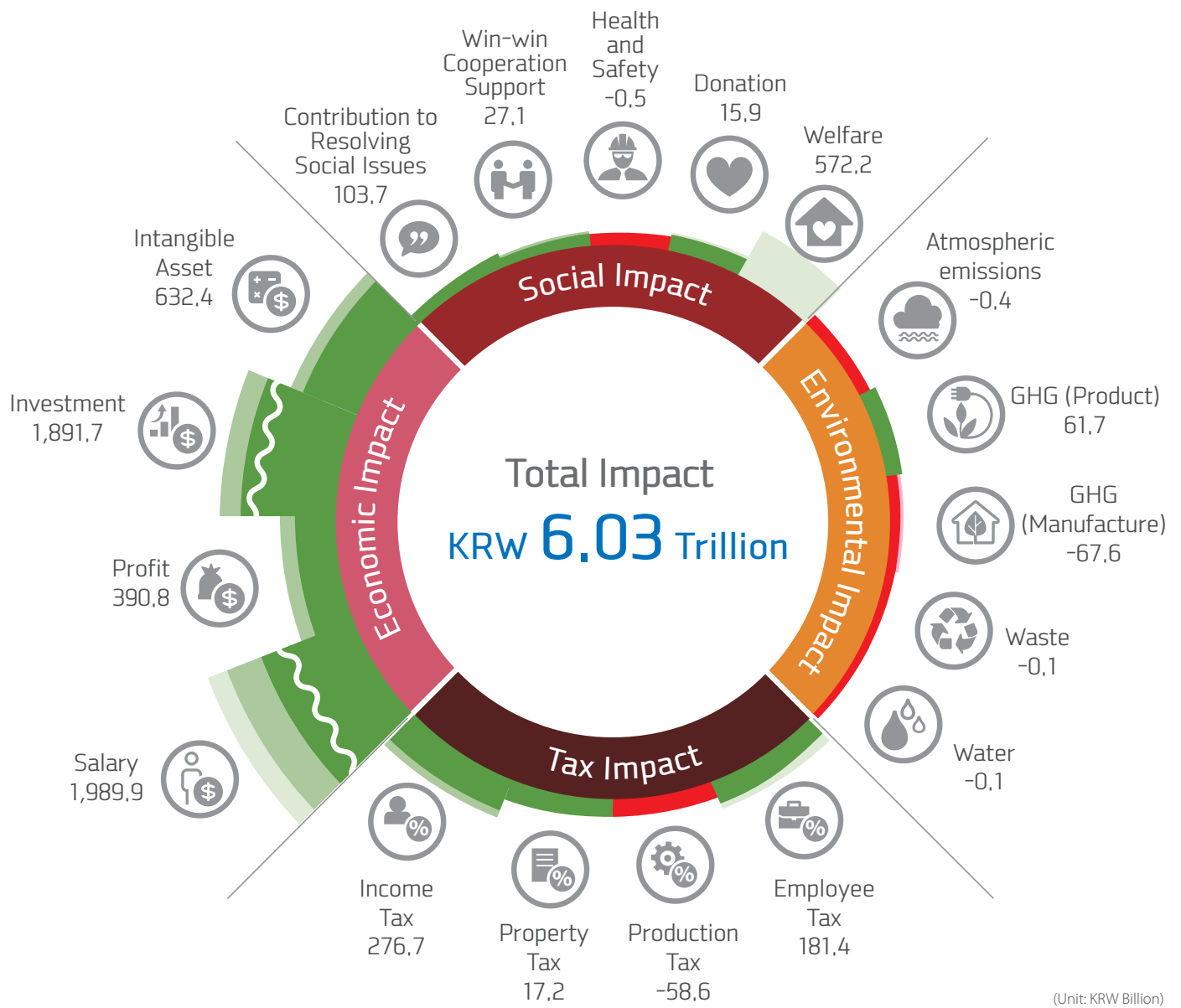
Aspect

	Economic Impact	Impact on the current or future GDP - The sum of salaries, retirement payment, net income, acquisition of tangible and intangible assets, and R&D expenditure
	Tax Impact	Impact on public finance through tax payments - The sum of corporate tax, property tax, stock exchange tax, VAT, withholding tax, and the 4 major compulsory social insurances
	Social Impact	Impact on a better life for the member of society - The sum of financially converted figures of impacts caused by social contributions (free eye surgery) and win-win cooperation (amount of tangible assets and interests financed via shared growth funds), rate of loss from occupational accidents, industry inducement coefficient from donations and welfare
	Environmental Impact	Impact on the environment - The sum of financially converted figures of impacts caused by air pollutants (SOx, NOx), waste (incinerated), water (used amount), GHG (GHG reduction from using EV battery, Direct / Indirect / Other emissions from the manufacturing process)

Scope

Positive		Direct Impact	• Positive impact from Samsung SDI's business operation
		Indirect Impact	• Positive impact from partners' business operation influenced by Samsung SDI
		Induced Impact	• Positive impact from Samsung SDI and its partner companies' employees living
Negative		Direct Impact	• Negative impact from Samsung SDI's business
		Indirect Impact	• Negative impact from partners' business operation influenced by Samsung SDI
		Induced Impact	• Negative impact from Samsung SDI and its partner companies' employees living

Other references: Samsung SDI Business Report (47th), Statistics of South Korea (Statistics Korea), industry inducement coefficient Bank of Korea, Value of Statistical Life (VSL) from Korea Environment Institute, Statistics from World Bank, Statistics from International Monetary Fund, Disability Adjusted Life Years (DALY) from WHO



Samsung SDI High Material Issue

Samsung SDI's report focuses on the issues that have high business impacts with great social attentions as a result of the materiality assessment. In 2016, we have identified eight high material issues.



High Material Issue	Overall Materiality Rank	Social Interest Rank	Business Impact Rank	Page
Securing market leadership and new market development	1	2	1	22
Reinforcing product safety evaluation and management	2	1	3	26
Forecasting and responding to fluctuations in the future market	3	5	2	30
Compliance with laws and global anti-corruption principles	4	8	4	34
Building up workplace safety	5	12	5	36
Enhancing R&D competency	6	10	6	40
Sustainable supply chain support and management	7	4	11	42
Energy reduction and utilization of renewable energy	8	7	9	48



2016 KEY Output (yoy)



Revenue
KRW 5,200.8 billion
 (yoy 5% increase)



Quality management
 engineer certificate
29%
 (yoy 18% increase)



Punishment from cor-
 ruption inspection
42 people
 (decrease by 1 person)



Employee
 injury rate
0.40
 (yoy 14.9% decrease)



Patent Register
11,886
 (yoy 10.7% increase)



S-Partner Certificate
91 Companies
 (increase by 1 company)



Energy Saving
1,093TJ

* Number of injury / Total labor hour X 1,000,000

High Material Issue 01

Securing market leadership and new market development



Small-sized Li-ion Battery Business Overview

Samsung SDI's Battery Business Division develops and sells cylindrical, prismatic, and polymer batteries. It is expanding the business horizon as rapid growths in emerging markets have led to a higher demand for IT devices and the increasing use of eco-friendly applications. Samsung SDI is taking the lead in the market with its excellent technologies.

IT devices

Polymer batteries for IT devices, with a slim and compact design compared to cylindrical and prismatic batteries, can have an extended run-time and a shorter charge time (75% charged in 30 minutes). Samsung SDI enhanced the battery design and quality verification in its development stage to take by taking into account the product safety and hours of use.

Power devices / EV

Samsung SDI's lithium-ion battery is strong, durable and safe, providing excellent product quality suited for power plants and electric vehicles. High-output cylindrical cells used in power tools are dominating the market with the world's leading capacity of 3.0 Ah (18650: Cylindrical, 18mm in diameter and 65mm in height) and output of 35A (21700: Cylindrical, 21mm in diameter and 70mm in height). Samsung SDI's continuous innovation will reinforce capacity and improve charging qualities to generate customer values, including extended actuation time and driving range, and shorter charging hours.



Automotive Battery Business Overview

Global automobile manufacturers offer alternatives to traditional vehicles with combustion engines, such as electric vehicles, in order to minimize air pollutants and carbon dioxide emissions. With abundant experience in mobile device battery sector, Samsung SDI is developing high-efficiency and high-energy density batteries for low-carbon vehicles.

EV Battery Cell with 600km of Driving Range

Samsung SDI is currently developing high-energy density battery cells capable of driving 600km in addition to fast charging technology that takes as short as 20 minutes. This battery cell is chargeable at rest areas on the highways up to 80% of its capacity, allowing for a driving range of 500km. It is expected to overcome both the range limit and drivers' concerns regarding electric vehicles. This product is targeted for mass production in 2021.

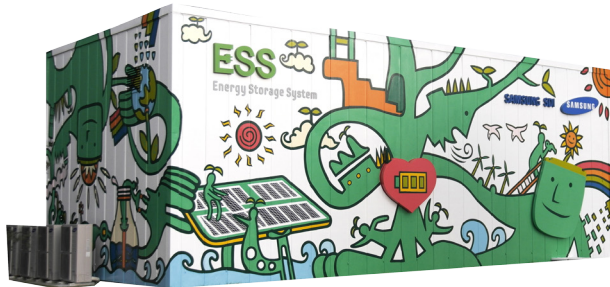
Low Voltage Battery System

Samsung SDI is developing and producing fuel-efficient 12V and 48V line-ups in line with the eco-friendly trend. These products will effectively improve the internal combustion engine vehicles using combustion systems by 5~20% in preparation for growing stringency of CO2 emissions regulations.



Target: 9.4

ESS Business Overview



Energy Storage System (ESS) is an integral component to realize the next-generation of electrical grid. It controls the power load at times of peak demand to prevent over-investments in generation facilities, provides stable power at the time of unwarned blackouts, and enhances the electric stability of renewable generation facilities, thus attracting attention as the key facility of SmartGrid.

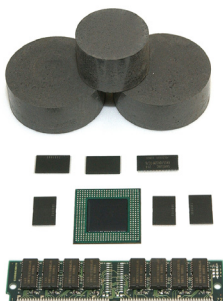
Samsung SDI leads the major markets, including Korea, Japan, America, and Europe, with its key ESS battery products and provides various applications for residential, utility-scale, C&I and UPS. Moreover, with a focus on expansion into emerging markets, our ESS products are provided in diverse application including home use, large-scale use, commercial use and UPS use.

Electronic Materials Business Overview

Samsung SDI's Electronic Materials Business Division develops and sells electronic materials used for semi-conductors, displays and the next-generation energy. With the increasing demands for cutting-edge IT devices, Samsung SDI strives to develop competitive products based on our innovative technology and stable quality.

Semiconductor Materials

Samsung SDI manufactures the following products: SOH, which is used to accurately form micro-patterns within semi-conductors; SOD, a coating material that acts as an insulator among the transistors of semi-conductors; CMP slurry, a key abrasive that planarizes wafers and accommodates the micro-patterned design trend of semi-conductors; and EMC, which thoroughly protects semiconductor circuits from moisture, shock, and heat. Samsung SDI has maximized the functions of semiconductors by perfecting its composition with the excellent technology.



Display Materials

Samsung SDI develops the world's first technology that Polyethylene Terephthalate (PET) to replace Tri Acetyl Cellulose (TAC) film, the key material for polarizing films, consequently lowering the production cost and enhancing its durability. Also, Samsung SDI has retained its market dominance by developing high-luminance Color Resist (CR). With Novaled, a renowned OLED materials company that Samsung SDI acquired in 2013, it seeks maximum synergies to pursue shared growth with the OLED market by developing materials that last long and require less energy.



PASTE

With higher demands for high efficiency in the photovoltaic market, Samsung SDI released customized products for Double Print and High Open Screen printing method to buttress its market dominance. Also, it equips with stronger product competitiveness by developing Mono products which are gradually becoming more significant in cell composition.



High Material Issue 01

Securing market leadership and new market development

BUSINESS CASE



Small-sized Li-ion Battery



Samsung SDI Supplies Batteries to E-Z-GO, the Global Leader in Golf Cart Market

E-Z-GO, the world's second largest golf cart manufacturer, revealed its new ELiTE model that adopted SDI module pack for the first time at PGA Merchandise Show. Samsung SDI co-exhibited at

the show with E-Z-GO as the market leader to enhance its brand reputation while continuing to expedite the replacement of lead storage batteries with lithium-ion batteries. In addition, we have improved our advisory service for marketing by sponsoring the European Battery Experts Forum and inviting power tool customers to host tech forums. To expand the use of Li-ion batteries as an eco-friendly and high-efficiency solution, Samsung SDI is actively participating in market education and promotion activities.



Automotive Battery



Samsung SDI Establishes a Production Site in Europe to Strengthen Supply Chain Management System

We established Samsung SDI Hungary Rt.(SDIHU) in an effort to build the new manufacturing base for the electric vehicle battery market in Europe. We invested about KRW 400 billion to equip the new corporation with a capability to manufacture batteries equivalent of 50,000 electric

vehicles on a yearly basis, targeted for mass production in the second half 2018. Following Ulsan (Korea) and Xi'an (China), the SDIHU completed the global triangle manufacture system. Since the European automakers' manufacturing facilities are located adjacent to Hungary, the Hungary Corporation will not only reduce the logistics cost but also act as a foothold for Samsung SDI to quickly respond to customer needs. Furthermore, the Hungary Corporation is expected to synergize with Samsung SDI Battery Systems (SDIBS) in Austria to establish the consistent manufacture system from the battery cell to pack, which will enhance its competitiveness in automotive battery industry.



ESS



(Source: AES)

Samsung SDI supplies ESS Battery to California, U.S.

Samsung SDI participated in the electricity grid infrastructure project with other global ESS companies in California, USA, supplying 240MWh of ESS battery. This is the largest ESS project ordered both domestically and internationally, and the amount of electricity generated is equivalent to that used by 40,000 households

for four hours. This project was launched in order to replace natural gas power plants with large-scale. Surplus electricity generated from natural gas and photovoltaic plants is stored in Samsung SDI's ESS batteries, and used when demands rapidly increase. The use of ESS reduces carbon emissions by promoting eco-friendly energy use. Especially with the achievement in U.S. market that applies strict regulations on product safety, Samsung SDI will be able to stabilize its dominance over the existing markets.



Electronic Materials






Expansion to China Kicks-off by Operating Chinese Production Lines

The polarizing film plant in Wuxi, China which began construction in July 2015 was completed and its operation kicked off as of Q4 2016. The Wuxi Plant can produce 2,300mm ultra-wide and ultrahigh speed films, which can be applied to 105-



inch displays. Its annual production capacity is 40 million square meters, which is wide enough to cover Yeouido in Seoul (2.9km²) 14 times. Samsung SDI's capacity to produce polarizing film doubled as the Wuxi Plant operation kicked-off. Additionally, Samsung SDI started to operate PV Paste production line in Wuxi in June 2016 and successfully established the system to quickly respond to the demands from the Chinese market. The Wuxi Plant's current capacity level is 40 tons per month, which will extend to 60 tons in 2017 with additional lines in place.

Securing market leadership and new market development

Input

 Manufacture Capital	Output		Unit	2014	2015	2016
	Energy Solution	Small-sized Li-ion batteries, etc.	Million	1,147	1,079	1,053
	Electronic Materials	EMC	Ton	7,825	6,469	6,218
Polarizing film		1,000m ²	31,015	34,217	45,023	
 Manufacture Capital	Global Network		Unit	2014	2015	2016
	Production Corporations		EA	10	14	16
	Sales Sites (Corporation, Branch, Office)		EA	15	14	12
	Research Center		EA	1	1	1
 Human Capital	Sales/Marketing Manpower Training		Unit			2016
		Sales/Marketing staff	Persons			289
	Sales Training	Company-wide percentage of sales/marketing staff	%			3
		Sales/Marketing Training Course	EA			125
		Sales/Marketing Training Cost	KRW Million			118

Output

 Financial Capital	Financial Achievements		Unit	2014	2015	2016
	Revenue	Energy Solution	KRW 100 Million	33,275	33,127	34,302
		Electronic Materials	KRW 100 Million	7,977	16,421	17,706
	Operating Income		KRW 100 Million	708	-2,674	-9,263
Net Income		KRW 100 Million	-803	256	2,111	
 Financial Capital	Market Share		Unit	2014	2015	2016
	Energy Solution (Source: Report published by B3, a market researching firm)	Small-sized Li-ion battery	%	27	25	23
		- Cylindrical	%	32	31	28
		- Prismatic	%	31	27	25
		- Polymer	%	17	18	14
		Automotive Battery	%	4	6	7
		ESS	%	11	16	21
	Electronic Materials (Source: Samsung SDI Electronic Material Management Support Team)	EMC	%	7	7	7
		Polarizing film	%	0	6	7
		PV Paste	%	24	29	32

High Material Issue 02

Reinforcing product safety evaluation and management

We continue to enhance quality management by prioritizing safety and quality of our products. We strive to develop products that even take into consideration our end-user environments, to supply batteries and electronic materials suitable to different applications required by the market. Learning from the Galaxy Note 7 incident, we have established more rigorous quality management in an effort to satisfy our customers.

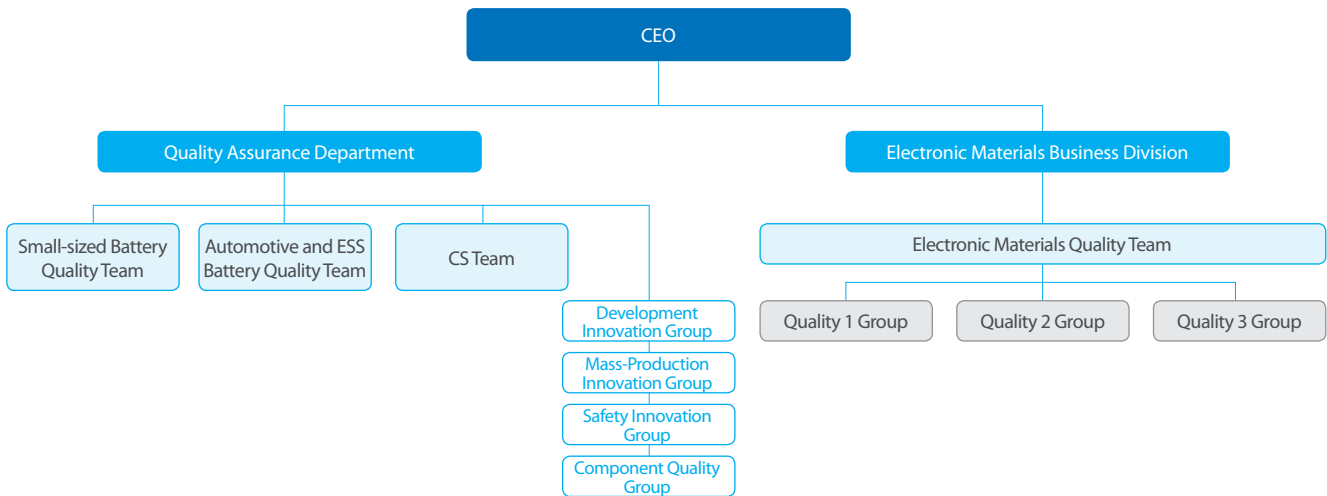
Organization Management

Samsung SDI established the Quality Assurance department under the direct supervision of the CEO, which was upsized to be in charge of the company-wide quality functions.

The Quality Assurance department acts as a quality control tower for improving the synergy of quality management in the Battery divisions and consists of small-sized battery quality, automotive and ESS battery quality, and CS teams. Subgroups are composed of development, mass-production, safety innovation, and component quality groups.

The Quality team of Electronic Materials Division is composed of Development Quality Assurance team responsible for verifying and registering new resources as well as assuring the quality of new product, Mass Production Quality Assurance team responsible for supplier management and quality assurance on mass production, and Customer Service team that deals with customer quality issues and VOC responses.

Quality Management Organization Chart

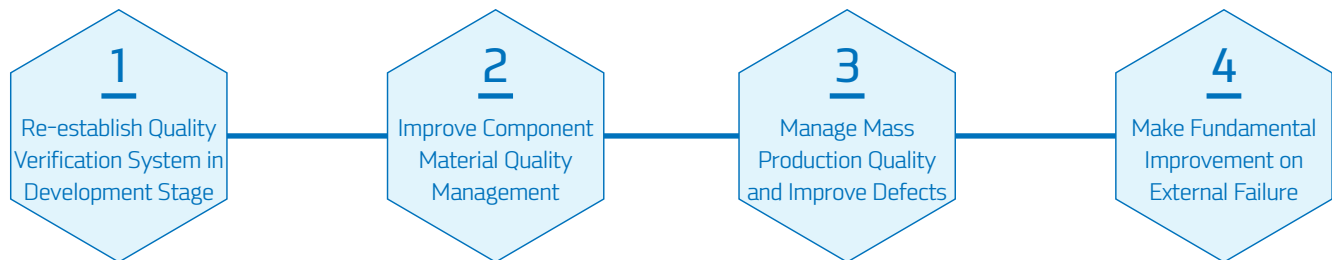


Company-wide Quality Management Activity

Samsung SDI discontinued the existing quality assurance award policy targeted towards work sites, and implemented a new year-end bonus policy on tasks driven by the Quality Assurance department. Each group was assigned a project in regards to improvements in the process and quality competitiveness, and presented before the judges. As a result, best practices were selected and shared with the rest of the employees.

Team members who presented the best practices were given incentives to reward their continuous improvement. Since 2015, Samsung SDI has established the four key assignments of quality development, components, mass production and market based on the issues identified from the management examination. We launched a total of 52 tasks (21 in 2015, 31 in 2016) and completed 38 of them as of 2016 year-end. We have further identified 15 additional tasks from the Galaxy Note 7 incident, which are currently in progress.

Four Quality Improvement Projects



2016 Milestones on Quality Improvement

Project and Activity	Achievement
[Project 1] Establish Quality Verification System in Development Stage	The Quality team at Automotive and ESS Division improved its internal verification process for customer sample by enhancing customer audit responses, carrying out activities to reduce VOC from sample issues, and reinforcing pre-management of the samples. Small-sized Li-ion Battery Division improved sample verification by verifying the qualities of pre-developed products, expanding the scope of product verification, and establishing development verification process and sample shipment standards.
[Project 2] Improvement on Raw Material Quality Management - Improving impurity content in raw materials	The Quality team at Electronic Materials Division continued their effort to improve quality of raw materials. In 2016, the team focused on removing impurities in raw materials in order to improve the quality in line with more refined semiconductor production process, and identified 17 items for micro quality management. In addition, we review and make improvements on quality conformity of raw materials with our suppliers, and enhance raw material quality management by providing technical supports such as optimization of processing conditions at raw and subsidiary material suppliers.
[Project 3] Manage Mass Production Quality and Improve Defects - Reducing nonconformity in measuring instruments	Measuring instruments are the basis of ensuring product quality. We strived to reduce nonconformity in measuring instruments to retain the quality of calibration and control, and succeeded in lowering the nonconformity rate by 45% from 0.6% in 2015 to 0.33% in 2016. We conduct regular management of our measuring instruments to prevent any malfunction.
[Project 4] Make Fundamental Improvement on External Failure - Improving visual inspection failure	In order to fix defective appearances at the production line, we established reasonable and realistic standards derived from consultation with our customers. Internally, we performed improvement activities on welding process and prohibited rework on defects occurring during the production process so that all non-conformant products would be rejected. Moreover, We identified root causes and reinforced management in the production lines, and reduced the defect rate by 96% from 12,225ppm in 2015 to 481ppm in December 2016, leading to higher customer satisfaction.

BUSINESS CASE

Quality Improvement Plans on the Galaxy Note 7 Issues

Quality issue of the Galaxy Note 7 series featuring Samsung SDI's batteries were widely reported in August 2016, and Samsung SDI analyzed weaknesses in the battery structure and production process to establish and execute improvement plans for development, manufacturing technology and quality verification. In late August following the incidents, Samsung SDI immediately established daily emergency situation room under direct supervision of the CEO, in which a team of 100 employees from Development, Production/Technology, and Quality/Verification teams executed Task Force activities on product safety innovation until December to analyze the root causes and establish response plans. Detailed safety management items, including material acceptance standards, were reinforced in the Development sector. In Production/Technology sector, a flawless system was built by supplementing the existing sampling test with a new X-ray inspection process for all products. In Quality/Verification sector, we increased the sample size by 1,000 times and added testing under extreme conditions to build a thorough verification system. Samsung SDI will solve the quality issues at a fundamental level and restore customer trust with our TF activities.

High Material Issue 02

Reinforcing product safety evaluation and management

Customer Satisfaction

We take Voice of Customers (VOC) into account as a major management KPI in an effort to fundamentally improve potential issues. We have a range of communication channels in place including website, social media, customer visits and customer satisfaction surveys, and registers VOC and customer needs through customer visits and Quarterly Business Reviews (QBR). In addition, Samsung SDI is improving the response lead time on quality issues by managing the lead time for each customer VOC level to make timely responses.

Customer Satisfaction Survey

Samsung SDI conducts customer satisfaction surveys for each business division. Customer satisfaction surveys are a process that derives indices from calculated scores on a number of categories including product quality, service, delivery date and technology development. We analyze strengths and weaknesses of the products and infrastructure of each business division based on the survey results. The surveys are intended to provide basic data for customer satisfaction management and to link points of improvement with the quality system.

The Small-sized Li-Ion Battery Division conducted Customer Satisfaction Index (CSI) surveys for 33 major customers in 2016. Based on objective data and our customer's complaints in quality characteristics, quality satisfaction and service level in comparison to the competitors, the division performed improvement activities on customer satisfaction. In addition, Samsung SDI introduced the Customer Quality Sentiment Index to build an internal feedback system on our current performance in product quality. According to the preliminary research, the system improved the external failure rate by 51% due to regular management on product quality trends and early inspection and mitigation on quality issues. Samsung SDI operated a preemptive response system and improvement activities on major customers in response to customer audits. A total of 129 customer audits were conducted in 2016 resulting in 100% conformity, and improvement requests decreased by 11% compared to the previous year.

The Electronic Materials Business conducts annual customer satisfaction surveys and evaluates five items, such as quality and technical support. VOC improvement tasks are under development and the contents of surveys are being improved to improve consistency. We also systematically manage the generation and processing of customer VOCs through our customer quality management system (Focus119).

Quality Improvement Support for the Partner Companies

By 2015, our supplier quality control, which mainly consists of export inspection, has been changed to approach preventive management. In addition, Samsung SDI designated themed audit checklist items, including change point implementation, quality issues and failure management to support a thorough quality management. For automotive and ESS batteries, we inspect the product quality from the customer's point of view, revised the quality assurance manual, and trained 14 VDA (Verband Der Automobilindustrie) 6.3 auditors to perform due diligence. Additionally, we hold discussions about technical issues on a quarterly basis through Quality Technology Reviews (QTR) on important materials.

Overseas Corporation Support

With the establishment of Samsung SDI Wuxi Co., Ltd. (SDIW), Samsung SDI built the quality assurance system and achieved mass production and quality stabilization at an early stage.

The SDIW is equipped with analysis credibility instruments and respective quality assessment systems for raw material/process/product phases. Also, it was certified to ISO9001 and received production approval from major customers on time. The quality management system in the SDIW enables a stable flow of supply for mass production in major polarizing film models and PV paste.

Key Performance Index

KPI	2017 Target	2016 Performance
Ratio of ISO 9001 auditor qualification (%)	23	18
Ratio of quality management qualification (except for ISO 9001)(%)	39	29

Reinforcing product safety evaluation and management

Input



Output		Unit	2014	2015	2016
Energy Solution	Small-sized Li-ion batteries, etc	million	1,147	1,079	1,053
Electronic Materials	EMC	million	7,825	6,469	6,218
	Polarizing films	1,000m ²	31,015	34,217	45,023



Quality Management Investment		Unit	2015	2016
Inspection cost / Revenue		%	0.65	0.97
Prevention cost / Revenue		%	0.45	0.46



Quality Management Training		Unit	2016
Quality experts		Persons	725
Quality Management Training Hour		Hour	20,480

Output



Quality Management Cost		Unit	2015	2016
Customer complaint cost to revenue ratio		%	0.28	0.57
Quality failure cost to revenue ratio		%	0.91	1.35



Quality Management Training		Unit	2015	2016
Ratio of ISO 9001 auditor qualification		%	15	18
Ratio of quality management qualification(except for ISO 9001)		%	11	29



Customer Satisfaction		Unit	2016
Small-sized Li-ion Battery	Score	Score	76.8
	No. of Company	EA	33
	No. of Customer	Persons	35
Automotive Battery & ESS	Score	Score	82
	No. of Company	EA	2
	No. of Customer	Persons	2
Electronic Materials	No. of Company	EA	28
	No. of Customer	Persons	178

* For Electronic Materials division, we did not present a comprehensive customer satisfaction score due to various product portfolio

High Material Issue 03

Forecasting and responding to fluctuations in the future market

Small-sized Li-Ion Batteries

Since the establishment of the Li-ion battery business in 2000, Samsung SDI's Small-sized Li-ion Battery Division has strived to enhance the product competitiveness in global standards. As the market is faced with increasing demands for Li-ion batteries in power application products such as electric bicycles, robot vacuum cleaners, and electronic power tools, we will secure product competitiveness and technology leadership to become the leader in Battery of Things (BoT) World.

2017 Market Forecast

Market demand for small-sized secondary batteries in 2017 is expected to increase by 8% year-on-year to reach 5.9 billion cells. The electric vehicle industry is experiencing a substantial growth led by Tesla and China. There is an increase in the use of Li-ion secondary cells in power applications, including electronic power tools and vacuum cleaners, and golf-cars are expected to replace lead storage batteries with Li-ion batteries. All of these factors are expected to contribute to the market growth, causing a hike in the demand for power applications by 19% compared to the previous year. In the IT sector, the advance of technologies based on Internet of Things (IoT) has led to the commercialization of artificial intelligence (AI), while smartphones are becoming more important as the hub device for smart homes. LTE services are anticipated to expand in the emerging markets led by emerging markets, including India. As a result, the growth rate will remain at 7%. Samsung SDI aspires to lead technological innovations in the secondary cell industry across the power application and IT sectors, and to strengthen its leadership in the market.

Li-Ion Battery Demand Forecast

(Unit: Millions)

Category		2015	2016	2017(e)
Power devices	E-Bike	220	250	280
	E-Vehicle	645	1,001	1,337
	Vacuum Cleaner	55	66	82
	Power Tool	515	600	685
	Others	426	555	569
IT	Wearable*	93	111	126
	Feature Phone**	420	364	288
	Smartphone	1,430	1,492	1,603
	Tablet PC	313	260	239
	Laptop PC	656	591	559
	Others	247	185	147
Total		5,020	5,475	5,915

* Wearable Devices : Worn on the body, such as health care wearable and active cameras

** Feature Phone : Low-cost and low-performance cell phones that were extensively used prior to the smartphones

* Source: Samsung SDI Li-Ion Battery Marketing Team

2017 Business Plans and Mid-term Strategy

We plan to create an opportunity for the small-sized Li-ion battery business to rebound and turn profitable in 2017. We will strive to achieve early stabilization of the polymer battery business, re-entrance of cylindrical batteries into the EV market and sustain profitability of the prismatic battery business. The Li-ion battery market in a mid- to long-term (2016-2020) is expected to be led by power applications, and the size of the smartphone market will remain stable in the IT sector. Samsung SDI will secure its leadership in high-capacity and high-output product and technology to pre-dominate the market of power tools, EVs, and substitute products for lead storage batteries. For the IT sector, we will strengthen our dominance in the polymer market with high energy density, slim design, flexibility, and securing key technologies for next-generation batteries. Also, our global manufacturing sites will be optimized to enhance production efficiencies and cost competitiveness. With these strategies, Samsung SDI will continue to retain its leading market share in the small-sized secondary cell market.

Automotive Battery

Samsung SDI's Automotive Battery division strives to build the foundation for future growth by accelerating its efforts to achieve higher efficiency (e.g. material cost innovation) and improving its management style that fits into the automobile industry. Although it faces undesirable circumstances in and out of Korea such as EV battery restrictions in China, we are on our way to achieving our management goal by seeking to be registered as a Best Practice company in China. Samsung SDI will become the leading company in lithium-ion battery by constantly investing in automotive batteries, and release automotive battery cells with the world's best energy density.

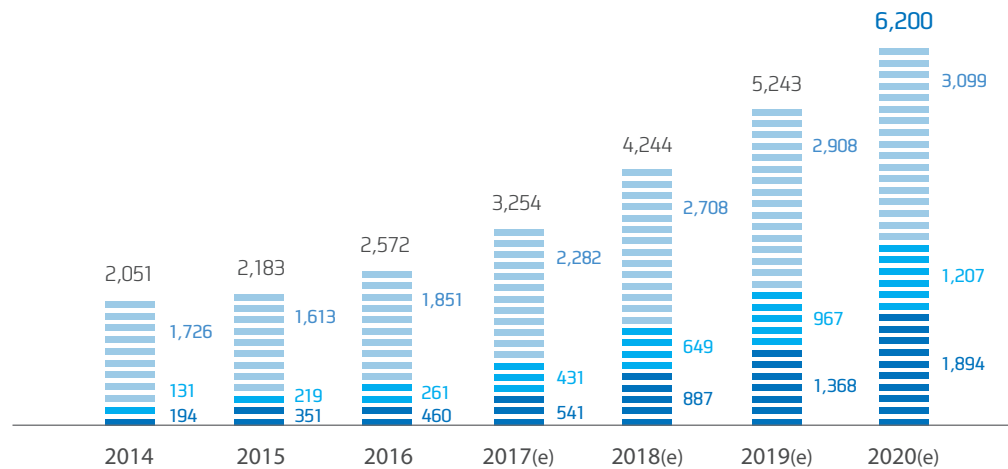
2017 Market Forecast

In 2017, EV market is expected to expand thanks to the increase in the sales of 300km-range models such as GM Bolt and Tesla Model 3. The PHEV market is projected to grow continuously following development and release of new models by global OEMs, including Audi Q8, Volvo XC40, and BMW 5 series. In the HEV market, we expect that different brands will split the market shares originally dominated by Toyota, as Toyota revealed their patent in addition to increasing sales of Nissan's Note that features e-Power HEV system and the new release of the Juke. In this context, the EV market in 2017 is expected to grow by 27% compared to 2016, selling a total of 3.25 million vehicles.

Electronic Vehicle Demand Forecast

(Unit: Thousands)

■ HEV ■ PHEV ■ EV



*Source: Report published by B3, a market researching firm

2017 Business Plans and Mid-term Strategy

Automotive Battery division will continue its innovative initiatives in development, production and quality competitiveness in order to respond to the market expansion. Samsung SDI is currently building a stable supply system to respond to customer demands, while improving sustainability of the business by strengthening strategic cooperation with the customers and discovering new customers. In addition, we will ensure our internal stability by improving profitability to build a strong foundation for future growth momentum.

High Material Issue 03

Forecasting changes in the future market and its response

ESS

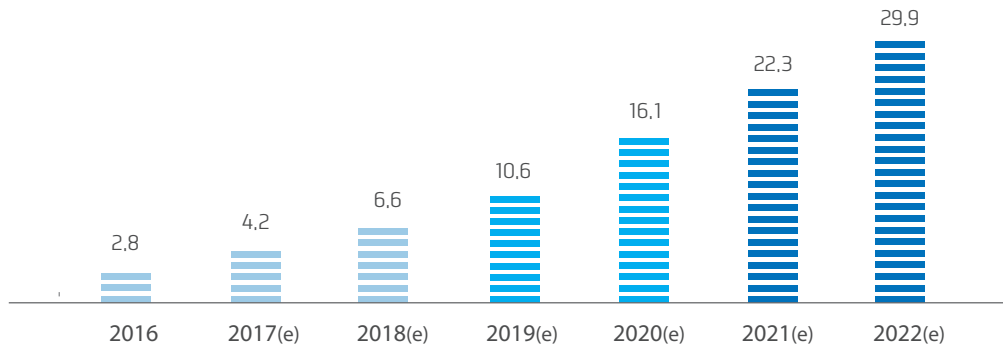
Samsung SDI's ESS business leads the changes of paradigm in the future energy industries with its globally recognized ESS technology. Samsung SDI is on several ESS projects in partnership with KEPCO and provides various solutions such as ESS for frequency regulation, voltage control and integration of renewable energy. In 2016, our cumulative installment capacity of ESS reached 1GWh and we strengthened our leading position in ESS business by winning the largest ESS order from California, USA.

2017 Market Forecast

ESS market in 2017 is expected to grow by 50% at 4.2GWh compared to the previous year. Developed countries like U.S., Europe and Japan are making progress in substantiation projects with supports from the government subsidies and realizing the economies of scale by mass production of lithium-ion batteries. Recently, the ESS sector is gaining competitive edges from high electricity rates and the reducing of feed in tariff (FIT). In addition, there are systemic efforts to encourage ESS by providing the governmental subsidies for linking ESS with renewable energy and to pass the legislation that obligates to install ESS. Therefore, the demands for ESS are expected to grow not only in the U.S. which is the largest ESS market in the world, but also in Europe led by Germany and Asia including Japan and Australia. In Korea, KEPCO is implementing ESS projects for frequency regulation, and T&D lines while the Korean government is promoting the ESS market by introducing systems such as obligation for the public institutes to install ESS and introduction of the tariff system to promote ESS. In this regard, the Korean ESS market is expected to grow.

LIB ESS Mid/Long-term Demand Forecast

(Unit: GWh)



* Source: Samsung SDI ESS Team

2017 Business Plans and Mid-term Strategy

In 2017, as subsidies of FIT(Feed In Tariff) for residential solar power are reduced or removed, self-consumption needs for energy will increase. Our ESS business will gradually increase its market share by expanding provision channels for ESS solutions for household. In addition, we customize our solutions to meet the demand from the growth of renewable energy market including wind and solar power and for the growing use of ESS from the major utility companies due to reduced battery prices and the national policies. In doing so, Samsung SDI plans to make long-term supply contracts with its key utility customers and to reach out to new strategic customers in order to maximize its existing market sales and secure its stable sales bases. We also plan to reinforce our business through strategic approaches to expand new business opportunities by replacing the lead storage battery with lithium-ion battery, which has lower installment areas and maintenance costs than those of lead storage battery. Samsung SDI plans to expand ESS solution business in North America and the European market where the market is growing with electricity rates and improved economic conditions while striving to increase in sales in Korea and China. We will firmly hold our position as the ESS market leader by launching its innovative technology and products. Especially, we aim to turn our business back to profitable operation based on the sales growth exceeding the market growth rate through our credibility and product quality recognized by the most installation cases.

Electronic Materials

Samsung SDI's electronic materials business is building the growth momentum by reinforcing our polarizing film and semiconductor business to respond the changes in technology and promote new material business. In 2016, we developed the world's best first polarizing film and PASTE production line at Samsung SDI Wuxi Co., Ltd. (SDIW) and established the foundation that will promote the future growth of electronic materials business. In the future, we aim to achieve global No.1 in PASTE business, normalize battery material business and strive to improve our capability in the electronic material business by expanding polarizing film business in China and developing new semiconductor products.

2017 Market Forecast

With the increase in demand for low-energy/high-performance/high-capacity semiconductor, the industry is expected to enter into the super cycle in 2017, especially as three-dimensional systems such as 3D NAND and TSV become prevalent.

As the focus of large LCD market moved to China, we are required to save costs and obtain differentiating technologies. However, as the smartphone market began to use OLED display, we expect to see more business opportunities in this sector in the future.

Electronic Material Demand Forecast

(Unit: KRW 100 million)

Category	2016	2017(e)	2018 (e)	2019 (e)	2020 (e)
Semiconductor Materials	31,080	31,530	31,987	32,484	33,280
Display Materials	116,294	117,899	117,254	116,282	114,916
PV Materials	9,860	10,640	11,760	12,410	13,190
Battery Materials	12,125	14,438	18,523	21,703	26,062
Total	169,359	174,507	179,524	182,879	187,448

* Source: Samsung SDI Electronic Material Management Support Team

2017 Business Plans and Mid-term Strategy

Electronic materials business plans to gain the market dominance by pre-emptively developing the materials that outperform competitors, focusing on the growing market such as OLED, 3D, NAND and high-efficiency solar battery. Especially, we plan to secure technology leadership and release differentiating products by making strategic partnerships and cooperation with the partners in our value chains including raw material, facility and the customers. On the other hand, Samsung SDI will step up to become the global leading electronic materials company by reinforcing technological competence, local supply system and operation, and T/S(Technical Service).

High Material Issue 04

Compliance with laws and global anti-corruption principles

Recognizing risk management and prevention on compliance/business ethics are critical tasks, Samsung SDI complies with the regulations in the countries where we operate, and continuously promote relevant activities. Especially in 2016, there are increasing interests and expectations on transparent management from stakeholders with the implementation of 'Improper Solicitation and Graft Act' (also known as anti-graft law). In this regard, Samsung SDI implemented various activities to pre-emptively respond to changing legal risks in domestic and overseas and to spread voluntary compliance culture.

Organization Operation

Samsung SDI runs a Legal Compliance & IP Team that is fully responsible for compliance and ethical management. Each division appoints a compliance practice leader and manager to implement voluntary compliance culture. In 2016, we hosted a session for compliance managers to share recent compliance issues and the relevant work plans and rewarded compliance practice managers who showed the best compliance performance at the end of the year. In addition, the employees who contributed to the settlement of compliance culture domestic and overseas received the CEO award to re-emphasize the importance of compliance and business ethics. For overseas corporations, we established the compliance operating system for new corporations in 2016 and also encourage the existing corporations to continue their compliance management activities by conducting self-compliance assignments.

Training and Inspection

Compliance Training

In 2016, Samsung SDI implemented training across ranks and with different themes to build compliance awareness among the employees. Compliance trainings for the entire employees take into account opinions from the employees and division characteristics to provide customized and selective training for higher efficiency. In addition, we improved the training process, the quality of trainers and materials, reflecting the surveys from our employees to enhance the training satisfaction. In 2016, Samsung SDI carried out consortium trainings for the employees at its 57 partner companies to support trainings related to

compliance management, anti-corruption, mutual growth, trade secret, contract, personal information, and patent. In 2017, we will review the existing training system and the materials to reorganize and discover recent issues and relevant case studies to bring more interests and attentions to the employees to maximize the training effectiveness.

Compliance Inspection

Samsung SDI identified major compliance risks based on the laws and regulations relevant to us and conducted regular checks on departments exposed to high risks including sales, purchases and development departments. We conducted additional on-site checks, if necessary, and identified improvement aspects for application and established a strong inspection system that issues warning notes ordered by the head of compliance support team, targeting employees violating internal rules. If we identify that our overseas corporations face problems with global standards or regulations which might affect them such as U.S. federal trade secret act and the European personal information protection, we immediately share the risks with them and carry out local trainings and checks.

Anti-Corruption

Samsung SDI evaluated compliance risks and inspected high-risk departments that directly interact with the customers and checked their expense statements that come from external contacts. As a result, we confirmed that there was a no material risk with no exceptions. In addition, we audited the companies in our supply chain and the departments that interact with the customers for their sales performance, recruiting process and product and material managements. We took strict actions on internal violation cases. In 2016, we penalized a total of 42 people as a result of anti-corruption audits and there were no partner companies involved with violation.

Audit Report

Samsung SDI is receiving reports on unfair demands from using one's position and corruption cases via e-mail, phone, and fax at all times. The report types are the violations of laws and its Code of Ethics. In addition, in case of reporting on social and environmental issues in which various stakeholders have interests such as human rights, labor, local communities, and supply chain, the relevant department is required to deal with these issues according to matters. There were no violation cases received in 2016 on human rights, local community, environmental impacts and labor practices.



Target: 16.3

BUSINESS CASE



Response to the Anti-Graft Act

Samsung SDI conducted various activities to make pre-emptive responses to the anti-graft law implemented in September 2016. We conducted special online trainings not only for the entire employees, but also for department heads, expat workers at overseas corporation and the local experts. In addition, we implemented activities to prevent risks associated with the anti-graft law and help our employees to fully understand the law by offering sessions inviting special instructors, building the guideline for the employees and company-wide promotions and receiving continuous advice. In 2017, we will reorganize the guideline to comply based on updates of the law, provide additional trainings based on feedback received in the past trainings and reinforce checks on the departments that interact with the customers.

Major lawsuit progress

There have been investigations on violating the competition law for colluding on fixing the price for CRT in U.S., EU, Japan and Korea. We paid a penalty in some countries such as Korea, U.S. and Europe to close the case. However, Samsung SDI appealed in Japan, which is currently in progress,

and whether Samsung SDI violated the relevant laws will be announced depending on the final verdict. In addition, there have been investigations on violating the competition law for colluding on fixing the price for secondary batteries in U.S. and Europe, which were closed in December 2016. We were not imposed with any penalty or sanction for violating the laws and regulations in those countries.

Compliance with laws and global anti-corruption principles

Input



Human Capital

Compliance, Ethics Training	Unit	2014	2015	2016
Samsung SDI Corruption Prevention*	Persons	24,060	18,028	17,438
Ethics*	Persons	19,985	6,971	4,715
Supply Chain Ethics	Company	70	72	57

* Accumulated person-years



Intellectual Capital

Compliance Inspection	Unit	2015	2016
Theme inspection	Case	2	5
Self-inspection on system	Case	1	1
On-site inspection	Case	13	4
Subcontractor inspection	Case	6	2
Internal transaction inspection	Case	-	1
Overseas corporation inspection	Case	-	2
Legal review on major meetings	Case	97	31
Total	Case	119	46

Output



Human Capital

Penalty	Unit	2014	2015	2016
Punishment from anti-corruption audit	Persons	77	43	42
Partners terminated the contract for corruption involvement	Company	9	3	-



Social and Relationship Capital



Manufacture Capital

Business site corruption risk evaluation	Unit	2015	2016
Total business site No.	EA	30	30
No. of business sites with corruption risk	EA	19	4
Percentage of business site with corruption risk	%	63	13

High Material Issue 05

Building up workplace safety

Samsung SDI strives to manage safety & health and hazardous materials so that our employees can work at safe and healthy work places. In 2016, our executives claimed that 'safety is the first principle in the management' and we worked hard to build safety centered cultures at our work places in domestic and overseas as well as in our supply chain. In addition, we offered continuous trainings and promoted safety cultures to help the employees become aware of the safety in their daily operations and better comply with the laws.

In 2015, Samsung SDI implemented special activities on each component that comprise of safety culture for further improvements after an evaluation of safety culture level for the first time. In 2016, we improved our safety culture level to 'Proactive level' where employees voluntarily participate in safety activities.

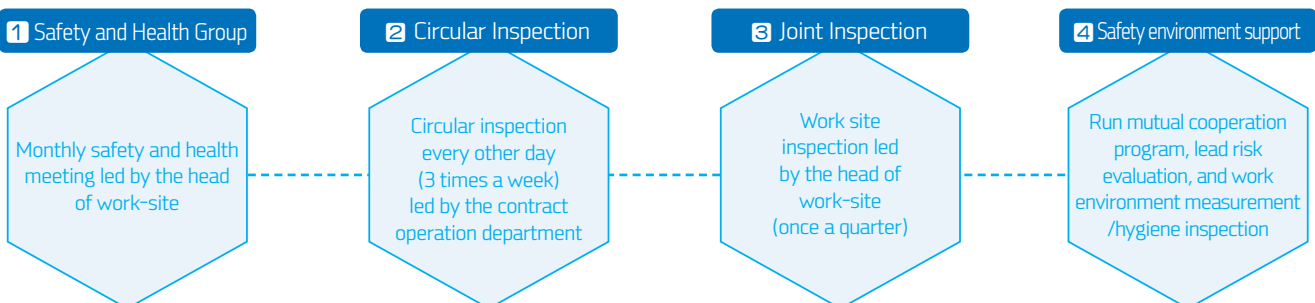
Safety Improvement Activity

Samsung SDI holds a monthly safety environment meeting led by business division heads and a bi-monthly meeting hosted by the CEO to check on safety issues that can occur on-site and to take proper actions. In addition, the heads of business divisions and work-sites, and executives of research and staff lead 'My-Area Inspection' following the CEO's on-site inspections, to monitor risk factors at work-sites on a regular basis and to improve communication with employees.

Emergency response training and safety activity

Samsung SDI established emergency scenarios such as explosions, chemical leakage, disasters and accidents in the closed places and implemented emergency response trainings and safety activities every quarter to help our employee better respond to those situations.

Safety management and inspection process for in-house partner companies



Improvement Goal for Safety Culture

Stage	Goal	Definition
Creative	After 2019	Every member encourages one another and develop oneself to further advance the safety environment.
Proactive	At 2016 level	Every employee voluntarily and actively participates in safety environment activities
Calculative	Achieved in 2015	Safety environment management system is introduced and internalized
Reactive		Reactive compliance of the minimum requirements (e.g. law) and make responses after the incident
Ignorant		The safety environment management is not in place at all.

For in-house partner companies, we check their safety levels and support safety related activities considering them as candidates which should have the same safety level as Samsung SDI has, and periodically evaluate the safety management level to reflect the evaluation in new contracts or contract extension.

Risk assessment activities

Samsung SDI assesses the risks in order to build safe workplace even for daily operations. Employees must check their protection kits before entering the laboratory and fill out safety work permission sheet before working on-sites for risk managements. We also do pre-screenings on new facilities before they are installed in addition to the risk assessments. In this way, Samsung SDI is removing fundamental risk factors through a habit of risk assessment at company-wide levels.



Target: 3.9



Target: 12.4

BUSINESS CASE



Improve safety management monitoring and evaluation

Samsung SDI conducts intensive inspections including inspections across the work-sites, operation inspections and emergency system inspections. Especially, each work site has its own safety inspection systems such as 'daily inspection' and 'tsunami inspection' while Samsung SDI strives to improve its safety measures by applying 'My Area Inspection' to every employee and setting every 4th of the month as the 'safety inspection day'. In addition, we put more emphasis on the safety environment for employee's MBO as a part of performance review. Beginning in 2016, we evaluated safety responsibility at work sites to consider it into performance review. We also intensified reward/penalty regulations on safety environment and impose stricter preventive or disaster penalties to those who violated the core safety conducts and reward excellent safety environment cases with the CEO year-end bonus.

Regular inspection

- ▶ cross inspection between the work sites
- ▶ operating audit
- ▶ emergency system inspection

Special inspection

- ▶ daily inspection
- ▶ my area inspection
- ▶ tsunami inspection
- ▶ safety inspection day (on every 4th of the month)

Safety Environment Reward Status

Classification	Award Name	Candidate	Awarder	Unit
Safety environment	CEO Year-end Reward	Entire work sites/departments	CEO	Grand prize, gold, silver, bronze
		Potential risk discovery	Team Manager of safety environment infrastructure	Individual
		Safety environment competition	Each work site	Department, Individual
		Immediate reward (at the time of occurrence)	Each work site	Department, Individual

Chemical Substance Management

G-EHS system establishment and operation

Samsung SDI has been pre-examining every chemical material via the G-EHS system since July 2016 in order to prevent potential accidents and improve our verification system on hazardous materials that may harm human body such as high toxic materials. We do not allow to purchase materials unapproved by the system to apply strict managements on chemical materials. This pre-examination process is only applicable to the Korean businesses, but we plan to further apply this procedure to overseas corporation beginning from March 2017.

Response to domestic laws

We are in process of registering "Phase-in substance(s) to registration" to "Act on Registration, Evaluation, etc. of Chemicals" by June 2018 and establishing a cooperation system among the relevant departments to be ready for the revisions in future.

In accordance with "Act on Liability for Environmental Damage and Relief Thereof", we are insured for reimbursing physical or property damages of the third parties due to environmental contamination accidents and built an immediate response system by being additionally insured for potential contamination accidents that may occur during transportations out of business sites.

High Material Issue 05

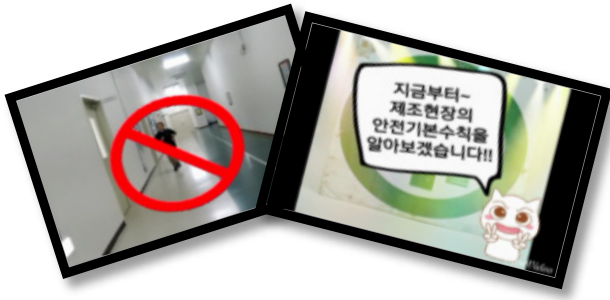
Building up workplace safety

Spread of Safety Culture

Samsung SDI hosts various events not only to build a structured safety system, but also the culture that encourages the employee's voluntary participations.

Safety Culture Campaign

We build a safety culture where employees communicate through active and voluntary participations such as SDI Talk (SDI intra-company community), club activities and safety competitions. In 2016, we held the third UCC and Slogan Contest for Safety and Accident Prevention where excellent works were selected for rewards.



Training experts on safety environment infrastructure

Samsung SDI fosters experts on safety environment infrastructures to enhance safety and health capacities at work places and to prevent and effectively respond to the risks. In 2016, we had a total of 492 experts and each of them completed 58 hours of training.

Regular Safety Training

We conducted safety trainings depending on ranks and types to identify risk factors for improvements. Safety trainings at business sites are composed of regular trainings, new-recruit trainings, and trainings on task changes and special safety and health trainings. We focus our employee trainings on "Occupational Safety and Health Act", general management items, accident preventions, and risks and moving lines of equipment and machines.

Safety Training Implementation Status

Training types	Trainees	Contents
Regular Training	Manufacturer Officer Supervisor	Occupational Safety and Health Act, general management and accident prevention etc.
New-recruit training	Manufacturer Daily worker	Occupational Safety and Health Act, general management and the pre-work checklist etc.
Training on task changes	Manufacturer Daily worker	The risks and work procedure of equipment and machine, and their moving lines etc.
Special safety and health training	Manufacturer Daily worker	Trainings for tasks exposed to three harmful risks including forklift and hoist

Standard, Procedure and Safety Regulations Compliance

We established the optimized standards and procedures to help employees at both Samsung SDI and our partner companies strictly comply with the safety regulations. At the manufacture division, we built a standard where the colleagues record the video of work performance to analyze and enhance the productivity. We secure the safety and quality by implementing work procedures in strict compliance with the standard work guideline.

일단	심리	공제	표준작업지도서			적/계정일과
관	사	경				Page 9/9
재	재	재				작성자 구분권
						254 등록
공정명	SFL Slurry공급 작업	작업명	Slurry 공급	작업 장소	SFL 핵심	
작업 순서도						
1. 작업준비 및 점검		2. 연결 작업		3. 본 작업		4. 공급압력 Setting





Key Performance Index

KPI	2017 Target	2016 Target	2016 Performance	Achievement Level
Zero Safety Incidents	0	0	0.40	Not achieved



* Employee injury rate (Number of accidents / Total work hours×1,000,000)

Building up workplace safety

Input

 Manufacture Capital	Safety Environment Investment	Unit	2015	2016	
	Safety Environment Investment Cost	KRW 100 million	56	230.5	
 Human Capital	Safety Environment HR Training	Unit	2014	2015	2016
	Safety Environment Infra Special HR	Persons	515	552	492
	Safety Environment Infra Special Training	Hour	24,710	27,924	28,537
	Training Hour	Hour	48	51	58
 Intellectual Capital	Safety Environment Inspection	Unit		2016	
	CEO Inspection	Case		8	
	CEO Meeting	Case		4	
 Intellectual Capital	Safety Environment Audit	Unit		2016	
	Korea	Case		1,314	
	Overseas	Case		793	

Output

		(Number of accidents / Total work hour x 1,000,000)		
 Human Capital	Employee's rate of injury	2014	2015	2016
	Company-wide	0.34	0.47	0.40
	Domestic	0.22	0.32	0.33
	Overseas (excl. Austria site)	0.52	0.64	0.47
		(Days of loss / Total work hour x 1,000,000)		
 Human Capital	Employee's rate of loss	2014	2015	2016
	Company-wide	17.19	13.09	26.89
	Domestic	21.13	15.15	28.45
	Overseas (excl. Austria site)	11.55	10.63	25.23

High Material Issue 06

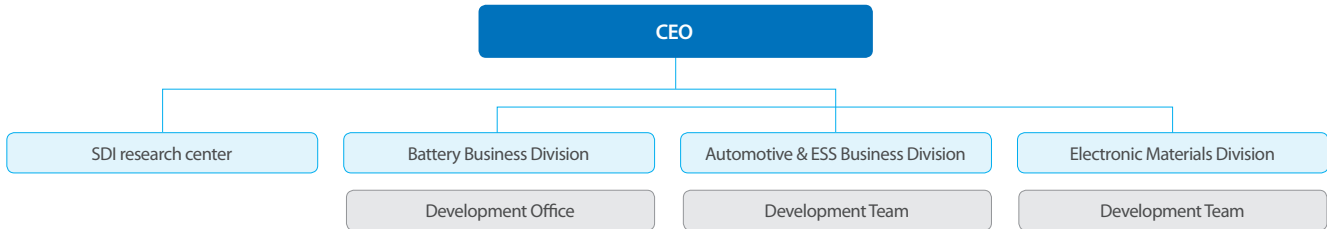
Enhancement of R&D Capability

The slowdown in the global economy coupled with the growing protectionism require more competitive products and services. Samsung SDI strives to better satisfy our customers by developing new technologies and innovations to obtain the future growth momentums in its battery business.

Organization Operation

Samsung SDI runs a research center under the direct supervision of the CEO to improve efficiency of the research organization and to build the foundations for improved performances. In addition, development teams at each business division are doing research and development for 'Battery Business', 'Automotive and ESS' and 'Electronic Materials Business' sharing the same vision of procuring the top materials and enhancing the product competitiveness.

R&D Organization Map



The 24% of its employees are assigned to research and development and we support them to exert their best abilities.

Open Innovation

Samsung SDI expands industrial-academic cooperation to obtain the next-generation battery technologies and increase the base for battery research. In 2016, we concluded industrial-academic cooperation programs with four universities in Korea to contribute to active exchanges between universities and the industry. We expect that these programs will converge excellent research capability of the universities and Samsung SDI's experience and technologies to provide opportunities to develop innovative battery technologies in addition to training superior talents.

Patent Competitiveness

Supporting SDI research center and individual business departments in the field of patent business to reinforce the company's intellectual property competency and pioneering next-generation business areas. As of 2016, the company has 4,273 patents in Korea, and 7,613 patents in major overseas markets such as the United States, China, Japan, etc and

patent portfolio optimization is conducted through evaluating the patent which reflects technical trends. Samsung SDI strives to secure R&D competencies through filling, registering and maintaining the patents and to protect and achieve mutual growths with partner companies by co-ownership of patents.

Especially, we have various patent compensation systems for promotion and focus on obtaining excellent patents with these systems.

Major R&D Performance

Major R&D Performance	Research Performance and Estimated Impacts
Developed gap-filling tape for protection of electrode assembly of cylindrical secondary batteries	Improved vibration resistance by fixing and protecting internal components of batteries (jelly roll)
Developed the cylindrical case for xEV lithium-ion batteries	Developed cases specialized for EV batteries to improve K52 safety and reliability
Developed high-luminance CR	Maintained the existing market share by developing products with better luminance
Developed high efficiency electrode paste	Secured sales increase base by developing high efficiency electrode paste
Developed the next-generation polarizing films	Expanded product portfolio by developing polarizing films applicable to new display products
Developed OLED deposition materials	Entered new markets by developing high efficiency and long-lasting deposition materials
Developed slurry for semiconductors	Increased market share by developing new products
Developed EMC for semiconductors	Increased market share by developing EMC which has superior void characteristics

BUSINESS CASE



Automotive Batteries

The battery industry is expected to grow at the high rate as the electric vehicle market started to expand. Samsung SDI developed PHEV cell/module for European OEM in 2016 and will begin mass production in 2017. In addition, we are developing batteries for a number of electric vehicles with other global major OEMs, leading the expansion of eco-friendly electric vehicle market for the future.



Electronic Materials

'OLED' is the hottest topic in the recent display industry. As the global smartphone manufacturers including Samsung Electronics and Apple announced to adopt OLED display for their devices, the market is expected to grow further. Samsung SDI successfully developed phosphorescence Green Host, OLED luminescent material, in 2014 and advanced materials, which have high efficiency and drive voltages, in 2016 to contribute to realizing eco-friendly/low-energy smartphones.

Enhancement of R&D Capability

Input



Financial Capital

R&D Investment	Unit	2014	2015	2016
Investment	KRW 100 million	6,205	5,389	5,525
Investment / Revenue	%	7.4	10.9	10.6



Human Capital

Training R&D Resources	Unit	2016
R&D staff	Persons	2,174
R&D staff / Total employee	%	24
R&D training course	EA	374
R&D training cost	KRW million	224

Output



Intellectual Capital

Patent Registration	Unit	2014	2015	2016
Korea	Case	6,339	4,770	4,273
U.S.	Case	2,630	2,044	2,702
China	Case	1,578	1,380	1,392
Japan	Case	1,533	1,307	1,127
Europe	Case	2,147	735	1,812
Other	Case	441	498	580
Total	Case	14,668	10,734	11,886

High Material Issue 07

Sustainable Supply Chain Support and Management

Samsung SDI's main supply chain is a partner company that supplies raw materials for products and is defined as a supplier of battery raw materials such as electrode plates, assembled materials, and PACK materials, and a supplier of raw materials of electronic materials such as SILICA. Samsung SDI strives to enhance the market competitiveness by pursuing mutual growth and cooperation with the partner companies. In 2016, we concluded mutual growth agreements with 250 1st/2nd tier suppliers and offer support and cooperation programs in finance, education, technology, new market opening and performance sharing to live by our mutual growth value 'we can go farther when we go together'.

Vision and Promotion System

Samsung SDI is promoting three major strategies, including support for 'supporting for competence', 'enhancing cooperation for future technology' and 'establishing fair trade' in all transactions, all aimed at realizing mutual growth through securing competitiveness.

Samsung SDI is operating the Win-Win Cooperation Group as part of the Strategic Sales Team under the Corporate Management Office to systematically promote strategies and tasks for mutual growth. The Win-Win Cooperation Group supports partner companies in terms of finance, technology and training for the supplier's better competence and conducts fair trade inspection activities.

Supporting partner companies to secure competencies

Aspects	Program
Enhancement of overall competency	Operation of cooperative projects and innovation guidance
Expansion of supports for win-win cooperation	Financial support, fair trade, technical support and protection, etc
Expansion of activities for mutual growth	Agreements, education, recruitment support, other direct/indirect supports (measuring instrument calibration support, etc)
Market support	Purchase conference, product exhibition, overseas B/M etc.
Secure manufacture competency	Innovation guidance and cooperation projects (public-private R&D, industry innovations etc)
Further supports to 2nd and 3rd tier suppliers	Industry innovation support, shared fund, Win-win payment system
Technical support and protection reinforcement	Government projects (Public-Private R&D, purchase condition, cost reduction etc), technology escrow, original trade secret certificate system etc.
Expansion of training experts	Adaptive counseling via recruiting supports and consulting agencies etc.
Vitalization of communications	Win-win portal, visiting partner companies and issuing co-prosperity news letters on a quarterly basis

Support for Securing Innovation Competence

Support for Competence Reinforcement Training

Samsung SDI is operating collective education through the Samsung SDI job training center for partner companies' employees to improve their job skills. In 2016, 727 employees were able to complete the collective educational program and 138 employees completed their job training through CREDU, an online training system. In addition, we offer the partner companies support for their recruiting process through providing partner companies' new employees with the collective trainings.

Support for Productivity Innovation

Samsung SDI dispatches its advisors to the partner companies to offer advisory services for productivity innovations. Through IBK Management Consulting, SDI provides professional consulting in areas such as management and finance. Aside from these efforts, Samsung SDI participates in projects promoted by the government, such as industry innovation movement, smart plants and invests KRW 600 million per year in 30 secondary/tertiary partner companies' innovation activities.

Support for Creating Domestic/Overseas Sales Channels

In order to help its partner companies to improve their performance, Samsung SDI supports the partner companies in the creation of domestic and international sales channels. We utilize the overseas corporation to provide expertise on the process required for overseas expansions while benchmarking international cases to help build local infrastructures. Furthermore, we inspect follow-up management, actual conditions and how product origins are managed. In addition, Samsung SDI helps the partner companies participate in purchase conferences hosted by the government or by Samsung SDI to give them opportunities for the increase in sales.

Financial Support

Payment and Funding Support

Samsung SDI oversees payment and funding support to build financial soundness and stable management of partner companies. The payment condition of the company, in relation to due payment, is that the company would pay 100% in cash within 10 days of cutoff which occurs 3 times every month. For completed payments before holidays, the company pays earlier than the cutoff. In terms of funding support, SDI provides direct support, with no-interest fund loans, combined support, such as a shared cooperation fund which is initiated together with financial institutions. It also provides indirect support, such as network loans and family loans, and special support such as Industry Innovation Movement, private/public R&D, and the achievement sharing system.



Target: 8.3

Win-Win Payment System

Samsung SDI introduced the Win-Win payment system in November 2015, and has been operating the system ever since. Through this system, the company allows secondary and tertiary partner companies to convert bonds issued from Samsung SDI into cash at commercial banks with the same fee level as that of large companies. In 2016, 26 partner companies participated and we plan to expand the scale.

Enhancement of R&D Cooperation

Technology Support and Protection

Samsung SDI participates in Public-Private Investment Programs for Technology Development projects to support its partner companies with R&D costs for new product and technology up to KRW 1 billion. Likewise, the company is operating 'Tasks with Conditions of Purchase' which supports the partner companies with new development assignment fees, under the premise that Samsung SDI would purchase their products. By operating a technology escrow system the company provides a place for partner companies to store their technologies safely when engaging in cooperation between large companies and SMEs, and protects the partner company's rights if any technology leakages occur. In 2016, Samsung SDI introduced the original trade secret certificate system to protect technical and management information of the partner companies and supports the information registration costs.

Achievement Sharing System

Achievement sharing system is an institution where commissioning companies share results of development of new technologies, improvement of the process and quality, with commissioned companies under a pre-agreement. Since the introduction of this system in 2012, Samsung SDI has been doing 30 projects. In case of company A, the company was able to develop the secondary manufacture technology that is highly efficient and automated, which gave us a differentiated competitive edge against its competitors. This resulted in a better yield and process, and improvement of manufacture capabilities while reducing costs.

S-Partner system

Assessment Process

All Samsung SDI partner companies in contractual relationships are subject to self-initiated diagnoses and due diligence by Samsung SDI at least once every two years. The evaluation criteria includes labor, environment, health and safety, ethics, compliance management, and management system, which are the five major areas of the EICC Check sheet. Evaluations are conducted through self-diagnosis of partner companies and due diligence by consultants assigned by Samsung SDI, whereas the S-Partner certificate is issued for companies which score over 80 points as a result of due diligence. If a partner company receives "A" class two or more times, it will be designated as an S-partner and granted autonomous management. Pollution emissions, legal violations, uncontracted personnel under labor contract, child labor (applicable to national legislation) are set as issues related to mandatory requirements, and partner companies that violate these standards are to be considered for suspension of trade.

BUSINESS CASE



Samsung SDI Shared Growth Day

Samsung SDI held 'the 2016 Shared Growth Day' at the North Chamber of Commerce in the Chungcheong South Province in November 2016. In this day, a total of 150 people, including CEOs of its partner companies and stakeholders of the Shared Growth Committee participated in the event. The Shared Growth Day, as a representative communication channel to communicate with partner companies, is a platform where the performance of Samsung SDI's shared growth in the last year and a plan for the next year are shared. In this event, Samsung SDI's three key strategies of shared growth such as 'supporting for competence' by reinforcing innovation guidance for all areas of management, 'enhancing cooperation for future technology' by vitalizing cooperative projects and training specialists, and 'establishing fair trade' to support shared growth were presented. In addition, the best practice of innovation from partners companies in 2016 including Korea Innotech and Shinheung SEC were shared to seize more opportunities to develop cooperative business models. Moreover, while managers of purchasing divisions and shared growth divisions from the Samsung's 10 affiliates including Samsung Electronics, Samsung Electro-Mechanics participated in the event, partner companies were able to promote their brands and pioneer the market by exhibiting their products. Samsung SDI will be dedicated to promoting shared growth with its partner companies in the future, too.

High Material Issue 07

Sustainable Supply Chain Support and Management

Operation Status and Aspects for Improvement in 2016

In 2016, Samsung SDI conducted assessments for 91 partner companies in Korea, China, Malaysia, and Vietnam (28 of them or 31% are new partner companies in 2016). According to assessment results, there were no violations of mandatory requirements, including child labor. In 2016, the company created education programs on labor contracts, environmental law registration, ethics, and waste storage and disposal, as a result of feedback from evaluations. Furthermore, SDI dispatched specialists on the environment, safety and health, and utility to partner companies.

Target and Evaluation Direction in 2017

In 2017, Samsung SDI plans to evaluate 100 domestic and international partner companies. Especially, we plan to strengthen our partner companies' compliance systems by providing support such as environment management training, CSR training, and standardization of inspection methods. Furthermore, we will reinforce the S-Partner Check Sheet by revising S-Partner Check Sheet items and create manuals for evaluation standards for each item. Finally, Samsung SDI plans to improve the system to issue result reports, plan of improvement, and certificates, and to develop the English version for convenience of the foreign users.

S-Partner certification process



Conflict Mineral Monitoring System



* 3TG : Tantalum, Tin, Tungsten, Gold

Responsible Sourcing

There are increasing social attentions and concerns on responsible sourcing of raw materials that are used in our products such as minerals.

Samsung SDI strives to be socially responsible for every sourcing process of the raw materials used in our products from mining to processing and procurement.

Policy Improvement

In 2016, Samsung SDI revised the code of conducts and compliance agreement of the partner companies to reinforce our social responsibility on sourcing in order to meet the requests from various stakeholders, including our customers. The revision adds the ban on using minerals involved with the violation of human rights such as child labor, safety and health at work place on top of banning to use conflict minerals (tantalum, tin, gold and tungsten) in Democratic Republic of the Congo and its neighboring countries that was already stated in the previous version. It also expanded and specified the scope of responsible sourcing by explaining about on-site audit.

* The details of code of conducts and compliance agreement of the partner companies can be found at <http://www.samsungsdi.com/sustainable-management/sustainability/supply-chain-responsibility.html>

Policy for Conflict Minerals and Improvements

In order to ease concerns on procurement practices of conflict materials (tin, tantalum, tungsten, and gold) that are used in our products, Samsung SDI has developed relevant policies and tried to eradicate to use conflict materials since 2011. We conduct regular trainings to the partner companies and implemented the system that analyzes the customer requirements and findings for improvement in the partner company's web portal (SRM) and intranet (SMIS). We collect information on smelter and the place of origin and are updated on 3TG usage status from the partner companies through this system for verification and management.

In 2016, we strived to increase the number of smelters that is CFS certified for those that supply four major minerals to the partner companies and plan to further increase them in future.

Response to Cobalt Issue

With the rise of issues related to cobalt purchased from artisanal and small-scale mining (ASM) of Democratic Republic of the Congo in 2016, many reports are to address child labor, safety and health issues at work sites and social/environmental issues that occurred during the mining and procurement process. Although cobalt is extensively used as cathode active material for the battery of mobile devices and electric vehicles, it has not been accounted for social responsibility risk of the supply chain as cobalt is not regulated by the Conflict Minerals Law.

In order to meet the requests from the stakeholders, including our customers, and to clarify social responsibility of cobalt supply chain, Samsung SDI established the strict principle on child labor, safety and health, and environment relevant to cobalt supply chain in 2016 and reflected this into the partner company's code of conducts. Samsung SDI requires the partner companies to identify every smelter and enhance the transparency in access to the documents and record in the revised code of conduct and compliance agreement by complying with OECD guideline. In addition, Samsung SDI visited seven 1st tier suppliers for cathode material and four cobalt precursor suppliers based on 'OECD/CCMC guideline for responsible mineral supply chain' in order to capture the current status of cobalt supply chain and to secure the transparency.

In addition, we sponsored an external research organization for its fundamental research projects on copper mine regions of Democratic Republic of the Congo.

In November 2016, Responsible Cobalt Initiative (RCI) was established in order to improve the problems on social responsibility of the cobalt supply chain. Samsung SDI will show joint efforts to solve the cobalt issue by cooperating with upstream and downstream companies of the cobalt supply chain in RCI.

In June 2017, Samsung SDI issued 'Progressive Report for Responsible Cobalt Supply Chain' for the first time in the battery industry that describes our detailed actions on cobalt issues. With this, we expect to enhance the transparency of cobalt supply chains and improve cobalt issues based on feedbacks from the stakeholders.

* Samsung SDI's 'Progressive Report for Responsible Cobalt Supply Chain' can be found at <http://www.samsungsdi.com/sustainable-management/sustainability/supply-chain-responsibility.html>

Key Performance Index

KPI	2017 Target	2016 Target	2016 Performance	Achievement Level
Financial support (KRW 100 million)	Continued Expansion	267	438	Achieved
Group and online training(Persons)	1,030	632	865	Achieved
S-partner certification achievement (Case)	100	100	91	Not achieved

OECD Guideline – 5 Step Framework



* Samsung SDI's policy on responsible cobalt supply chain was established in accordance with "OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas".

High Material Issue 07

Sustainable Supply Chain Support and Management

Sustainable Supply Chain Support and Management

Input



Shared growth agreement	Unit	2014	2015	2016
Primary partner company	EA	75	140	112
Secondary partner company	EA	105	174	140
Purchase from companies with agreement	KRW 100 million	678	696	3,551



Purchase cost	Unit	2014	2015	2016
Total purchase cost	KRW 100 million	30,366	29,634	37,751
Raw material purchase	KRW 100 million	26,094	24,990	28,590
Facility purchase	KRW 100 million	2,368	2,852	3,511
MRO purchase (incl. packaging material)	KRW 100 million	739	775	592
Subcontract cost	KRW 100 million	1,165	1,016	5,058
Local purchase of supplier	%	48	45	46



Shared growth support activity	Unit	2014	2015	2016
Financial support				
- Direct support (Mold cost credit support)	KRW 100 million	135	126	156
- Hybrid support (co-prosperity fund amount)	KRW 100 million	270	270	270
- Special support (training etc)	KRW 100 million	5	15	12



Direct/indirect management support				
- Group training (partner company)	Persons (Company)	613(122)	320(102)	727(86)
- Online training (partner company)	Persons (Company)	267(20)	162(18)	138(9)



- Recruiting support	Persons	61	60	53
- Recruiting support	Company	13	13	6
- Innovation guidance	Company	-	13	10



Output



Intellectual
Capital

Shared growth support achievement	Unit	2014	2015	2016
Technical support and protection achievement				
- Private-public joint investment development project	Case	6	3	1
- Conditional purchase (Localization task)	Case	-	1	1
- Original trade secret certificate system	Case	-	-	5
- Technical escrow system	Case	14	15	15
New market penetration support achievement				
- Purchase conference	Case	-	6	7
- Product exhibition for partner companies	Case	-	1	1
- Overseas benchmarking support	Case	-	2	2
- Overseas corporation investment authority info session	Case	-	1	1
- Support to participate in foreign technology exhibition	Case	-	1	2



Intellectual
Capital



Human
Capital

S-partner certification achievement	Unit	2014	2015	2016
Korea	Case	67	66	62
Overseas	Case	31	24	29
Total	Case	98	90	91
Unqualified partner company	EA	6	4	-



Manufacture
Capital

Major violations by S-Partner	Unit	2016
Violations of child labor/forced labor	Case	-
Non-compliance of requirements under labor contract	Case	18
Inadequate contamination prevention and waste management	Case	35
Unsatisfactory equipment for workplace safety & health	Case	62

High Material Issue 08

Energy Reduction and Utilization of Renewable Energy

In 2016 World Economic Forum, the climate change issue was discussed as an event with the most significant impacts on society. Likewise, climate change has become a global agenda that affects national policies and the system. Korea has been striving to implement sustainable eco-friendly policies and voluntarily reduce GHG emissions such as the introduction of emission trading scheme in 2015. Samsung SDI has been managing the risks of climate change and reducing its impacts with the slogan of 'Lead the market with technology based on changes and innovations as an eco-friendly company'.

Energy Management

Samsung SDI, as an eco-friendly energy company, established its company-wide energy management guideline and implemented low carbon/energy management. In addition, we further require overseas corporations to obtain energy management system (ISO 50001) certificate that is currently implemented in Korea at their work sites to continuously improve energy and environmental management. Moreover, Samsung SDI considered to introduce green energy such as biomass steam and solar power to facilitate the introduction of renewable energy.

Energy Saving Activity

Enhanced energy management at worksites

As three energy management activities, Samsung SDI implemented segmentation of per-unit production cost indicators management of energy balance, and improvement of verification for reduction impacts. Since 2015, we have continuously implemented the improvement of energy management such as energy consulting from external experts.

Integration and advancement of energy management system

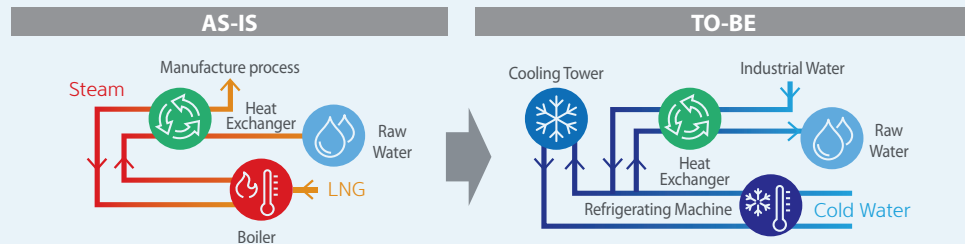
For efficient energy management, Samsung SDI integrated Energy Management System (S-GEMS) to further reinforce energy saving activities, which had been dually managed by battery and electronic material divisions in July 2016. In doing so, its management system of energy use became more effective; for instance, real time monitoring for energy use performance became possible.



BUSINESS CASE

Installation of heat exchanger for heating industrial water

Samsung SDI historically used LNG boilers to heat industrial water required for its processes during the winter. However, we installed heat exchangers in January 2016 and utilized waste heat from cooling water as thermal energy to heat industrial water. With heated industrial water, reverse osmosis (RO) can be produced, which lead to the reduction of energy costs that were used to heat RO water. As a result, KRW 690 million was saved annually and this activity was considered as an environmentally innovative case for the reduction of wasted energy.





Response to Emission Trading Scheme

Samsung SDI was selected as an allocation target company for the emission Trading Scheme in 2015. In response, we revised the company-wide GHG management rules to establish MRV (Monitoring, Reporting, and Verification) carbon management system. In 2016, we conducted internal audit trainings for GHG managers at each worksite to improve monitoring and verification. In addition, we conducted internal audit for monitoring plan reports and specification through cross-examinations at each worksite in order to enhance managers' capability who are responsible for relevant tasks and to improve the management levels of worksites. In 2017, Samsung SDI plans to set up and implement strategies to better manage GHG at overseas corporations such as Europe and China.

Response to Carbon Disclosure Project

CDP (Carbon Disclosure Project) is a non-profit organization, under the consignment of global financial investment institutes, which requests the management data about response to global environmental issues to major registered companies in each nation. In 2016, there was a transition of its evaluation system from a system based on companies' disclosure and achievement scores to a system where companies are assessed between A- and D- grading scale (disclosure (D, D-), recognition (C, C-), management (B, B-), and leadership (A, A-)). Samsung SDI was ranked A-, which is equivalent to top 25% among 1,839 companies that responded.

Energy reduction and utilization of renewable energy

Input

Financial Capital	Energy saving investment and activity	Unit	2014	2015	2016
	Total investment	KRW million	1,310	12,360	2,312
Fuel saving	Case	148	167	129	
Power saving	Case	1,021	869	513	

Natural Capital	Energy use	Unit	2014	2015	2016
	Total	TJ	13,683	11,609	12,876
Domestic	TJ	10,247	7,612	8,033	
Overseas	TJ	3,436	3,997	4,843	
Intensity	TJ/KRW 100 million	0.24	0.23	0.24	

Output

Natural Capital	GHG Emissions		Unit	2014	2015	2016
	Direct/indirect emissions	Total emissions	tCO ₂ e	731,089	646,292	747,926
Direct emissions		tCO ₂ e	84,830	92,964	99,847	
Indirect emissions		tCO ₂ e	646,259	553,328	648,080	
Intensity		tCO ₂ e /KRW 100 million	12.88	13.04	13.74	
Other emissions	Business trip	tCO ₂ e	1,925	2,155	2,184	
	Product transportation	tCO ₂ e	549	1,395	768	
	Small-sized Li-ion battery	tCO ₂ e	457,183	383,760	427,735	
Per product	Automotive & ESS battery	tCO ₂ e	145,618	178,479		
	Electronic materials	tCO ₂ e	71,708	110,924		
	R&D and others*	tCO ₂ e	202,198	30,788		

* Including PDP business amounting to 163,639 in 2014

Natural Capital	Energy savings activity		Unit	2015	2016
	Saved amount	Fuel	tCO ₂ e	3,694	9,837
Electricity		tCO ₂ e	32,648	43,597	
Reduced amount (Effect)	Fuel	TJ(KRW 100 million)	73(17)	194(28)	
	Electricity	TJ(KRW 100 million)	677(131)	899(109)	

Samsung SDI Medium & Low Issue

Samsung SDI identifies issues that are not only sustainability information required by international standards and guideline, but also the issues that our stakeholders expect in addition to high material issues as a result of materiality assessment. In 2016, we report five Medium Material Issues and four Low Material Issues.



Medium Material Issue	Page
Transparency in BOD composition and operation	52
Community engagement and development	54
Pollutant emissions management	58
Employee competency and career development	59
Work and life balance	59

Low Material Issue	Page
Waste management	58
Water use management	58
Respect toward employee diversity and equal opportunities	59
Active labor-management communication	59



2016 KEY Output (yoy)



Outside Director

5

(same as last year)



Volunteer hours
per employee

11.7hours

(increase by 4.3 hours based
on Korean hours)



Hazardous chemicals
usage unit Intensity

0.38

ton / KRW 100 million
(decrease by 0.05)



New recruit

4,697

(increase by 1,084)



Training hours per
employee

100hours

(increase by 9 hours
based on Korean hours)



Local employee
retention rate

56.9%

(increase of
4.2% point)



Female manager
ratio

7.7%

(increase of
0.9% point)

Medium Material Issue 01

Transparency in BOD Composition and Operation

BOD Composition and Operating System

Current BOD Composition

As of March 2017, the BOD of Samsung SDI consists of nine directors, including four inside director and five outside directors. Directors with expertise in various areas are appointed in the General Meetings, in accordance with relevant rules. In order to secure independence of the BOD and prevent conflicts of interests, Samsung SDI revised its constitution in its 2016 General Meeting, so that outside directors can be appointed as the chairman of the BOD.

Operation System of the BOD

Samsung SDI quarterly holds board meetings along with ad-hoc meetings when required. BOD decision is made by attendance of majority of directors and by consent of the directors present. In addition, we ensure the BOD's

independence by restricting voting rights from board members who have conflicts of interests in a proposed agenda. The BOD has an authority to make a decision of and review key issues related to matters required from relevant statutes and constitutions, matters delegated by the General Meetings, and the basic policy and task implementation of business management.

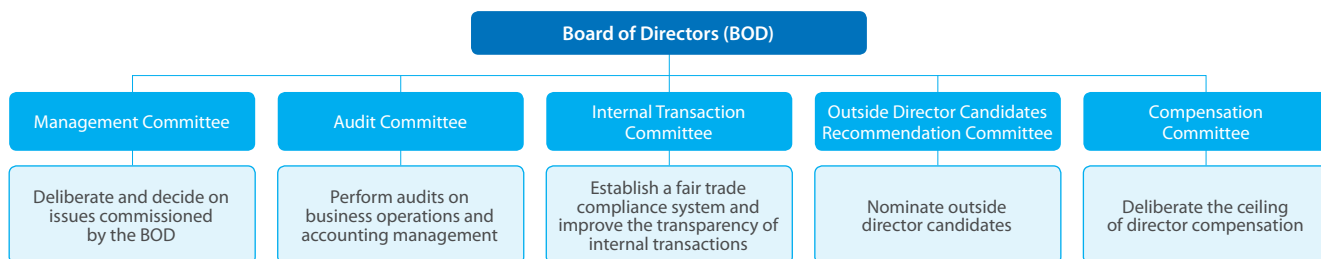
Subcommittees of the BOD

The BOD operates five subcommittees; the Management Committee, Audit Committee, Internal Transaction Committee, Outside Director Candidates Recommendation Committee, and Compensation Committee. Some of the BOD's responsibilities are delegated to committees for thorough examination of issues by experts and authorities in relevant fields to induce professional and effective decision making. The Management Committee, supervised by the company CEO, discusses and has direct responsibility for Samsung SDI's overall performance.

Current BOD Composition (2017.03)

Category	Name	Major Experiences	Active Committee	First Date of Appointment	Gender
Inside Director	Young Hyun JUN	CEO and President (Chairman of BOD)	Management Committee, Outside Director Candidates Recommendation Committee	2017.03.24	M
	Seh Woong JEONG	Executive Vice President of Automotive & Ess Business	Management Committee, Outside Director Candidates Recommendation Committee	2015.03.13	M
	Chang Lyong SONG	Executive Vice President of Electronic Materials Business	Outside Director Candidates Recommendation Committee	2016.03.11	M
	Hong Gyeong KIM	CFO	Management Committee, Compensation Committee, Outside Director Candidates Recommendation Committee	2016.03.11	M
Outside Director	Sung Jae KIM	Head of Insurance Branch of Financial Development Council, Vice President of Hankuk University of Foreign Studies	Audit Committee, Internal Transaction Committee, Compensation Committee, Outside Director Candidates Recommendation Committee	2011.03.18	M
	Min Gee NO	16 th Vice Minister of the Ministry of Employment and Labor, Non-permanent member representing public interests in the National Labor Relations Commission	Audit Committee, Internal Transaction Committee, Outside Director Candidates Recommendation Committee	2012.03.23	M
	Serck Joo HONG	President of Chohung Bank, Chief Executive Officer of Locus Capital Partners	Audit Committee, Internal Transaction Committee, Compensation Committee, Outside Director Candidates Recommendation Committee	2014.07.02	M
	Ran Do KIM	Invited Researcher of Korea Electronics and Telecommunication Research Institute, Professor of College of Human Ecology, Seoul National University	Audit Committee, Internal Transaction Committee, Outside Director Candidates Recommendation Committee	2014.07.02	M
	Jai Hie KIM	President of Biometrics Engineering Research Center, Professor of College of Engineering, Yonsei University	Audit Committee, Internal Transaction Committee, Outside Director Candidates Recommendation Committee	2014.07.02	M

BOD Status



BOD Independence

Independence Standard for Outside Directors

Samsung SDI defines the standards of the independence of outside directors in accordance with Article 382 of the Korean Commercial Act. If an outside director falls under any of the following subparagraphs, he/she is removed from his/her position as an outside director.

- ① Directors, executives, and employees who are engaged in regular business with the company, or directors, auditors, executives, and employees who have been engaged in regular business with the company within the past two years.
- ② A spouse, lineal ascendants, and lineal descendants, in cases where the largest shareholder is a person.
- ③ Directors, auditors, executives, and employees of the corporation in cases where the largest shareholder is a corporation.
- ④ Spouses, lineal ascendants, and lineal descendants of directors, auditors, and executives.
- ⑤ Directors, auditors, executives, and employees of a parent company, or a subsidiary company of the company.
- ⑥ Directors, auditors, executives, and employees of a corporation which has a significant interest in the company, such as business relations with the said company.
- ⑦ Directors, auditors, executives and employees of another corporation for which directors, executives, and employees of the company work as directors or executives.

Transparency of Elected Directors

In order to guarantee fairness and independence in appointing the BOD, nominees are selected by the BOD when appointing inside directors and by the Outside Director Candidates Recommendation Committee when appointing outside directors. Directors are appointed following approval from the General Meeting. Outside directors make up more than half of the seats within the Outside Director Candidates Recommendation Committee, through which we seek to secure the independence of outside directors.

Expertise of Outside Directors

Samsung SDI appoints external experts with diverse knowledge and experience in business, economy, law, and technology as outside directors. The company provides support to outside directors so that they can conduct professional duties in the BOD and its subcommittees. Outside directors will be provided with data so that they can review corresponding resolutions' contents that are presented within subcommittees, and for increased understanding of business activities, outside directors can request to inspect domestic and international business sites, and report on site status.

Independence of the Audit Committee

Samsung SDI established its Audit Committee under Article 542 (11) and Article 542 (12) of the Korean Commercial Act. Under the regulations of the Audit Committee, its members shall be appointed through resolution of the General Meeting, which shall be wholly comprised of externally independent directors.

BOD Activities and Compensation

BOD Activities and Compensation

In 2016, the BOD held four regular BOD meetings, five ad-hoc BOD meetings, and processed a total of 27 items which were composed of 24 resolutions and three reports, including establishing Samsung SDI-ARN(Xian) Power Battery(SAPB) in China and its facility sales contracts, approval of Samsung SDI Hungary Rt.(SDIHU) and its facility sales, and establishing Samsung SDI(Wuxi) Battery Systems Co., Ltd.(SWBS) in China. In 2016, the BOD attendance rate for outside directors was 87.8%.

Assessment and Compensation of the BOD

Samsung SDI annually evaluates directors based on their business expertise, technological expertise, active BOD participation, whereas the results are discussed in BOD meetings. The remuneration of the BOD composes of the base salary based on their position and the performance based bonus. The performance takes into account for financial indicators such as a revenue, net profit, stock price and non-financial indicators related to environmental and social achievements including safety, labor relations, insolvency, corruption, security and compliance. The remuneration of the BOD is paid within the limit approved in the General Meeting. In 2016, KRW 23 billion was approved at the General Meeting, while the actual amount paid to directors stood at KRW 4.7 billion. Individual compensation data as well as calculation criteria and methods for directors and auditors are detailed in Samsung SDI's 47th Business Report.

Category	Unit	2015	2016
Net payment	KRW 100 million	48	47
Total BOD remuneration – Inside director	KRW million	4,413	4,257
Total BOD remuneration – Outside director and auditor	KRW million	404	419
Average remuneration – Inside director	KRW million	1,103	710
Average remuneration – Outside director and auditor	KRW million	80	84

Medium Material Issue 02

Community Engagement and Development

Under the vision 'Company which adds value to the world', Samsung SDI is expanding various activities by creating strategies such as internalizing social contributions, in-depth orientation of local community and more. Especially, we aim to build a better future for the local residents by sharing our technologies and talents of our employees with the local communities where our business sites are located.

In 2016, domestic business of Samsung SDI spent KRW 4,91547 billion for social contribution activities, mainly focusing on academic trainings and social welfares. In 2017, we plan to go beyond simple donations and expand our contribution projects to help solve fundamental social problems in tandem with our social contribution strategies.

Reinforcement of Representative Contribution Activities

Free Eye Treatment Project

Samsung SDI has conducted the free eye treatment project since 1995 in connection with Siloam Eye Hospital, to assist the underprivileged, some of which are blind because they couldn't afford the surgery. Donations from the company support the operation of mobile eye clinics equipped with high-end surgical equipment such as microscopes and cataract re-

moval devices. The project conducts ophthalmological clinic services by visiting islands and mountainous regions lacking in medical facilities and a total of 220,000 people have received benefits from the project for the past 21 years. In 2016, 6,194 people benefited from free clinics, and 73 people received emergent surgeries at mobile eye clinics.

'Talent Nurturing Company' Support for Musical Talents

Samsung SDI has supported the musical talents of the 'Talent Nurturing Company', consisting of young people with developmental disabilities. Since 2007, the company has supported scholarships for outstanding members of the orchestra, which is composed of disabled young adults, together with Heart Heart Foundation. Furthermore, at the end of each year, the 'Shared Tree Campaign' that supports young adults with developmental disorders were also provided in collaboration with the foundation. To this day, music education for over 200 disabled young adults has been financially sponsored.

Employees and Families Sharing Together

Samsung SDI is operating a monthly family unit volunteer program so that employees and their families can take part in sharing with the local community. Every third Saturday, employees and families visit the Central Hope Sharing Volunteer Center operated by the Red Cross and cook baked goods for the unprivileged. They also participate in various hands-on activities such as making 'WE Dream' pencil cases and decorating square canvas.

BUSINESS CASE



Educational programs at 'Green Planet Environment School'. The students learn about environmental issues and renewable energy while experiencing a car ride operated by solar power.

Green Planet Environment School

Samsung SDI is operating the 'Green Planet Environment School' for young adults and children as future leaders under the company vision of "The creative leader in energy and high-tech material". This activity is an experiential educational activity that teaches the importance of environmental protection. From 2011, employees directly participated as teachers to provide environmental education and experiment activities, such as renewable energy, global warming simulations, and eco-friendly transportations. In 2015, we manufactured full-time education buses for 'Moving Green Planet Environment School' program where we visit the students in islands and mountain areas. In 2016, we

introduced 'Moving Green Planet Environment Bus' to provide various educational materials, marking the 6th year anniversary of 'Green Planet Environment School'. As a result, a total of 8,616 students have completed our program for the past six years, including 5,390 in 2016. In 2017, we plan to expand our visits to the entire Gyeonggi province even with more diverse educational materials.



Social contribution activities by domestic sites

Improving Residential Environment for the Disabled (Giheung)

The Giheung site is improving the residential environment for the disabled in Giheung area thanks to talent contributions from the members at the safety and environment infrastructure team. The team improved the facility by replacing LED lights and installing fire detectors to enhance their household energy efficiency and livelihoods, and to prevent safety accidents while checking their electricity and fire safety, and offering safety trainings. In 2016, we signed the MOU with Giheung Welfare Center for the Disabled to benefit 100 households and connect with them for post services.

Science Dream of Children (Suwon Material Complex)



Since 2016, the Suwon Material Complex has been offering two-hour science classes every month for the local elementary students at the community child center. We expect the stu-

dents build deep understanding in science and improve their integrated and creative thinking process by offering scientific experiences that schools cannot provide, production of their own outputs, experiments and discussions. We will continue to provide the venues of science education for low-income children at welfare centers to expand the beneficiaries of the education and give more back to the community. In 2016, 100 elementary students at 5 local child centers were benefited and 149 employees volunteered.

Sports School and Sports Competition for Disabled Students (Cheonan)



Our Cheonan site signed the 5-year MOU from 2014 to 2018 to operate sports schools and sports competitions for 4,100 disabled students in Chungcheong South region. We also built

a support system that can train athletes for the national team to give them

dreams and hopes. From 2014 to 2016, disabled students under our sports school won a total of 144 medals at the Korean Youth Para Games. Athletes trained under the sports schools have potential to play for the Korean team or win the gold medal in future.

Love Sharing with Neighbors (Improving the Residential Environment in Countryside) (Cheongju)

Love Sharing is a volunteer activity that improves the residential environment of neighbor farming village. Launched in 2010, Love Sharing is the representative volunteer activity of Cheongju. We support activities such as drawing wall paintings, giving helping hands, replacing or plastering floor papers, providing haircuts and taking a picture of villagers who lived long to the selected village every year. In addition, we also support to replace old electric devices or furniture at the town hall.

Fall Sports Picnic for Disabled Children (Gumi)

Every fall, the Eungwang Daycare Center hosts sports picnic at the Gumi site's stadium. Our employees and the volunteers are become a one day parent to disabled children to enjoy the picnic together. The year marks 11th anniversary of the sports picnic, which become Gumi site's representative social charity activity.

Sisters Village (Geomundo & Yeongju) Charging Project (Ulsan)



As a part of building relationships with old towns, Ulsan site has been partnered with Geomundo in Jeonnam as its sister town

and has strived to improve the local economy and culture. In August 2016, Samsung SDI and Busan University co-hosted "Charging the Battery for Good Dreams" camp to build sociability and dreams of the youths living in Yeongju, which is the sister town of Geomundo. We invited 50 youths to SDI Ulsan site for the company tour and visited Yeongju for cultural experiences and educational consulting and received great feedbacks from the local residents at our sister town Yeongju.

Medium Material Issue 02

Community Engagement and Development

Vitalization of Employees' Participation

Talent Donation Activities

Samsung SDI has various activities to build the society with companionship and solve social issues at the local communities with voluntary participations of the employees. Employees are currently participating in talent donation activities by utilizing their professional knowledge, such as environment education for local children run by employees in the energy and environment division, light changing activities and condition improvement activities for neglected groups run by employees in the electricity/facility/technology divisions, and teaching efforts in local child centers run by researchers.

Volunteering Activities Connected with Clubs

Volunteering teams related with hobby activities, such as the photo club, badminton club, and hiking club, are engaging in volunteering activities across various fields. As a representative example, volunteer organizations have been creating a 'Graduation Album of Love' for students of the Suwon Seokwang School, a special school for disabled children, for the past 12 years. To add beautiful memories to the graduation album, the photo club members voluntarily accompany students to their graduation trip and have delivered graduation albums to 586 students to celebrate together.

Matching Grant

Samsung SDI is operating the Matching Grant System to create volunteering activity funds for which employees donate a certain amount of money every month, and the company donates the same amount of money employees give. In 2016, about KRW 1.98 billion was collected, and the collected amount was used for major social contribution projects of Samsung SDI.

Grand Volunteering Festival, in commemoration of the company's foundation, and the Global Volunteering Festival

At the Grand Volunteering Festival, in commemoration of the company's foundation, the company conducted hands-on volunteering activities such as making baby kits and Moa toy in addition to online walking donations via the mobile application where money amounting to the distance each employee walks are donated, to support child patients' medical costs. At Samsung Global Volunteering Festival in October 2016, we volunteered

to help students commute schools safely by manufacturing and donating transparent safety umbrellas for the local children while offering helping our hands to the sister towns during the farming season.



Samsung Social Contribution Award and External Awards

Our introduction of the education bus specialized for 'Green Planet Environment School' to visit remote islands and mountain areas was recognized for its innovative approach and won 2016 Samsung Social Contribution Award. In addition, we cooperated with different partners in local communities to discover and operate new business to resolve social issues with creative approaches and received awards from external organizations to recognize our achievements.



Award	Organized by	Awardee	Reason	Date
Chungnam Governor Award	Chungnam Province	Samsung SDI Volunteer Center	Harmonize the local community and develop sports activities for the disabled	2016. 11.28
Gyeonggi Governor Awards (award of merit for connection)	Gyeonggi Province	Samsung SDI	Practise active connection projects and thus contribute to their vitalization	2016. 12.03

Involvement and Development of the Local Community

Input

 Financial Capital	Social Contribution Investment	Unit	2014	2015	2016
	Social contribution expenditure	KRW 10,000	982,091	675,268	491,547
	Social welfare	%	47.0	47.5	37.0
	Academic education	%	49.0	40.9	54.9
	Medical health	%	-	9.5	1.0
	Sports promotion	%	1.0	1.2	1.9
	Environmental conservation	%	0.4	0.5	2.8
	Culture & Art	%	2.0	0.4	2.3
	Matching grant	KRW 100 million	30.9	24.8	19.8
 Human Capital	Employees participating in the Green Planet Environment School	Unit	2014	2015	2016
	Teacher	People	486	164	236
	Teacher	Hour	4,219	1,173	1,080

Output

 Human Capital	Employee Participation Performance	Unit	2014	2015	2016
	Social Contribution Participation Rate	%	100.0	97.1	98.6
	Domestic Volunteering Activity Hours Per Person	Hour	10.7	7.4	11.7
 Human Capital	Major Social contribution	Unit	2014	2015	2016
	Free Eye Treatment (Cumulative)	Persons	206,124	212,372	218,639
	Free Eye Treatment (Diagnosis)	Persons	9,225	6,183	6,194
	Free Eye Treatment (Surgery)	Persons	197	65	73
	Green Planet Environment School (Cumulative)	Persons	1,308	3,226	8,616
	Green Planet Environment School Beneficiary	Persons	247	1,918	5,390
	Green Planet Environment School Satisfaction	Score	-	-	87
	Talent Nurturing Company Scholarship Recipient (Cumulative)	Persons	-	-	94

Medium Material Issue 03

Pollutant Emissions Management

Samsung SDI strived to minimize environmental impacts from operating our businesses. With the CEO's intention to pursue green management, we continue to endeavor to improve environments and every business site and research center operate the environmental management system in accordance with the ISO14001. There were no violation of environmental regulations in domestic and overseas in 2016.

Water Resource Management

Every manufacture site at Samsung SDI strives to optimize the water resource management and improve its recovery rate. In 2016, a total of 5,646 ton of water was used at domestic and overseas worksites. Waste water released from the factories are processed at the disposal facilities, which is then re-released to the government-owned terminal disposal plant of sewages.

Low Material Issue 01/02

Waste Management / Water Use Management

Waste Reduction and Pollutant Emissions Management

In 2016, a total of 53,303 ton of waste was generated and 39,409 ton (97.7%) in domestic sites and 10,981 ton (84.8%) in overseas sites were recycled respectively. Especially, Samsung SDI treats the 100% of cobalt and nickel waste that are generated from cell manufacture process by outsourcing recycling companies. For pollutants, Samsung SDI treats them by applying its internal standards that are even stricter than the national law.

Environment Efficiency Targets

Category	Unit	Base year (2015)	Target (2020)
Greenhouse Gas Unit Intensity	tCO ₂ e	1,099,587 (2020 BAU)	Over 30% reduction compared to BAU level*
Water Use	1,000 ton/KRW 100 million	0.11	Improve by double (minimum)
Hazardous Substance Use	1 ton/KRW 100 million	0.43	Improve by double (minimum)
Waste Emissions	1 ton/KRW 100 million	0.97	Improve by double (minimum)
Waste Recycle Rate	%	96	Maintain above 95%
Waste Landfill Rate	%	4	Maintain below 5%

* Greenhouse Gas BAU reduction targets are for Energy-solution division only

Pollutant Emissions Management & Waste Management & Water Use Management

Input

Natural Capital	Water Resources	Unit	2014	2015	2016
	Company-wide Consumption	1,000 ton	6,376	5,246	5,646
	Domestic Consumption	1,000 ton	4,751	3,456	3,399
	Oversea Consumption	1,000 ton	1,625	1,790	2,247
	Intensity	1,000 ton/KRW 100 million	0.11	0.11	0.10
Natural Capital	Hazardous Chemical Substance	Unit	2014	2015	2016
	Company-wide Consumption	ton	13,517	21,429	20,694
	Domestic Consumption	ton	13,330	20,984	20,274
	Oversea Consumption	ton	187	445	420
	Intensity	ton/KRW 100 million	0.24	0.43	0.38

1. The scope of data includes all its domestic and overseas production branches, headquarter and research center and excludes sales branches and offices (for production branches, only branches which have a production record in 2016 were included).

2. The revenue used to calculate intensity was evaluated by summing energy and electronic businesses.

3. Hazardous chemical substances were evaluated based on Korea Toxic Chemical Control Act.

4. The reason why only domestic air and water pollutant emissions were reported is that the aspects of pollution levels and the period of measures required by law in overseas branches differ from domestic standards which make overseas data to calculate on the same annual base as domestic data was applied.

Output

Natural Capital	Waste Water	Unit	2014	2015	2016
	Domestic Treatment Amount	1,000 ton	3,771	2,535	3,278
	Overseas Treatment Amount	1,000 ton	425	373	482
	Intensity	1,000 ton/KRW 100 million	0.07	0.06	0.07
Natural Capital	Waste	Unit	2014	2015	2016
	Domestic Emissions	ton	41,902	35,705	40,346
	Oversea Emissions	ton	6,606	12,433	12,957
	Unit (In Won)	ton/KRW 100 million	0.85	0.97	0.98
	Designated Waste Generation	ton	21,011	23,540	21,922
	Recycle/Landfill Rate in Domestic	%/%	97.8/2.2	98.9/0.8	97.7/1.9
	Recycle/Landfill Rate in Overseas	%/%	85.4/14.6	87.1/12.6	84.8/15.2
Natural Capital	Pollutant Emissions	Unit	2014	2015	2016
	Water quality (Domestic)				
	- BOD Intensity	kg/KRW 100 million	0.41	0.09	0.13
	- COD Intensity	kg/KRW 100 million	0.78	0.44	0.54
	- SS Intensity	kg/KRW 100 million	0.53	0.27	0.67
	Air (Domestic)				
	- NOx	kg/KRW 100 million	0.08	0.05	0.05
	- SOx	kg/KRW 100 million	0.07	0.02	0.02
	- Dust	kg/KRW 100 million	0.33	0.25	0.19
	- VOC	ton	1.6	10	10
	Substances that destroy the Ozone Layer				
	- Emissions in Domestic	kgCFC11eq	65	26	52
	- Emissions in Overseas	kgCFC11eq	65	15	92
	- Intensity	kgCFC11eq/KRW 100 million	0.002	0.001	0.003

Medium Material Issue 04/05

Employee Competence and Career Development / Work and Life Balance

In the battery and electronic material market, which is Samsung SDI's main business areas, competent human capital as well as constant investment in R&D have become major business advantage. Samsung SDI strives to obtain the competency by expanding technology research bases and acquiring excellent talents while showing different activities including shared value training, organizational leader training and capability improvement training in order to continuously develop the employees' capability and train the leadership as experts.

Human Resource Recruitment and Retention

Domestic

Samsung SDI is striving to discover and retain outstanding talents in new areas of business and areas of critical technology through diverse channels such as the recruitment from excellent talents from National Skills competition, the membership scholarship system for Masters and Doctoral degree, the operation of internship system for university students. In addition, Samsung SDI further recruits new or experienced employees whose majors are related to battery development to lead the future electric vehicle market. In 2016, we secured the foundation to proactively obtain excellent talents by doing industry-academy cooperation projects with prestigious universities in domestic and overseas.

Early Settlement Support System for New Employees and its Performance

Samsung SDI has a system to help new recruits get used to our work environments in short time. We offer Development & Advice (DNA) program where new recruits can have one on one sessions with experienced employees in their departments to learn work related knowledge and technologies and get accustomed to the company by bonding with other employees.

BUSINESS CASE



Enhanced Cooperation on Battery Research with Domestic Universities

Samsung SDI leads in obtaining excellent talents and expanding the base for battery research by improving the network with the academy. Followed by the partnership with the Seoul National University in October 2016, Samsung SDI developed industry-academy partnerships with Hanyang University, POSTECH, and UNIST and planned to work on strategic industry-academy cooperation programs for next five years including the research projects with the universities, and running the secondary battery research center and specialized programs. Especially, we will continue to build systemic relations through close exchanges

such as providing research stipends, and assigning executives or employees on each project for one on one matching. Going forward, Samsung SDI will expand industry-academy cooperation to better train top talents in the battery industry and recruit more employees while pursuing mutual growth with the academy by continuing exchanges in information, human resources and materials.

Low Material Issue 03/04

Respect toward Employee Diversity and Equal Opportunities / Active Labor-Management Communication

By operating a Retention Program for experienced recruits, Samsung SDI supports early adaptation to company life for them. In their early stage of company life, the company makes efforts to improve recent hires' sense of belonging and pride through emotional support. The Retention Program supports experienced recruits by expanding their internal human network and providing a platform for knowledge and technological exchange through mentorship matching program on one to one basis within a given division.

Overseas

Samsung SDI continuously carries out recruitment activities and mentoring programs to seek out talents in main sectors of each nation to secure global competence and expand its overseas market shares in its new business areas on a strategic business bases. For R&D talent recruitment among Korean students at U.S. universities, campus recruiting in U.S. regions is currently being conducted, while the company also focuses on securing technological talent of all backgrounds including foreigners.

Overseas Standard HR Policy

In 2013, Samsung SDI introduced Global Standard HR Policy to the overseas corporations and strives to establish a fair and reasonable HR system that complies with the local regulations while observing the standard. Especially in 2016, Samsung SDI constructed electronic material production factories in China and Vietnam and is currently building automotive battery factories in Hungary. In this background, we provide full supports for talent recruitments, local trainings, and HR system operations. In addition, we hire HR leaders at every overseas corporation to build localized and specialized HR system and host Global HR Conference every year to enhance specialties of the HR at overseas corporations. Samsung SDI will continue to give cares and supports to build advanced HR system at overseas corporations as our strategic business partners and to continuously expand our global points.

Medium Material Issue 04/05

Employee Competence and Career Development / Work and Life Balance

Enhancement of Employee Competence

Shared Value Program

Samsung SDI is operating educational programs and seminars across various issues such as organizational culture, workplace etiquette, and information security to share the organizational's values with all its employees.

Leadership Program

Samsung SDI is providing leadership ability improvement programs to train our next generation's core leaders. We are providing two years full-time Samsung MBA for all our employees and weekend E-MBA courses for the executives, through which we are selecting talents and training the next generation's leaders.

Job Specialist Training Program

Samsung SDI offers e-learning, offline and OJT training across every job function such as development, technology, manufacture, sales/marketing and management support to enhance job capability of the employees. Especially, for our domestic employees, we are assessing the levels of their current work capability to build the guideline for work improvement and running an academic training system that offers systemic educations to train core talents of the organization. In addition, we have the license support program to encourage our employees to acquire internationally or nationally certified qualifications in purchase, quality, management, and finance.

Enhancement of Global Competence

Samsung SDI offers various language courses to support self-developments with programs suitable for the global era. In addition, we offer programs to enhance global competencies that integrate languages, business and cultures, by running foreign language dormitories. The Samsung Regional Specialist Program is designed to nurture global leaders by providing three-months intensive language courses and one-year local research. Every year Samsung SDI selects Regional Specialists based on their performance assessment, language proficiency, and contribution to the company. As of December 2016, Samsung SDI Regional Specialists are dispatched to various parts of the world including China, Germany, Hungary, and Vietnam to learn their languages and received supports for research.

Low Material Issue 03/04

Respect toward Employee Diversity and Equal Opportunities / Active Labor-Management Communication

Respect Toward Employees and Enhancement of Satisfaction

Labor Council

Samsung SDI's labor council is composed of employee representatives and the equal number of the company representatives. Aside from quarterly councils, Samsung SDI also convenes temporary councils by making prior notice in compliance with regulations of each operating country when it becomes necessary to have a discussion between the company and the employees such material management changes. Changes made at Samsung SDI labor council or its equivalent councils are immediately disclosed to the entire employees with 100% application rate. Agendas such as improving HR and labor management and work environment, and safety and health of the employees are discussed at the labor council. In addition, labor council is the window for internal communications where employees can raise their hardships and complaints for resolution.

Protection of Human Rights and Respect toward Diversity

Samsung SDI strictly complies with local labor laws and regulations, and agreements from international labor institutions. In its management principle and recruiting principle, a principle of banning child labor and forced labor is in place and is being strictly followed. As a result of monitoring Samsung SDI's global business sites and partner companies in 2016, there were no cases of violating the child labor and forced labor ban policies and being fined due to discrimination. Samsung SDI clearly states in its management principle and recruiting principle, that the company bans any discrimination against skin color, gender, religion, social class, age, political view, and nationality. Every business site at Samsung SDI complies with the legal minimum wage and doesn't pay discriminatory wages based on genders. Samsung SDI's lowest wage level is at the 132% level compared to the legal minimum wage in Korea. Under the principle of compensation by achievement, the company inspires the will to work, and conducts annual evaluations on its employees with regards to their individual goals, and capability evaluations about required performance according to position. According to evaluation results, incentives are given out, and through such evaluation-compensation, the company hopes to inspire employees' voluntary motivation.

Building Collective Culture with CL System

Samsung SDI has nominated Culture Leaders (CL) since 2011 to further build each team's strength and to innovate our group culture based on communications and vitality. In 2016, we nominated 257 CLs from domestic business sites and promoted various department-specific activities such as monthly department meetings, rank-based discussions, quarterly team building activities with cultural experiences and playing sports, social contribution activities, and Work Smart activities for self-oriented work ethics.



Welfare & Benefits Program

Samsung SDI provides selective welfare and benefit program to offer customized supports to the employees. Besides, we also provide grants for vacations, health promotions and medical costs, mortgages, and childbirth stipends.

Category	Details
Selective Welfare	With the annual welfare points given to employees, employees can freely select and use welfare benefits as needed, such as healthcare, leisure, and self-development
Leisure and Culture	Condominium and resort membership
	Cultural and play activities from the Samsung affiliates
Health Promotion and Medical Cost Support	Annual checkup
	Support medical costs to the employee, spouse and children for disease, injury and childbirth
Health Promotion and Medical Cost Support	House purchase support system
	Pay tribute
Childbirth and Nurturing Support	Provide gifts on birthday, anniversary, childbirth date, children's day and when children enters into the elementary school
	Additional childcare leave up to one year in addition to materiality leave
	For employees who have children younger than the 2nd grade, cut off overtime work up to one year
	Day care center at each business site
	Provide student loan for kindergarten, middle and high school and university education
* for domestic	

Work and Life Balance

We offer various programs to maintain work and life balance and create environment where the employees can better focus on their works.

Category	Details
Flexible Work	Support to flexible work for employee
	Promote the employees to plan annual leaves
Counseling Center	Full-time psychological counselor
	Phone, email, messenger counseling and on-visit counseling center
Family-Friendly Management	Meditation, and mini training program for mental health
	Family's day, family event on the children's day, volunteer events with the family, healing camp and other family programs
Maternity Protection System	Temporary leave to treat infertility, maternity protection room, snacks for pregnant, reduced working hours during pregnancy and for infant care
Retirement Preparation Program	Apply for farming life through a career consulting center, Start-up supports, provide different post-retirement opportunities such as programs sponsored by external educational centers
Employee Work Satisfaction Enhancement	Analyze the problem through Samsung Culture Index and identify and improve the weaknesses
* for domestic	

Medium Material Issue 04/05

Employee Competence and Career Development / Work and Life Balance

Low Material Issue 03/04

Respect toward Employee Diversity and Equal Opportunities / Active Labor-Management Communication

Employee Competence and Career Development / Work and Life Balance
Respect toward Employee Diversity and Equal Opportunities /
Active Labor-Management Communication

Input

Human
Capital

Employment	Unit	2014	2015	2016
Total	Persons	20,222	20,938	19,353
By Gender	Male	14,939	15,770	14,489
	Female	5,283	5,168	4,864
By Region	Korea	11,175	11,123	9,200
	Asia	8,581	8,887	9,378
	Europe	308	735	694
	America	158	193	81
By Type	Full-Time	18,794	19,621	17,631
	Contract	1,018	946	1,326
	Dispatched	410	371	396

Financial
Capital

Training	Unit	2015	2016
Total cost	KRW 100 million	118	82
Training Cost	In-house training cost	81	53
	Oursourced training cost	37	29

Human
Capital

Participants	Task (by function)	Persons	26,684	21,030
	Global (language)	Persons	4,405	5,206
	Leadership	Persons	12,932	17,809

Financial
Capital

Remuneration and Others	Unit	2015	2016
Remuneration	KRW million	843,905	970,241
Severance pay	KRW million	71,467	428,381
Gender-based base remuneration ratio	%	1 : 1	1 : 1
Parental leave*	persons	182	144
Representatives of Labor-Management Council*	persons	55	55
Culture Leader*	persons	295	257

Human
Capital

* In Korea

Output



Human Capital



Human Capital



Human Capital



Intellectual Capital



Social and Relationship Capital



Human Capital



Human Capital

New Recruitment		Unit	2014	2015	2016
By Gender	Male	Persons			3,201
	Female	Persons	4,654	3,613	1,496
By Region	Korea	Persons	383	236	755
	Overseas	Persons	4,271	3,377	3,942
Turnover Rate		Unit	2014	2015	2016
Turnover Rate	Total	%	25.8	15.7	22.3
	Korea	%	6.8	3.1	13.6
	Global	%	50.8	29.9	30.2
By Region	Asia	%	46	31.1	31.5
	Europe	%	61.4	9.4	10
	America	%	289.8	50.3	24.1
By Gender	Male	%	18.5	12.7	19.3
	Female	%	46	24.9	30.8
By Age	Below 30	%	39	30.4	31
	30 ~ 50	%	14.8	5.2	10.5
	50 and above	%	26.7	9	67.7
Training		Unit	2015	2016	
Training hours per employee - Korea		Hour	91	100	
Training cost per employee - Korea		KRW	1,172,181	1,097,022	
Training hours per employee - Foreign corporates*		Hour	66	90	
* excl. corporates purchased or established in 2015					
Diversity and Social Equality		Unit	2014	2015	2016
Disabled		Persons	179	181	137
Locally Recruited	Locals in managerial positions	Persons	70	117	111
	Managerial positions in foreign operation sites	Persons	159	222	195
	Percentage of locals in managerial positions	%	44	52.7	56.9
Female Employees	Female managers (manager or higher)*	Persons	287	316	274
	Managers in total (manager or higher)*	Persons	4,347	4,641	3,570
	Percentage of females in managerial positions	%	6.6	6.8	7.7
Remuneration and Others		Unit	2015	2016	
Welfare and benefits expenditure		KRW million	248,641	282,779	
Parental Leave	Return to work rate (Ratio of employees who returned after parental leave the previous year)*	%	74	80	
	Retention rate (Ratio of employees retained 12 months or longer after returning to work from parental leave the previous year)*	%	72	71	
Employee Grievance Mechanism	Percentage of grievances resolved*	%	97	100	
	Number of grievances filed*	Case	451	414	
	Culture Leader Evaluation*	Score	60.8	70.1	

*in Korea

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Financial data

Consolidated financial statements

[47th: 2016.01.01 – 2016.12.31 / 46th: 2015.01.01 – 2015.12.31 / 45th: 2014.01.01 – 2014.12.31]

(Unit: KRW)

Category	End of 47 th	End of 46 th	End of 45 th
Assets			
Current Assets	3,958,265,726,800	4,773,880,158,248	3,535,554,752,845
Cash and Cash Equivalents	1,011,701,875,328	1,287,968,374,149	627,528,154,780
Account Receivable and Other Receivable	1,046,794,723,821	1,203,289,301,635	980,557,546,761
Inventories	729,058,574,260	749,950,201,656	768,553,751,371
Other Investment Assets	932,699,739,874	595,558,128,244	1,079,633,824,110
Other Current Assets	158,666,025,997	78,710,193,661	72,824,605,032
Non-current Assets Held for Sale	79,344,787,520	858,403,958,903	6,456,870,791
Non-current Assets	10,942,045,507,407	11,451,423,299,504	12,432,995,192,968
Account Receivable and Other Receivable	5,145,658,180	65,848,344,133	11,213,383,924
Investments in Associates	5,525,570,909,727	5,172,923,891,838	4,979,017,315,650
Tangible Assets	2,503,794,949,241	3,228,961,726,889	3,324,877,551,267
Intangible Assets	941,686,030,402	1,277,621,026,307	1,278,941,592,372
Real Estate Investments	145,683,976,159	228,181,655,070	168,727,599,423
Pre-paid Salary Assets	15,732,302,823		
Deferred Tax Assets	38,421,655,680	40,764,514,720	41,031,050,861
Other Investment Assets	1,626,791,063,141	1,298,649,901,851	2,549,201,274,326
Other Non-current Assets	139,218,962,054	138,472,238,696	79,985,425,145
Total Assets	14,900,311,234,207	16,225,303,457,752	15,968,549,945,813
Liabilities			
Current Liabilities	2,212,795,893,287	3,201,335,106,805	2,254,255,230,289
Account Payables and Other Payables	1,658,167,209,814	2,068,729,998,495	1,232,310,509,047
Income Tax Payable	43,097,065,919	17,250,350,548	16,653,576,240
Advance Payment	77,372,218,374	48,343,481,753	29,989,860,158
Unearned Revenue	50,198,579,787	19,820,912,000	885,450
Short-term Loan	383,960,819,393	1,047,190,364,009	975,300,399,394
Non-Current Liabilities	1,723,405,113,962	1,770,775,498,102	1,887,383,423,523
Account Payables and Other Payables	218,037,566,906	125,909,534,438	33,834,787,288
Long-term unearned revenue	69,135,389,783	60,737,684,095	
Long-term Loan	566,585,621,889	702,450,008,323	802,528,419,672
Salary Payables		79,274,231,719	11,525,367,608
Derivative Liabilities	19,211,000,000		
Deferred Tax Liabilities	850,435,535,384	802,404,039,527	1,039,494,848,955
Total Liabilities	3,936,201,007,249	4,972,110,604,907	4,141,638,653,812
Stockholder's Equity			
Controlling Interest	10,722,130,891,929	11,011,996,227,176	11,586,432,044,314
Paid-in-Capital	356,712,130,000	356,712,130,000	356,712,130,000
Capital Stock	356,712,130,000	356,712,130,000	356,712,130,000
Other Capital	5,370,701,484,132	5,802,144,525,108	6,367,398,000,940
Other Capital Surplus	5,031,244,206,194	5,031,244,206,194	5,032,600,515,360
Other Capital	-251,530,117,715	-10,848,672,785	-10,848,672,785
Other Comprehensive Income	590,987,395,653	781,748,991,699	1,345,646,158,365
Retained Earnings (Deficit)	4,994,717,277,797	4,853,139,572,068	4,862,321,913,374
Non-Controlling Interests	241,979,335,029	241,196,625,669	240,479,247,687
Total Stockholder's Equity	10,964,110,226,958	11,253,192,852,845	11,826,911,292,001
Total Liabilities and Equity	14,900,311,234,207	16,225,303,457,752	15,968,549,945,813

Consolidated Statement of Comprehensive Income

[47th: 2016.01.01 – 2016.12.31 / 46th: 2015.01.01 – 2015.12.31 / 45th: 2014.01.01 – 2014.12.31] (Unit: KRW)

Category	End of 47 th	End of 46 th	End of 45 th
Revenue	5,200,822,510,213	4,954,861,345,574	5,474,221,640,643
Cost of Goods Sold	4,450,250,017,519	4,114,742,488,185	4,545,477,394,273
Gross Profit	750,572,492,694	840,118,857,389	928,744,246,370
Selling and Administrative Expenses	1,676,905,126,686	1,107,612,751,925	857,926,737,765
Operating Income (Loss)	-926,332,633,992	-267,493,894,536	70,817,508,605
Other Income	522,463,321,541	839,362,791,868	233,600,659,254
Other Expenses	649,922,869,981	1,000,732,520,120	303,118,318,782
Financial Income	285,569,134,952	170,296,343,485	193,321,655,086
Financial Expenses	297,649,578,505	191,449,335,919	185,521,932,442
Gains and Losses from Equity Method	245,178,733,518	279,900,381,630	190,268,411,849
Earnings (Loss) Before Taxes	-820,693,892,467	-170,116,233,592	199,367,983,570
Income Tax Expense (Income)	57,809,852,547	-39,218,616,879	47,249,364,484
Income (Loss) from Continuing Operations	-878,503,745,014	-130,897,616,713	152,118,619,086
Income (Loss) from Discontinued Operations	1,089,614,935,226	156,583,382,456	-232,433,056,543
Net Income (Loss)	211,111,190,212	25,685,765,743	-80,314,437,457
Other Comprehensive Income	-222,175,443,064	-555,798,152,226	324,195,161,005
Items that will not be reclassified to profit or loss	-7,514,539,894	7,285,128,783	-22,409,872,125
Re-measurement of Net Defined Benefit Liabilities	-9,891,811,881	9,591,501,399	-29,611,203,257
Tax effects	2,377,271,987	-2,306,372,616	7,201,331,132
Items that may be reclassified to profit or loss	-214,660,903,170	-563,083,281,009	346,605,033,130
Revaluation of derivatives		279,629,986	-810,278,096
Revaluation of financial assets available for sale	-319,318,208,339	-732,330,579,246	345,363,047,066
Changes in the capital under Equity Method	107,468,284,369	-35,382,509,548	74,416,351,932
Foreign currency translation	-54,772,638,958	21,165,811,745	15,578,551,140
Tax effects	51,961,659,758	183,184,366,054	-87,942,638,912
Total Comprehensive Income	-11,064,252,852	-530,112,386,483	243,880,723,548
Net Income (Loss) Attributable to			
Controlling Interest	219,405,853,323	53,846,137,611	-83,847,754,497
Non-Controlling Interest	-8,294,663,111	-28,160,371,868	3,533,317,040
Comprehensive Income (Loss) Attributable to:			
Controlling Interest	21,129,717,383	-502,765,900,272	237,482,223,190
Non-Controlling Interest	-32,193,970,235	-27,346,486,211	6,398,500,358
Earnings Per Share (EPS)			
Basic EPS (Loss per share)	3,133	766	-1,458
EPS from Continuing Operations (Loss per share)	-12,434	-1,458	2,580
EPS from Discontinued Operations (Loss per share)	15,567	2,224	-4,038
Diluted EPS (Loss per share)	3,133	766	-1,458
Diluted EPS from Continuing Operations (Loss per share)	-12,434	-1,458	2,580
Diluted EPS from Discontinued Operations (Loss per share)	15,567	2,224	-4,038

GRI(Global Reporting Initiative) 4.0

General Standard Disclosures

GRI G4	No.1	Description	page	External Assurance	
Strategy and Analysis	G4-1	Statement from the most senior decisionmaker of the organization (incl. strategy relates to sustainability, impacts of the activities in relation to the stakeholders)	4~5	●	
	G4-2	Description of key impacts, risks, and opportunities	16	●	
	G4-3	Name of the organization	2	●	
	G4-4	Primary brands, products, and/or services	22~23	●	
	G4-5	Location of organization's headquarters	2	●	
	G4-6	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report	10~11	●	
	G4-7	Nature of ownership and legal form	11	●	
	G4-8	Markets served (including geographic breakdown, sectors served and types of customers/beneficiaries)	10, 22~23	●	
Organizational Profile	G4-9	Scale of the reporting organization	10~11	●	
	G4-10	The total workforce by employment type, gender, employment contract and region	56	●	
	G4-11	The percentage of total employees covered by collective bargaining agreements.	53	●	
	G4-12	Describe the organization's supply chain	42	●	
	G4-13	Significant changes during the reporting period relating to size, structure, or ownership or its supply chain	2	●	
	G4-14	Explanation of whether and how the precautionary approach or principle is addressed by the organization	43, 48~49	●	
	G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	43	●	
	G4-16	List memberships of associations (such as industry associations)	12	●	
	G4-17	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures(List all entities in the consolidated financial statements)	10~11, Business report 3~5	●	
	G4-18	Process for defining report content and the Aspect Boundaries and explain how the Reporting Principles has been implemented	2, 14	●	
	G4-19	List all the material Aspects identified in the process for defining report content	14~15, 17	●	
	G4-20	The Aspect Boundary within the organization: Whether the Aspect is material within the organization; The list of entities included in G4-17 for which the Aspect is or is not material; Specific limitation regarding the Aspect Boundary within the organization	16	●	
	G4-21	The Aspect Boundary outside the organization: Whether the Aspect is material outside the organization; The list of entities for which the Aspect is material, relate to geographical location; Specific limitation regarding the Aspect, Boundary outside the organization	16	●	
	G4-22	Explanation the effect of any restatements of information provided in previous reports, and the reasons for such restatements.	11	●	
	Identified material aspects and boundaries	G4-23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries	2	●
		G4-24	The list of stakeholder groups engaged by the organization.	12	●
G4-25		The basis for identification and selection of stakeholders with whom to engage	12	●	
G4-26		Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group	12	●	
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; Report the stakeholder groups that raised each of the key topics and concerns	16	●	
G4-28		Reporting period (such as fiscal or calendar year) for information provided	2	●	
G4-29		Date of most recent previous report	2	●	
G4-30		Reporting cycle	2	●	
Report profile	G4-31	Provide the contact point for questions regarding the report or its contents	2	●	
	G4-32	Table identifying the location of the Standard Disclosures in the report	68~70	●	
	G4-33	Policy and current practice with regard to seeking external assurance for the report	72~73	●	
	G4-34	The governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts	52	●	
	G4-35	Process for delegating authority for economic, environmental and social topics	12	●	
	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	12	●	
Governance	G4-38	The composition of the highest governance body and its committees	52	●	
	G4-39	Report whether the Chair of the highest governance body is also an executive officer	52	●	
	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.	52	●	
	G4-41	Report processes for the highest governance body to ensure conflicts of interest are avoided and managed	52~53	●	
	G4-48	The highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material Aspects are covered	12	●	
	G4-50	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	12	●	
	G4-51	The remuneration policies for the highest governance body and senior executives	52	●	
	G4-52	The process for determining remuneration; Whether remuneration consultants are involved	52	●	
	G4-56	Describe the organization's values, principles, standards and norms of behavior such as codes of conduct and codes of ethics	34	●	
	Ethics and integrity	G4-57	The internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters related to organizational integrity, such as helplines or advice lines	34	●
		G4-58	Report the internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines	34	●

Specific Standard Disclosure

GRI G4	No.1	Description	page	External Assurance
Disclosure on Management Approach	G4-DMA	a. The mechanisms for evaluating the effectiveness of the management approach b. The results of the evaluation of the management approach c. Any related adjustments to the management approach	16~17	●
Economic				
Economic Performance	G4-EC1	Direct economic value generated and distributed	8~9	●
	G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	18~19	
Market Presence	G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	60	●
	G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	63	●
Indirect Economic Impacts	G4-EC7	Development and impact of infrastructure investments and services supported	52~55	
	G4-EC8	Significant indirect economic impacts, including the extent of impacts	18~19	
Procurement Practices	G4-EC9	Proportion of spending on local suppliers at significant locations of operation	46	●
Environmental				
Energy	G4-EN3	Energy consumption within the organization	49	●
	G4-EN5	Energy intensity	49	●
	G4-EN6	Reduction of energy consumption	48~49	●
Water	G4-EN8	Total water withdrawal by source	58	
	G4-EN10	Percentage and total volume of water recycled and reused	58	
Emissions	G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	49	●
	G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	49	●
	G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	49	●
	G4-EN18	Greenhouse gas (GHG) emissions intensity	49	●
	G4-EN19	Reduction of greenhouse gas (GHG) emissions	49	●
	G4-EN20	Emissions of ozone-depleting substances (ODS)	58	●
	G4-EN21	NOX, SOX, and other significant air emissions	58	
	G4-EN23	Total weight of waste by type and disposal method	58	●
	G4-EN24	Total number and volume of significant spills	No incidents	
Products and Services	G4-EN27	Extent of impact mitigation of environmental impacts of products and services	18~19	
Compliance	G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	No incidents	●
Supplier environmental assessment	G4-EN32	Percentage of new suppliers that were screened using environmental criteria	43	●
	G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	43, 47	●
Environmental grievance mechanisms	G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	34	●
Social				
Labor practices and decent work				
Employment	G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender, and region	63	●
	G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	61	●
	G4-LA3	Return to work and retention rates after parental leave, by gender	63	●
Labor/Management Relations	G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	60	●
Occupational Health and Safety	G4-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	60	●
	G4-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	39	●
	G4-LA8	Health and safety topics covered in formal agreements with trade unions	60	●

GRI(Global Reporting Initiative) 4.0

Specific Standard Disclosure

GRI G4	No.1	Description	page	External Assurance
Training and Education	G4-LA9	Average hours of training per year per employee by gender, and by employee category	63	●
	G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	60	●
	G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	60	●
Diversity and Equal Opportunity	G4-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	63	
Equal Remuneration for Women and Men	G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	61	
Supplier Assessment for Labor Practices	G4-LA14	Percentage of new suppliers that were screened using labor practices criteria	43	●
	G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	43, 45	●
Labor Practices Grievance Mechanisms	G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	34	●
Human Rights				
Investment	G4-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	35	
Non-discrimination	G4-HR3	Total number of incidents of discrimination and corrective actions taken	60	●
Freedom of Association and Collective Bargaining	G4-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	43, 45	
Child Labor	G4-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	60	
Forced or Compulsory Labor	G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	60	
Supplier Human Rights Assessment	G4-HR10	Percentage of new suppliers that were screened using human rights criteria	43	●
	G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken	43, 45	●
Human Rights Grievance Mechanisms	G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	34	●
Society				
Local Communities	G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	54~57	
	G4-SO2	Operations with significant actual or potential negative impacts on local communities	n/a	
Anti-corruption	G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	35	●
	G4-SO4	Communication and training on anti-corruption policies and procedures	35	●
	G4-SO5	Confirmed incidents of corruption and actions taken	34~35	●
Public Policy	G4-SO6	Total value of political contributions by country and recipient/beneficiary	n/a	
Anti-competitive Behavior	G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	35	
Compliance	G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	35	●
Supplier Assessment for Impacts on Society	G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society	43	●
	G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken	43, 45	●
Grievance Mechanisms for Impacts on Society	G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	34	●
Product Responsibility				
Customer Health and Safety	G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	27, 28	●
	G4-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	27, 28	●
Product and Service Labeling	G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	n/a	
	G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	n/a	
	G4-PR5	Results of surveys measuring customer satisfaction	28~29	●
Marketing Communications	G4-PR6	Sale of banned or disputed products	n/a	
Customer Privacy	G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	No incidents	
Compliance	G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	No incidents	

GHG Verification Statement



Introduction

Korean Foundation for Quality (hereinafter 'KFQ') has been engaged by Samsung SDI Co., Ltd.(hereinafter the 'Company') to independently verify its 2016 Greenhouse Gas Emission Report of domestic corporations and 9 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)', 'Guidelines for GHG emission reporting and certification of GHG emission trading scheme (Notification No. 2016-15 of Ministry of Strategy and Finance)', and 'ISO 14064-1:2006', and KFQ has responsibility to conduct verification based on the ISO 14064-3 to provide verification opinion on compliance of the Report against verification criteria.

Verification Scope

In this verification, domestic corporations and 9 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) 2016 Samsung SDI Co., Ltd., Greenhouse Gas Emission Report was prepared against "Greenhouse gas and energy target management scheme." 'Guidelines for emission reporting and certification of green-

house gas emission trading scheme', and 'ISO 14064-1:2006':

(2) As a result of materiality assessment on 2016 domestic Greenhouse Gas Emission(Scope 1 and Scope 2), material discrepancy is less than the criteria of 5% for the organization who emits less than 500,000tCO₂e/yr in accordance with the requirements of the 'Guidelines of verification for Greenhouse gas emission trading scheme':

(3) For the 9 overseas subsidiaries, material assessment was conducted according to the document review result and it shows that material discrepancy is less than 5.0%.

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

For the overseas subsidiaries, national net caloric value and electricity emission factor were preferentially used but net caloric value in 'Greenhouse Gas and Energy Target Management Scheme' was used in case of nonexistence of it.

For the 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 subordinated in 2016 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 2016 Samsung SDI Co., Ltd., Greenhouse Gas Emission Report.

Report year		2016.1.1~2016.12.31										
Verification Scope		Domestic	Overseas									Oversea Sum
			Tianjin	Suzhou	Xian	Austria	Malaysia	Vietnam	chang-chun	hefei	wuxi	
GHG Emission	Direct Emission (Scope 1,2)	379,701	192,792	4,646	42,598	61	103,045	6,435	165	1,301	17,182	368,225
	Indirect Emission (Scope 3: Business trip and logistics for the domestic corporation)	2,952	-									

[2016 Samsung SDI Co., Ltd., Greenhouse Gas Emission]

May 22th 2017

Daehyun Nam
President & CEO Korean Foundation for Quality

Third-party Verification Statement



LRQA Independent Assurance Statement

Relating to Samsung SDI Co., Ltd.'s Sustainability Report for the 2016 calendar year

This Assurance Statement has been prepared for Samsung SDI Co., Ltd. in accordance with our contract but is intended for the readers of this Report.

Terms of engagement

Lloyd's Register Quality Assurance (LRQA) was commissioned by Samsung SDI Co., Ltd. (Samsung SDI) to provide independent assurance on its 'Samsung SDI Sustainability Report 2016' ("the report") against the assurance criteria below to a moderate level of assurance using AA1000AS (2008), where the scope was a Type 2 engagement.

Our assurance engagement covered Samsung SDI's operations and activities in Korea and overseas specifically the following requirements:

- **Evaluating adherence to AA1000 AccountAbility Principles of Inclusivity, Materiality and Responsiveness**
- **Confirming that the report is in accordance with:**
 - GRI G4's1 reporting guidelines Core option
- **Evaluating the accuracy and reliability of data and information for only the selected indicators listed below:**
 - Economic: economic performance (EC1), market presence (EC5, EC6), procurement practices (EC9)
 - Environmental: energy (EN3, EN5, EN6), emissions (EN15, EN16, EN17, EN18, EN19, EN20), effluents and waste (EN23), compliance (EN29), supplier environmental assessment (EN32, EN33), environmental grievance mechanisms (EN34)
 - Social: employment (LA1, LA2, LA3), labor/management relations (LA4), occupational health and safety (LA5, LA6, LA8), training and education (LA9, LA10, LA11), supplier assessment for labor practices (LA14, LA15), labor practices grievance mechanisms (LA16), non-discrimination (HR3), supplier human rights assessment (HR10, HR11), human rights grievance mechanisms (HR12), anti-corruption (SO3, SO4, SO5), compliance (SO8), supplier assessment for impacts on society (SO9, SO10), grievance mechanisms for impacts on society (SO11), customer health and safety (PR1, PR2), product and service labelling (PR5)

Our assurance engagement excluded the data and information of Samsung SDI's suppliers, contractors and any third-parties mentioned in the report.

LRQA's responsibility is only to Samsung SDI. LRQA disclaims any liability or responsibility to others as explained in the end footnote. Samsung SDI's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the report and for maintaining effective internal controls over the systems from which the report is derived. Ultimately, the report has been approved by, and remains the responsibility of Samsung SDI.

LRQA's Opinion

Based on LRQA's approach nothing has come to our attention that would cause us to believe that Samsung SDI has not, in all material respects:

- Met the requirements above
- Disclosed accurate and reliable performance data and information as all errors or omissions identified during the assurance engagement were corrected
- Covered all the issues that are important to the stakeholders and readers of this report.

The opinion expressed is formed on the basis of a moderate level of assurance and at the materiality of the professional judgement of the verifier.

Note: The extent of evidence-gathering for a moderate assurance engagement is less than for a high assurance engagement. Moderate assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a moderate assurance engagement is substantially lower than the assurance that would have been obtained had a high assurance engagement been performed.

LRQA's approach

LRQA's assurance engagements are carried out in accordance with our verification procedure. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:

- **Assessing Samsung SDI's approach to stakeholder engagement to confirm that issues raised by stakeholders were captured correctly. We did this through reviewing documents and associated records.**
- **Reviewing Samsung SDI's process for identifying and determining material issues to confirm that the right issues were included in their Report. We did this by benchmarking reports written by Samsung SDI and its peers to ensure that sector specific issues were included for comparability. We also tested the filters used in determining material issues to evaluate whether Samsung SDI makes informed business decisions that may create opportunities that contribute towards sustainable development.**
- **Auditing Samsung SDI's data management systems to confirm that there were no significant errors, omissions or mis-statements in the report. We did this by reviewing the effectiveness of data handling procedures, instructions and systems, including those for internal verification. We also spoke with those key people responsible for compiling the data and drafting the report.**
- **Reviewing supporting evidence made available by Samsung SDI at their head office in Gyeonggi-do and Cheonan production site in Chungcheongnam-do, Korea.**

¹ <https://www.globalreporting.org>

- Checking the report boundary covers all sites in Korea and overseas presented in the overview of the report.
- Checking that the GRI Content Index allows stakeholders to access sustainability indicators.

Observations

Further observations and findings, made during the assurance engagement, are:

- **Stakeholder inclusivity:**
We are not aware of any key stakeholder groups that have been excluded from Samsung SDI's stakeholder engagement process.
- **Materiality:**
We are not aware of any material issues concerning Samsung SDI's sustainability performance that have been excluded from the report. It should be noted that Samsung SDI has established extensive criteria for determining which issue/aspect is material and that these criteria are not biased to the company's management. However, Samsung SDI should improve the materiality process by ensuring that the results from stakeholder engagement in place at overseas operations are reviewed and reflected when Samsung SDI defines material issues centrally.
- **Responsiveness:**
Samsung SDI has reported its sustainability performance in Korea and overseas in the report. Some data sets and information do not include some or all of the overseas operations and Samsung SDI has annotated these in the report if the geographical boundary is different. However, Samsung SDI should strengthen processes so that when there are organizational changes such as mergers and acquisitions, the reporting boundary captures these accordingly.
- **Reliability:**
Samsung SDI has reliable data management systems.

LRQA's standards, competence and independence

LRQA implements and maintains a comprehensive management system that meets accreditation requirements for ISO/IEC 17021 Conformity assessment – Requirements for bodies providing audit and certification of management systems that are at least as demanding as the requirements of the International Standard on Quality Control 1 and comply with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants.

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

LRQA is Samsung SDI's certification body for ISO 9001 and ISO/TS 16949. We also provide Samsung SDI with a range of training services related to management systems. The verification and certification assessments, together with the training, are the only work undertaken by LRQA for Samsung SDI and as such does not compromise our independence or impartiality.

Dated: 24th May 2017



Tae-Kyoung Kim

LRQA Lead Verifier

On behalf of Lloyd's Register Quality Assurance Limited

17th Floor, Sinsong Building, 67 Yeouinaru-ro, Yeongdeungpo-gu, Seoul, Korea



LRQA reference: SEO6051368

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UN SDGs (United Nations Sustainable Development Goals)

UN established promoted Millennium Development Goals (MDG) for the period during 2000~2015. On September 2015, UN adopted Sustainable Development Goals (SDG) to build sustainable societies around the world and on its way to pursue this goal during 2016~2030.

Samsung SDI, as a global corporation, agrees with UN SDG's direction that address the universal agenda and analyzed our sustainable activities relevant to the pursuit and detailed goals of UN SDG and presented them on each page.

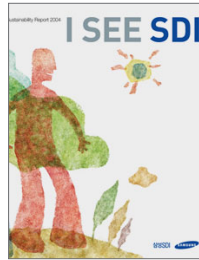


1. End poverty in all its forms everywhere
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3. Ensure healthy lives and promote well-being for all at all ages
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5. Achieve gender equality and empower all women and girls
6. Ensure availability and sustainable management of water and sanitation for all
7. Ensure access to affordable, reliable, sustainable and modern energy for all
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
10. Reduce inequality within and among countries
11. Make cities and human settlements inclusive, safe, resilient and sustainable
12. Ensure sustainable consumption and production patterns
13. Take urgent action to combat climate change and its impacts*
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

Sustainability Report in Previous Years



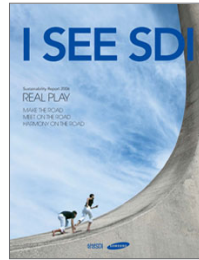
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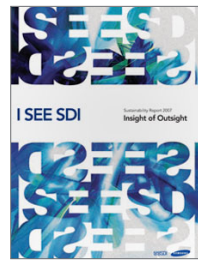
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2006



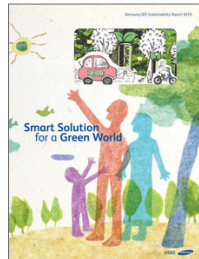
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2008



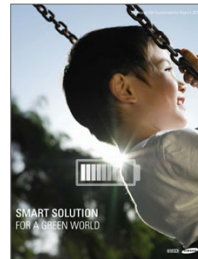
2009



2010



2011



2012



2013



2014



2015

SAMSUNG SDI 



This report has been Printed on FSC-certified eco-friendly paper that guarantees sustainable forest management.