

## CEO MESSAGE



“

As a global leader in the energy and advanced materials sectors, Samsung SDI is committed to providing the best technology and service, while at the same time communicating with more of our stakeholders to fulfill our social responsibility, helping to create a more advanced society.

”

Dear Samsung SDI Stakeholders,

It is my great pleasure to greet you all by means of the Samsung SDI Sustainability Report 2017.

From our position at the center of energy and advanced materials business that enrich people's lives, Samsung SDI has continued to achieve sustainable growth and development.

In 2017, all of our employees came together to overcome various trials and tribulations and normalize business that had slowed, effecting a turnaround after three sluggish years and gaining a foothold for still greater growth. Thus, it was a very significant year.

Our Automotive Battery Division completed construction of a production plant in Hungary, establishing a global triangular stronghold while leading the market with diverse products and technologies able to help speed the advent of the age of electric vehicles. Our ESS Division successfully delivered the world's largest-scale energy storage system to the state of California, winning recognition for superior technology and the highest levels of safety while furthering growth. In the meantime, securing quality competitiveness, the Small-Sized Li-ion Battery Division invested in reinforced safety and solidified its technological leadership position through mass production of new cylindrical battery cells. The Electronic Materials Division is growing continuously through enhanced competitiveness in the semiconductor, display, and solar photovoltaic materials sectors.

On top of successful business performance, the company was also able to produce visible results in 2017 in terms of sustainability, notably in the areas of safety, environment, and social responsibility. We reviewed the various risk factors that may occur in each area and strengthened our management capacity to dramatically reduce potential risk factors. The value of these achievements was recognized by external evaluators as well.

In the 2017 results of the DJSI (Dow Jones Sustainability Index), an annual global review of sustainability, the company was listed thirteenth in the Dow Jones Sustainability World Index. It was also listed tenth in the "Global 100: Most Sustainable Corporations" announced at the Davos Forum in January 2018. Thanks to our stakeholders' warm-hearted support over the last year, all our employees were able to dedicate themselves to fulfilling their duties and to advancing our performance and sustainability values.

Although uncertainties in the business environment still remain in 2018, all of Samsung SDI's employees are united as one in seeking to attain full-scale growth on the back of differentiated technology and rigorous risk management.

The company will aggressively expand investment, while at the same time strengthening efficiency and internal stability and communicating with stakeholders to ensure progress in the right direction.

Sustainable management is not the result of short-term efforts at some particular moment, but rather the record of a long-standing history of results that have arisen through generations of management and investment.

In each and every chapter of its history, Samsung SDI will reflect on whether it is fully fulfilling its corporate social responsibility, and beyond this, will put forth more aggressive investment and effort to re-emerge as an admired company.

In addition, the company will continue to release sustainable management reports as a form of communication focused on raising wider awareness of Samsung SDI's role as a responsible member of society while also leveraging our website to expand channels of engagement. Once again, I would like to express my heartfelt gratitude to you, our stakeholders, for your active participation and goodwill. We look forward to your continuing encouragement and interest, grounded in true affection.

Thank you.

Young Hyun Jun  
President and CEO of Samsung SDI



# SUSTAIN

10	The State of Samsung SDI Today
14	Status of business and performance
18	Corporate governance
20	Sustainability Management System
21	Risk management
22	Compliance
24	Stakeholder Participation & Materiality Assessment
26	SDI Impact Valuation Management
28	SDGs Compass

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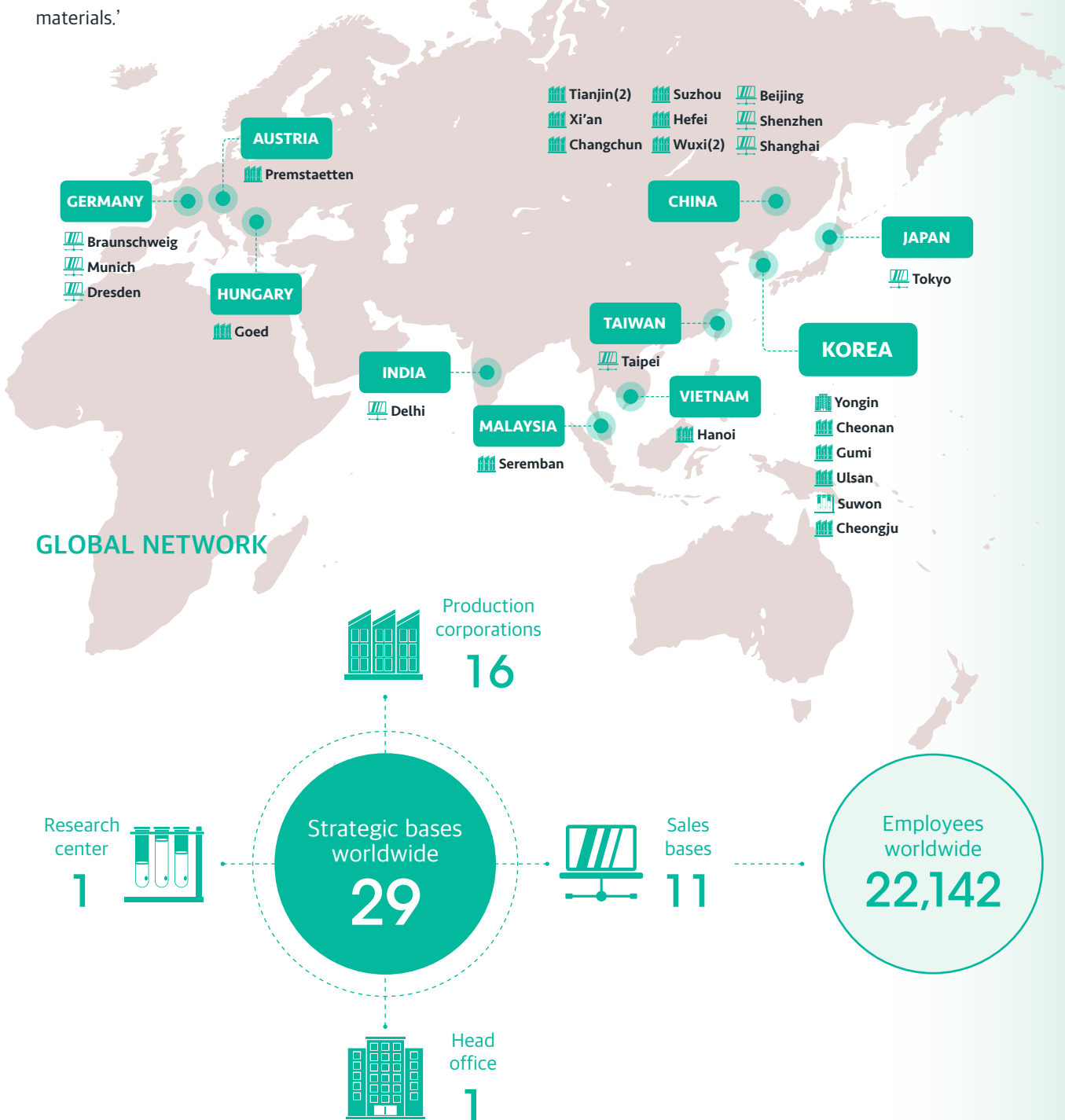
# ABLE MANAGEMENT OVERVIEW

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# The State of Samsung SDI Today

## Creative Energy & Materials Solution Leader

Samsung SDI produces advanced materials for use in the IT and automotive industries, secondary batteries for ESS (energy storage systems), semiconductors, displays, and photovoltaics. We are committed to enriching people's lives and opening up a new future through ceaseless innovation, aiming to emerge as a 'creative leader in energy and advanced materials.'



## The current state of Samsung SDI

### Company name

SAMSUNG SDI CO., LTD.

### Location of the head office

150-20, Gongse-ro, Giheung-gu, Yongin-si, Gyeonggi-do

### CEO

Young Hyun Jun

### Year of foundation

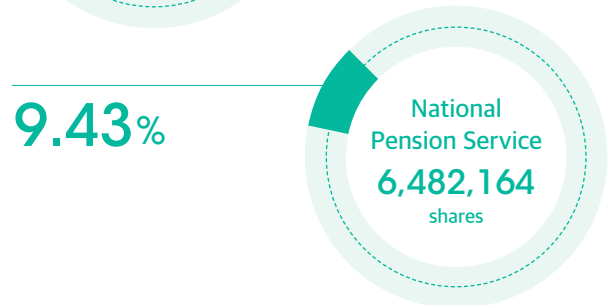
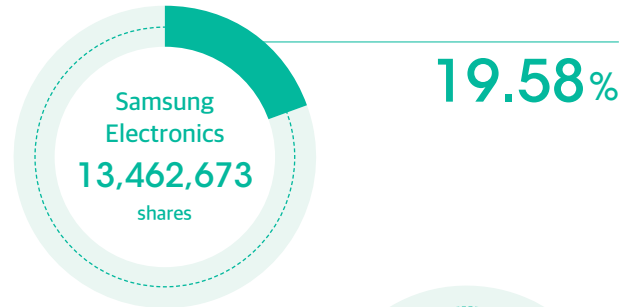
January 1970

USA

San Jose

Detroit

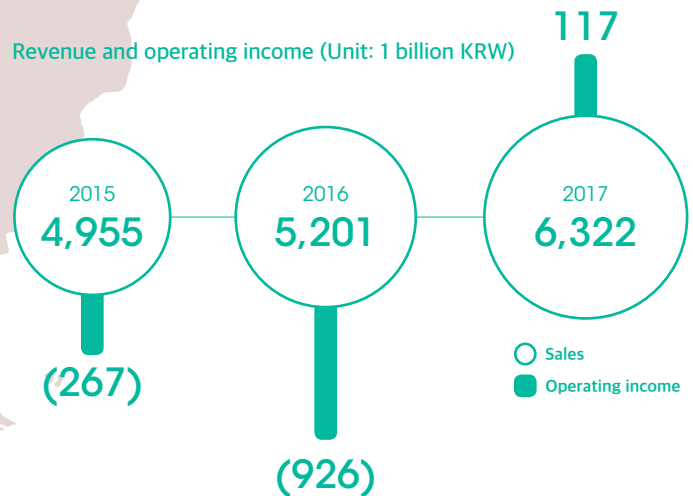
## The current state of stock ownership (As of December 31, 2017)



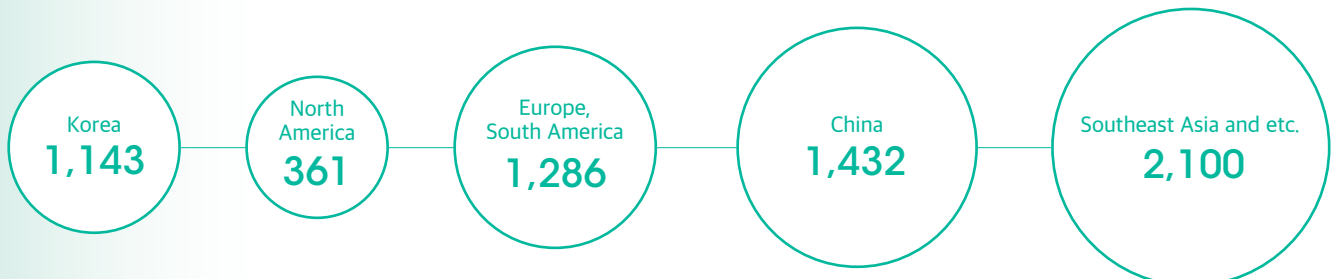
## Current state of business

Since 2015, Samsung SDI has achieved consistent growth, leading to continuous increases in sales. In terms of operating income, some losses were recorded up through 2016. However, we changed course in 2017 to achieve growth, and positive trends in the future are expected.

### Revenue and operating income (Unit: 1 billion KRW)



### Revenue by region in 2017 (Unit: 1 billion KRW)



## Value-creation model

Being a 'creative leader of energy and advanced materials' is the path Samsung SDI aims to follow henceforth. As a creative leader with an essential role in driving technology and markets based on change and innovation, we are creating value with the potential to enrich life for all humankind.

### 1 Research and development

We are striving towards product standardization in the energy and advanced materials sectors and shortened development lead time.

- Research and development of safe products
- Development of environmentally-friendly batteries



### 2 Purchasing

By applying strategic sourcing, we have adopted optimized purchasing strategies in the global market environment and reduced materials procurement lead time, thereby operating a rational purchasing process.

- Establishment of shared-growth practices with partner companies and suppliers
- Management of conflict minerals



### 3 Production

Production planning and quality control are managed in consideration of reliability through product safety. Applying 'just-in-time' production of the required amounts also serves to increase profitability.

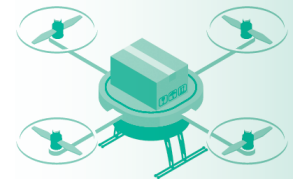
- Improved environmental efficiency
- Safety management of work sites
- Increased profitability through cost management



### 4 Logistics

The sale process is differentiated from the logistics process to reduce logistics lead time, while integrated information systems enable immediate goods receipt and prompt shipment.

- Environmentally-friendly transport



## INPUT

#### Financial capital

- Listed on Korea Stock Exchange in 1979
- No. of issued stocks (Common): 68,764,530
- Cash dividends: 10.1%
- Procurement of financial capital from shareholders and investors
- Disclosure of business status, including general meetings of shareholders

#### Intellectual capital

- Intangible assets: 897 billion KRW
- R&D investment (percentage of revenue): 526 billion KRW (8.3%)
- R&D staff (percentage of total employees): 2,215 persons (24.2%)

#### Social/relational capital

- Operation of a total of 29 strongholds
- Engagement with local community and implementation of social contribution activities through Green Planet Environment School and donated eyesight recovery surgeries
- Investment in social contribution activities: 4 billion KRW

#### Manufacturing capital

- Production corporations: 16
- Production capacity:
  - Small-sized Li-ion batteries: 1,392 million KRW
  - EMC (epoxy molding compound): 9,520 tons
  - Polaroid film: 81.08 million m<sup>2</sup>
- Tangible assets: 2.93 trillion KRW

#### Human capital

- Personnel: 22,142
- Executive directors: 3
- Outside directors: 4
- New hires: 8,006
- Education and training expenditures: 8.3 billion KRW

#### Natural capital

- ISO 14001 certification
- Energy reduction investment costs: 3,522 million KRW
- Energy consumption: 14,988 TJ

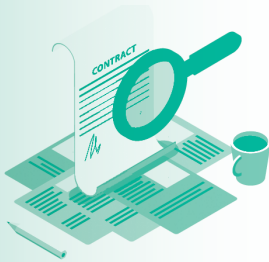
## Creative Energy & Materials Solution Leader

Samsung SDI produces advanced materials for use in the IT and automotive industries, secondary batteries for ESS (energy storage systems), semiconductors, displays, and photovoltaics. We ceaselessly strive to achieve innovations with the capacity to catalyze next-generation growth engines.

### 5 Sales

We apply demand forecasting to devise demand planning and carries out global order management.

- Establishment of global sales network



### 6 Service

Customer satisfaction is surveyed in each business area, and such complex factors as product performance and quality control are evaluated and managed.

- Establishment and implementation of customer satisfaction management system



### 7 Marketing and sales

Marketing and supply chain management are linked together to establish a rational sales network.

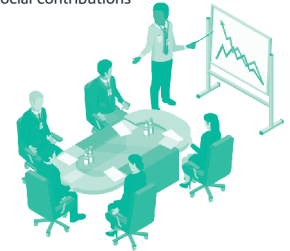
- Customer feedback reflection process underway
- Customer satisfaction surveys conducted



### 8 Business management

We devise and implement plans to effectively manage such resources as finance, environment, organizational culture, and compliance.

- Organizational culture management
- Risk management
- Compliance/ethical management
- Social contributions



#### Financial capital

- Revenue:
  - Energy solutions: 4.30 trillion KRW
  - Electronic materials: 2.017 trillion KRW
- Net income: 643 billion KRW

#### Intellectual capital

- Establishment and approval of strategic directions for each division
- Patents registered: 13,304

#### Social/relational capital

- Corporate taxes: 181 billion KRW
- Contracts with business partners terminated due to irregularities: 0
- Beneficiaries of donated eyesight recovery surgeries: 224,399 (cumulative)
- Beneficiaries of Green Planet Environment School: 17,095 (cumulative)

#### Manufacturing capital

- Main production output:
  - Small-sized Li-ion batteries: 1,158 million
  - EMC: 6,236 tons
  - Polaroid film: 66,046,000 m<sup>2</sup>
- S-partner certification: 90 companies
- Total purchase amount: 4.43 trillion KRW

#### Human capital

- Ratio of local recruits: 58.3%
- Ratio of female managers: 8.2%
- Ratio of certified quality-control engineers (excluding ISO 9001): 26%
- Employee injury frequency rate/loss rate: 0.14/7.67

#### Natural capital

- Greenhouse gas (GHG) emissions: 919,382 tCO<sub>2</sub>e
- Energy reduction performance:
  - Fuel reduction: 1.1 billion KRW
  - Power reduction: 9.1 billion KRW

#### OUTPUT



# Status of business and performance


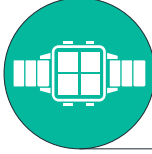



## Small-sized Li-ion Batteries

Based on a quality-oriented management philosophy and continuous technological innovation, Samsung SDI has held the top spot in the global lithium-ion battery market since 2010. The Small sized Li-ion Battery Division develops and sells cylindrical, prismatic, and polymer battery cells. Based on our superior technology, we are continuously expanding not only into new areas with high projected growth in the expanding 5G communication and IoT environment, including IT devices such as smartphone wearables and augmented/virtual reality (AR/VR), but also goods that demand eco-friendly and high-efficiency operation, such as power tools and electric bicycles and golf carts.

### Tae Hyuk Ahn, Executive Vice President

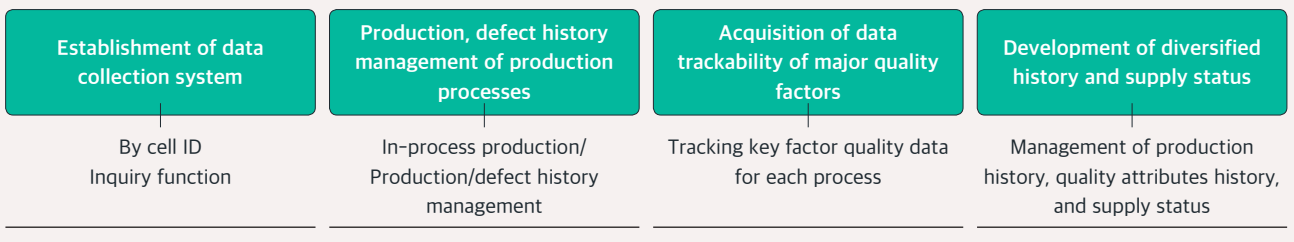
Amid difficulties at home and abroad, we were able to achieve a successful turnaround through timely product development, business restructuring, and innovations in manufacturing efficiency, thanks to the combined efforts of the entire division. As part of its efforts to solidify its top position in the Small-sized Li-ion battery market, the division will build and follow key strategies like 'Best Product Development' and 'Maximum Efficiency Realization.'

### APPLICATION

IT DEVICES		High-energy density technology enables extended mobile phone usage time and the realization of much thinner and lighter designs.
		We are developing curved and flat batteries with applications for various forms of wearable devices and improving battery efficiency, opening up unlimited market expansion potential.
POWER DEVICES		By enabling differentiated high-power and high-capacity products that broaden the scope of electrical devices development, the division is expanding device working areas.
		High-capacity battery technology induces a greater freedom of movement, stronger suction capacity, and longer usage time.
TRANS DEVICES		This can be diversely applied to a variety of powerful and long-lasting devices, such as electric bikes and motor scooters.

### Tracking system for battery cells

Samsung SDI has established a cell tracking system to enable tracking of production history and quality for any given cell, in the event of a problem. A barcode printed on the surface of each cell is used to store and manage key facility information and quality data history for each process. This has enhanced the quality analysis system, enabling rapid response should problems arise. Verification and stabilization have been completed in a pilot phase, and plans are in place for its application in overseas corporations in 2018.



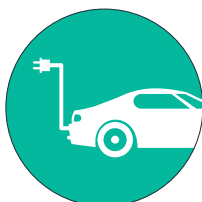
## Automotive Batteries

Batteries are not simply a power source, but also a fundamental element of future innovations. On the strength of technological advances in batteries, the anticipated age of electric vehicles is drawing nearer. Samsung SDI is making ceaseless efforts to realize technological advances that will enable dynamic yet safe driving in electric vehicles, in addition to allowing drivers to cover greater distances. We are realizing our vision in the eco-friendly clean energy solution sector by concentrating on the development of batteries for low-carbon vehicles. With the development of high-efficiency and high-capacity lithium ion secondary batteries and their provision to automakers worldwide, emissions of CO<sub>2</sub> and various air pollutants from existing motor vehicles are being minimized. Sustainability is being actualized through products created not only for economic efficiency but also eco-friendliness.

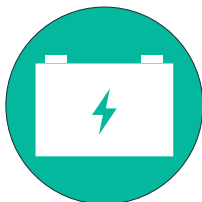
### Seh Woong Jeong, Executive Vice President

Keeping pace with the continuous growth of the electric vehicle market, we are committed to realizing a profitable division through 'efficiency innovation and solid management.' Toward this end, we are enhancing development competitiveness and placing greater emphasis on securing market competitiveness by applying manufacturing productivity innovation and strengthening the management structure.

### APPLICATION



**Electric Vehicles (EV)** - It is critical for EV batteries to have high energy density within a given amount of space. By applying high-capacity materials with optimum lifetime performance and designing optimized battery components, Samsung SDI is driving innovation for extended EV mileage.



**Plug-in Hybrid Electric Vehicles (PHEV)** - Batteries for PHEV demand a balance between the energy density required for electric-mode driving and output density able to support an engine. Samsung SDI is endeavoring to realize optimal harmony through competitiveness in advanced battery development.



**Hybrid Electric Vehicles (HEV)** - In response to recent trends and growing popularity of electric vehicles, we are securing higher investment efficiency to provide solutions for improved fuel economy and automotive performance.



**Micro/Mild HEV** - We are providing mid-range solutions aimed at improving fuel economy and automotive performance with only small investments.

### ❖ Innovation for automotive battery performance

Samsung SDI is making mid- to long-term efforts to improve cathode and anode materials, the core of the automotive battery. To raise our battery materials supply competitiveness, Samsung SDI and POSCO are investing 57.5 billion KRW in a planned joint venture producing cathode materials in Mejillones, located in northern Chile. As for the anode materials that determine the lifetime of secondary batteries, we are successfully commercializing a patented process for combining nano-sized silicon with graphite. Including the development of anode materials befitting stable high-capacity batteries, Samsung SDI is continuously striving for energy innovations through research and development on stabilization of silicon structures, which are able to dramatically improve energy density.

## ESS (Energy storage systems)

Samsung SDI is leading the global market on the strength of environmentally-friendly energy solutions and lithium-ion energy storage devices for the future. We are ensuring the stability of power grids, and through our leading-edge technology with the capacity to improve the quality of electrical energy, we are providing optimization solutions in accordance with the particular needs and environments of customers.

Samsung SDI's activities in the ESS business have been going strong since 2011. Within three years, we reached the number one rank in the industry, thanks to achieving the world's leading Small-sized Li-ion battery stability. Applying the same batteries to ESS as those supplied to electric vehicles, we were able to ensure ESS quality and reliability. Not only that, but based on solutions optimized for specific countries, we were also able to pioneer markets faster than other competitors in the European power/residential market, the American power/commercial market, the Japanese residential market, and the Korean power/industrial market.

### Seh Woong Jeong, Executive Vice President

In 2017, having produced significant results through reduced process losses and improved efficiency of facilities, the ESS business succeeded in achieving profitability. We are making radical changes in our working methods and structures so that our business division can produce solid results, no matter what the external circumstances may be.

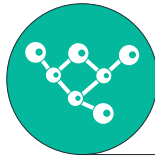
### APPLICATION



**Electric power solutions** - The division contributes to ensuring the stability of power grids in power supply systems, including power generation, transmission, and distribution, as well as in standardization in renewable energy power generation.



**Commercial solutions** - By securing stability in plant machinery and power operations, we are raising self-consumption usage. Increasing power operation stability and self-consumption usage helps to reduce daytime maximum loads in office buildings such as commercial offices, public institutions, schools, and hospitals.



**UPS · UES solutions** - Ensuring reliable power quality and continuity can prevent operational gaps in data centers, achieving minimized total power consumption and reduced capital investments.



**Residential solutions** - Linking households to solar power generation systems makes eco-friendly energy available anytime, 24 hours a day, resulting in higher energy self-consumption rates and lower power bills.



**Communication solutions** - Offering not only lighter weight, smaller volume, and high energy density, but also improved lifetime performance, the use of lithium batteries has brought about innovative savings in maintenance costs.

### ❖ Hawaii Photovoltaic Power Project

Applying Samsung SDI's 94Ah battery cell, we are involved in plans to install a 100MWh ESS in Kauai, the fourth-largest island in the U.S. state of Hawaii. It will be Hawaii's largest energy project, aiming to facilitate the supply of power to the islands. At the center of a tourism industry that leverages natural resources, Hawaii consists of 10 large and 100 small islands. The nature of the terrain makes the process of supplying power less than smooth. As such, there is greater demand for renewable energy in Hawaii than anywhere else in the U.S., and the state is strongly backing a clean energy policy to provide clean and stable energy at lower cost. This project is expected to slash power supply costs for all of Kauai, reducing annual consumption of diesel fuel by 3.7 million gallons and enabling low power generation costs of 11 cents per kWh, cheaper than diesel. The project also accounts for 11% of all electricity used in Kauai. In addition to daytime hours, it enables constant power use for up to 5 hours.

\* Hawaii Clean Energy Initiative: 70% of renewable power generation targets achieved by 2030; 100% by 2045

## Electronic materials

‘Invisible force of the digital revolution’

Samsung SDI is creating a more convenient digital world not only for the future of TVs, semiconductors, and smartphones, but also for the future of next-generation markets, including OLED displays and secondary batteries.

The Electronic Materials Division develops and sells materials used in the semiconductor, display, and next-generation energy sectors.

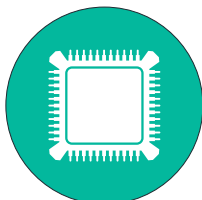
While fortifying our market dominance in the existing market for materials used in semiconductors and LCD displays, we are also making continuous efforts to secure a market leadership position in next-generation advanced materials, including OLED materials and separation membranes for secondary batteries.

### Chang Lyong Song, Executive Vice President

In 2017, with the stabilization of the Wuxi corporation in China and quality enhancement of the SOH (spin-on hardmask) material, we put great efforts into selection and concentration towards securing a solid profit structure.

In 2018, we plan to place greater emphasis on strengthening overall business competitiveness through the expansion of new products and structural improvements, focusing on the exploration of next-generation products and new items for future growth engines.

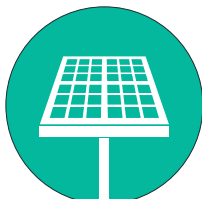
### APPLICATION



Patterning materials (including SOH, SOD, and slurry) are applied in the formation of semiconductor wafer patterns, while packaging material (epoxy molding compound, EMC) is applied to protect chips from the external environment.



Sold in the form of films or base materials, Samsung SDI's electronic materials are chiefly used in displays panels such as LCDs and OLEDs. The materials are used for films, such as polarizing film (POL) and anisotropic conductive film (ACF), as well as process materials for use in organic light emitting diodes (OLEDs) and Color PR (color photo-resist) layers.



Photovoltaic (PV) paste is a highly-viscous conductive material used to form the electrodes of solar cells, and also used as a separation membrane that serves as an interlayer to prevent short-circuiting between the cathode and anode of a secondary battery; thus, it is a core material that determines stability.

### ❖ Facilities Technology Group, a Learning Workplace

In the Semiconductor Device Facilities Technology Group of the Electronic Materials Division, 91% of the staff possess job-related certifications. Work-life balance is a priority that is conducive to staff self-development. This enhances work capacity and performance, creating a virtuous cycle environment that has a naturally positive effect on organizational culture. To leverage the attributes of the Facilities Technology Group, all members are encouraged to acquire plant engineering and maintenance certification, a goal achieved by 91% of its staff. This atmosphere led its members to acquire Master Craftsman certification and Meister certification, with the number Master Craftsman certifications doubling over 2015. About 19% of its employees were able to advance into Meister.

# Corporate governance

## Activities of the Board of Directors

The Board of Directors at Samsung SDI deliberates and makes decisions on matters specified in the Articles of Incorporation, delegated from the General Meeting, and important matters related to basic policies on our management and the execution of business operations. The Board meets on a regular quarterly basis and may have frequent ad-hoc meetings when deemed necessary. In 2017, a total of eight Board meetings were held, and 22 items were addressed. Board resolutions are made through majority consensus, with a majority of directors being present. Directors with conflicts of interest are not allowed to exercise their voting rights. In addition, all directors or part thereof are allowed to take part in resolutions without physically attending, by means of remote electronic communications using voice messages transmitted to all directors simultaneously. The directors' term of office is 3 years, and the chairman is selected from among the directors by a resolution of the Board. Outside directors may also be appointed as the chairman.

## Composition of the Board of Directors

The Board of Directors at Samsung SDI consists of a total of seven directors, including three executive directors and four outside directors, as of the end of March 2018. Directors with expertise in various areas including business, economics, law, or related technologies are appointed in accordance with the relevant rules. Candidates for executive and outside directors are selected by the Board and by the outside Director Nominations Committee, respectively, before final approval at the General Meeting.

Category	Name	Field	Major experience
Executive Director	Young Hyun Jun	-	CEO and President
	Young Noh Gwon	-	Leader of Management Support Team
	Chang Lyong Song	-	Leader of Electronic Material Business Division
Outside Director	Sung Jae Kim	Business Administration	Business Administration Professor at Hankuk University of Foreign Studies
	Serck Joo Hong	Finance	President of Chohung Bank
	Ran Do Kim	Customer	Consumer Science Professor at the College of Human Ecology, Seoul National University
	Jai Hie Kim	Technology	Electrical & Electronic Engineering Professor at the College of Engineering, Yonsei University

## Subcommittees of the Board of Directors

The Board of Samsung SDI operates five subcommittees: Management Committee, Audit Committee, Internal Transactions Committee, Outside Director Nominations Committee, and Compensation Committee. To promote specialized and effective decision-making, some of the Board's responsibilities are delegated to committees for thorough examination of the issues by relevant experts and authorities.

Subcommittee	Members	Career Highlights
Management Committee	Three executive directors	Deliberate and make decisions on matters commissioned by the Board
Audit Committee	Four outside directors	Perform audits on business operations and accounting management
Internal Transaction Committee	Four outside directors	Ensure transparency and compliance regarding internal transactions and fair trade
Outside Director Nominations Committee	Three executive directors, four outside directors	Nominate candidates for outside director
Compensation Committee	One executive director and two outside directors	Deliberate the ceiling of compensation for registered directors

## Board of Directors Independence

### Independence of Outside Directors

All outside directors maintain independence from major shareholders and management. Independence of the Board is guaranteed based on standards for exclusion of qualification of outside directors in accordance with Article 382 of the Commercial Law.

#### Grounds for disqualification of outside directors

- 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 In cases where the largest shareholder is an individual, a spouse, lineal ascendant, or lineal descendant of that individual
- ③ In cases where the largest shareholder is a corporation, any director, auditor, executive or employee of that corporation
- ④ Spouses, lineal ascendants, and lineal descendants of directors, auditors, and executives
- ⑤ Directors, auditors, executives, and employees of a parent or subsidiary company of the company
- ⑥ Directors, auditors, executives, and employees of a corporation having 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 Board, nominees are selected by the Outside Director Nominations Committee when outside directors are being appointed. Directors are appointed following approval from the General Meeting. The Board consists of a total of seven members. Of these, outside directors make up more than half of the seats.

### Independence of the Audit Committee

The Board of Samsung SDI operates the Audit Committee under Article 542(11) and Article 542(12) of the Korean Commercial Act and guarantees its operational independence by forming the committee solely of outside directors.

### Expertise of Outside Directors

Samsung SDI appoints external consultants with diverse knowledge and experience in business, economics, and the electronics and battery industries as outside directors. So as to continuously strengthen and leverage their expertise, board members can also inspect domestic and overseas management sites and receive status briefings. Assistance is provided for them to perform their professional duties through the activities of the board's subcommittees.

### Board Activities and Compensation

#### Yearly Board Activities

In 2017, the Board held six regular board meetings and two ad-hoc board meetings and processed a total of 22 items and 7 reports, including approval of partial sales of treasury stocks, execution of external donations, and investment in the manufacture of secondary batteries at the Cheonan Production Site.

#### Performance Evaluation and Compensation of the Board

Samsung SDI annually evaluates directors based on their business expertise, technological expertise, and active board participation, and the results are discussed in board meetings. The remuneration of the board is paid within the limits approved at the General Meeting and composed of a base salary based on their position and performance-based bonuses. Performance factors include econometric indicators such as revenue, net income, and stock prices, as well as qualitative indicators related to environmental and social outcomes in areas such as safety, labor relations, insolvency, corruption, security, and compliance. In 2017, the amount of 23 billion KRW was approved at the General Meeting, while the actual amount paid to directors stood at 4.9 billion KRW.

Category	Unit	2015	2016	2017
Net payment	100 million KRW	48	47	49
Total board remuneration (Executive directors)	1 million KRW	4,413	4,257	4,493
Total board remuneration (Outside directors and auditors)	1 million KRW	404	419	402
Average remuneration per person (Executive directors)	1 million KRW	1,103	710	899
Average remuneration per person (Outside directors and auditors)	1 million KRW	80	84	80

# Sustainability Management System

## Sustainability Management System

Since 2004, Samsung SDI has had a Sustainability Management (SM) Steering Committee and SM Office to facilitate systematic sustainable management. The CEO and executives serve on the SM Steering Committee to share key issues about sustainable management, targets, and directions for implementation before reviewing and approving major agenda items, including the Sustainability Report. Through this, risks and opportunity factors within overall sustainable management are analyzed, including economic, social, and environmental spheres, and enterprise-wide directionality is proposed. The SM Office takes charge of conducting sustainable management by monitoring key issues and risks, running the SM Steering Committee, and implementing planning. It endeavors to attain corporate growth and improve corporate value through diversified sustainable management activities based on collaboration with personnel in charge of SM in each division.

### Selected as DJSI World 13 times



Samsung SDI was listed thirteenth in the 2017 Dow Jones Sustainability World Index, one of the Dow Jones Sustainability Indexes (DJSI) selected by Dow Jones, the world's

largest financial information service provider. Such good results reflect our proactive response to new risks in the sustainable management sector, winning recognition for strong global competitiveness achieved through steady activity.

### Selected for the Global 100: Most Sustainable Corporations



Samsung SDI was named as one of the Global 100: Most Sustainable Corporations, a global ranking list that started in 2005 and is announced annually at the Davos Forum in Switzerland. The ranking evaluates core factors like energy use and carbon, waste, and clean air emissions drawing from data released in public documents such as financial highlights or sustainability reports. The list also considers overall factors like spending on innovation, responsible payment of taxes, executive pay, partners, safety, and turnover.

## Vision and strategy

Samsung SDI proactively responds to changing sustainability issues. We identify important issues associated with various stakeholders in each area and performs sustainable management in light of them. Toward this end, we present a vision for sustainable management to facilitate growth as a business able to contribute to human society, through sustainable development based on strong leadership in the economic, environmental, and social spheres.

### SUSTAINABLE DEVELOPMENT INNOVATOR

Contributing to human society through sustainable development based on strong leadership in the economic, environmental, and social spheres.

#### Economy Sustainable Growth

#### Sustainable growth

Realization of sustainable growth and creation of profits based on customer satisfaction

#### Society Coexistent Partnership

#### Coexistent partnership for mutual prosperity

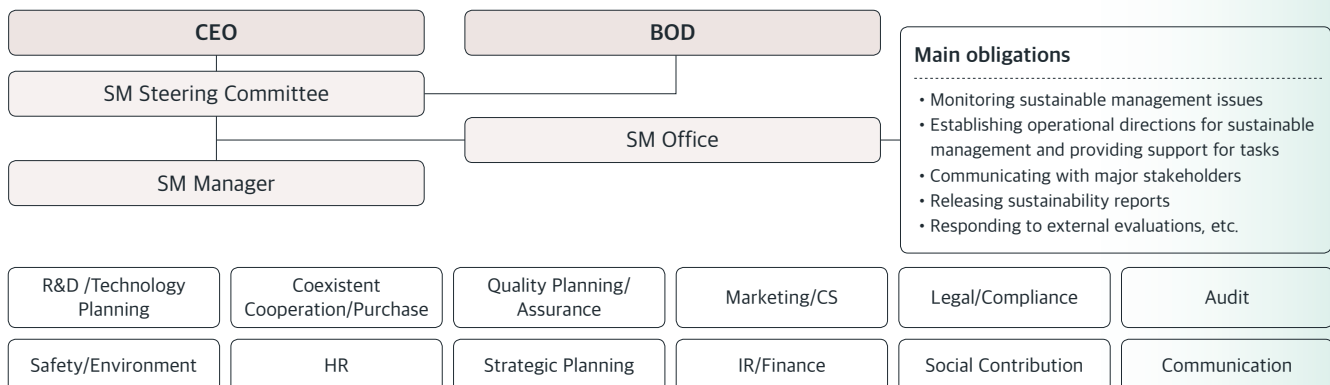
Balanced reliable partnerships that can benefit various stakeholders

#### Environment Eco-Value Creation

#### Eco-value creation of environmental value

Eco-friendly creation of greater value throughout the processes associated with products and services, contributing to enhanced quality of life

## SM Operational System



# Risk management

At a time of increasing uncertainty within a rapidly changing business environment, there is a growing need for enhanced proactive identification of risk and prompt follow-up action. Against this backdrop, Samsung SDI endeavors to take comprehensive and systematic measures in response to potential risk factors not only in the financial aspects of business operations, but also in non-financial terms. In each division, sessions are led by the CEO to check risk response and improvement activities. Critical business risks are submitted to the Board as agenda items for speedy management decision-making.

## Operational risks

Samsung SDI strives to define factors influencing overall business operations, such as public policy, regulation, competition, and changing market trends, and works to identify and eliminate risks throughout the entire value chain process, ranging from investment to product development and production all the way to sales.

## Raw material supply and demand management risks

With the recent surge in demand for electric vehicle (EV) batteries, the prices of raw materials for secondary battery cathodes have been on the rise, making supply and demand of raw materials a critical pending issue. To ensure a stable supply of primary raw materials, Samsung SDI is reinforcing its efforts to establish strategic cooperative relationships with major supply chain management (SCM) companies, at the same time aiming during the product planning stage to reduce consumption of raw materials, in accordance with the challenges of supply and demand.

## Financial risk

In the area of financial risk, besides liquidity risk, Samsung SDI also considers other risks that can occur within the financial sector, including exchange rates, commodity prices, and credit.

## Tax risks

Samsung SDI places the highest priority on compliance with each country's tax laws, faithful tax declarations, and fulfillment of tax obligations. We assess various aspects of our tax risks, continuously monitoring and reflecting in our own tax policy not only domestic and foreign tax laws, but also policies of national and regional of tax authorities, particularly regulations for preventing tax avoidance and evasion. Furthermore, we prevent tax-related risks through rigorous checks on performance functions and risks borne for each specific global business site and trading company, as well as operating in accordance with transfer pricing policy on assets used.

## Foreign exchange risk

Being equipped with a global supply chain management system and conducting business with diverse customers around the world, Samsung SDI is exposed to foreign exchange risk. Amid rising uncertainties within the external business environment, we devise various ways to minimize and avoid foreign exchange risk arising from business activities.

## Non-financial risks

Besides operational risks and financial risks, Samsung SDI also prepares for non-financial risks in relation to such areas as human rights, safety accidents, environmental issues, compliance, and ethics.

## Supply chain risks

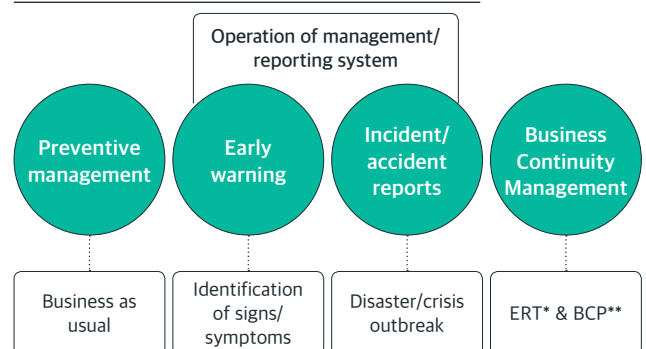
Samsung SDI operates production strongholds in various places at home and abroad, with partner companies located in regions including China and Southeast Asia. To fulfill and manage our social responsibilities within the supply chain, we have put in place the S-Partner Certification System, monitoring and improving risks of our partner companies in the areas of labor, ethics, environment, and safety & health.

## Workplace safety risks

Preventive management of safety and disaster risks in factories is considered an essential mandatory activity for the purpose of sustainable business. Since declaring 'Safety as the #1 Management Principle' at home and abroad in 2016, Samsung SDI has carried out Safety culture level up activity and safety culture evaluation for the adoption of proper safety culture while doing our utmost to conduct preventive activities by operating safety check teams at business work sites.

## Management/Reporting System

### Business Continuity Management (BCM) System



\*ERT: Emergency Response Team

\*\*BCP: Business Continuity Plan



# Compliance

## Compliance Organization

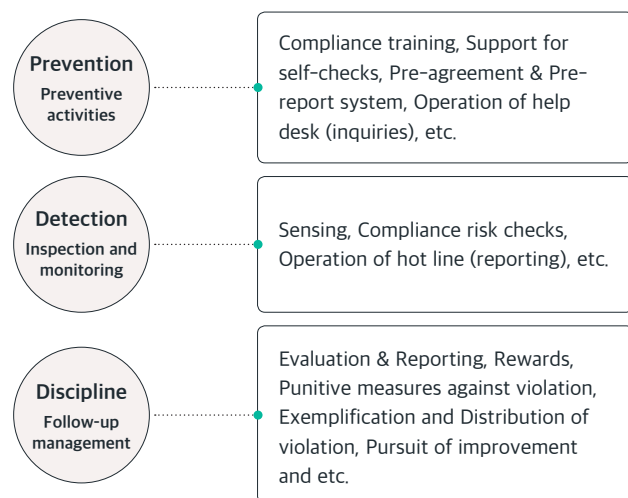
Samsung SDI has compliance support teams to handle compliance and ethical management. To facilitate effective implementation of compliance management, compliance leaders are appointed by a body made up of executives and compliance managers, and they serve as a communication channel between field departments and compliance support teams. Compliance managers support compliance programs and reflect organizational performance in evaluations on pertinent ethical management activities for the interest of stronger, more consistent ethical management.

In 2017, we established over 100 compliance practice bodies at home and abroad, appointed compliance managers in each organization, provided compliance newsletters intended to enhance the roles and competencies of pertinent personnel, shared information on legislation and amendments, and offered diverse training opportunities on related issues.

## Compliance operations and systems

For the purpose of compliance with various laws and regulations by all employees, Samsung SDI operates compliance programs that provide prior and ongoing education and it also performs control and supervision to prevent and minimize risks caused by legislative or regulatory violations. In accordance with this system, which ranges from preventive compliance activities, to compliance checks and monitoring, to follow-up management, all employees are entitled to optimum compliance support regarding legal issues that may arise in the course of business, regardless of when or where. The system also enhances the convenience of diverse compliance activities like self-checks, pre-agreements, and pre-reports.

### Process of compliance activities



## Compliance support for overseas corporations

Samsung SDI provides support to new overseas corporations in establishing compliance operation systems so that compliance management activities can be conducted at the same level as other overseas corporations.

Also compliance systems are operated in English and Chinese to facilitate overseas staff's compliance activities and convenient acquisition of pertinent information.

## Compliance training

Samsung SDI is reinforcing compliance training to raise employee awareness. In 2017, it adopted differentiated subject-specific operational methods with respect to training, scale, and issues, and improved training materials in an effort to respond promptly to the rapidly changing legal environment and increase the effectiveness of compliance education. In the meantime, by disseminating key compliance issues, including legislation and amendments, in the form of small-scale training sessions, trainees' understanding of the content was enhanced and enabled to spread within departments well. The use of visual media was expanded and employee feedback on training effectiveness was gathered and implemented.

## Compliance inspections

As social and legislative issues related to fair trade intensify, we enhance compliance inspections. Major compliance risks related to Samsung SDI were selected to conduct interviews and questionnaires of compliance managers in each organization for the purpose of inspection and management. Depending on the inspection issue, inspections were conducted via diversified channels including in writing, oral interviews, and system and site visits. The results were reflected in compliance training, updates to internal regulations and guidelines, and business process improvements.

## Major lawsuits

An investigation into violations of the Competition Act was conducted due to suspected price collusion on secondary batteries in the U.S. and the EU, but the case was concluded as of the end of 2016. An investigation into collusion on the prices of CRTs in the U.S., EU, Japan, and Korea had been underway since 2011, but penalties were imposed by the pertinent authorities before its conclusion in 2017. There are no other pending cases subject to the imposition of penalties and regulations with regard to violation of laws and regulations.

## CASE

## Provision of compliance training to partner companies



Partner companies training

Samsung SDI provides annual compliance training programs to partner company's employees who are major stakeholders, in order to enhance ethical management capabilities and foster a fair trade environment. In 2017, a two-day training program was offered to 27 partner companies, covering compliance management system, contracts, the Subcontracting Act, and intellectual property rights, including trade secrets and patents.

## Training on the Improper Solicitation and Graft Act



Improper Solicitation and Graft Act training

Results of site inspections related to the Improper Solicitation and Graft Act are shared, and special training for legal compliance is provided for pertinent employees.

To enhance employee understanding about standards of judgment, training on the specifics of the Improper Solicitation and Graft Act and case studies is provided to members of relevant departments who are in contact with public officials and who handle expense accounting. Changes in the legislative and regulatory environment are monitored continuously, with relevant information being quickly disseminated. When compliance issues occur, we are committed to continuing our efforts to prevent legal violations through quick internal dissemination of information, monitoring and checking, and complementary training.

# Stakeholder Participation & Materiality Assessment

## Stakeholder Participation & Communication

Samsung SDI defines stakeholders as customers, partners, shareholders/investors, employees, the government, external organizations, and local communities that directly or indirectly influence and are influenced by our management. We operate communication channels for different stakeholders and reflects their interests and expectations in the following year's plan according to business impacts. In the meantime, we transparently disclose our business plan through the Sustainability Report.

### Customer



- Customer visits
- QBR (Quarterly Business Review) meeting
- QTR (Quarterly Technical Review) meeting
- Website operation

### Suppliers



- Purchase portal system
- Organization of SSP (Samsung SDI Partner's Association)
- Operation of partner exchange meetings
- Visits to partners by CEOs and senior executives

### Employees



- Labor-Management Council
- Open Counseling Center
- Management Briefing Session
- Satisfaction Survey
- Operation of Culture Leader
- SDI Talk
- Publication of newsletters

### Industry associations, universities & research centers



- Activities conducted by members of associations and societies including Korea Battery Industry Association
- R&D (Open innovation)
- Implementation of joint cooperation programs

### Local communities & civic organizations



- Operation of Local Community Council
- Social contribution activities
- Sisterhood

### Government



- Participation in governmental projects
- Operation of joint cooperative programs
- Organization of conferences and meetings

### Shareholders and investors



- General Meeting
- IR earnings conference call
- IR road show
- IR conference attendance
- Public disclosure
- IR website
- IR contact
- Ad hoc meetings

## Materiality Assessment

In order to select the issues regarding achievements of sustainable management to be reported, Samsung SDI conducts materiality assessments. Issues deemed important were reported in Material Issues in 2017, while high material issues in the previous year and other issues were reported in Previous Issue in 2016 and in Sustainable Management Overview, respectively.

### Stakeholder Interest

This measures the degree of importance of each issue vis-a-vis economic, environmental, and social achievements and reputation of the organization.

#### International Standard

Reflection of guidelines for global sustainable management and indicators

- GRI Standards, DJSI, ISO 26000, SDGs

#### Media Analysis

Reflection of the issues exposed to the external media

- Period: Jan. 1, 2017 ~ Dec. 31, 2017
- Search media: Daily newspapers, economic newspapers, local newspapers, broadcasters, etc.
- Number of effective news articles: 1,042

#### Opinion survey on strategic impact

Survey of internal and external stakeholders on the perception of strategic impact of each issue

- Composition of strategic impacts
- The size of social, environmental, and financial risks that might occur in the event of a failure of appropriate management
- Assessment on compliance with the long-term direction of growth assumed by Samsung SDI

### Impacts on Samsung SDI

Confirmation on how each issue influences stakeholders' evaluation and investment decisions about Samsung SDI

#### Major Internal Pending Issues

Analyses of major pending issues regarding the economy, society, and environment that Samsung SDI finds internally important

- CEO Message
- 2016 Sustainability Report
- 2017 Management Strategy
- 2018 Management Strategy

#### Industrial Analyses

Analyses of high material issues focused on in the reports by excellent global sustainable management companies

- Analyses of high material issues focused on in sustainability reports by eight companies from the same industry and materiality assessment

#### Opinion Survey on Financial Impacts

Questionnaire survey of internal and external stakeholders on the perceptions of financial impacts of each issue

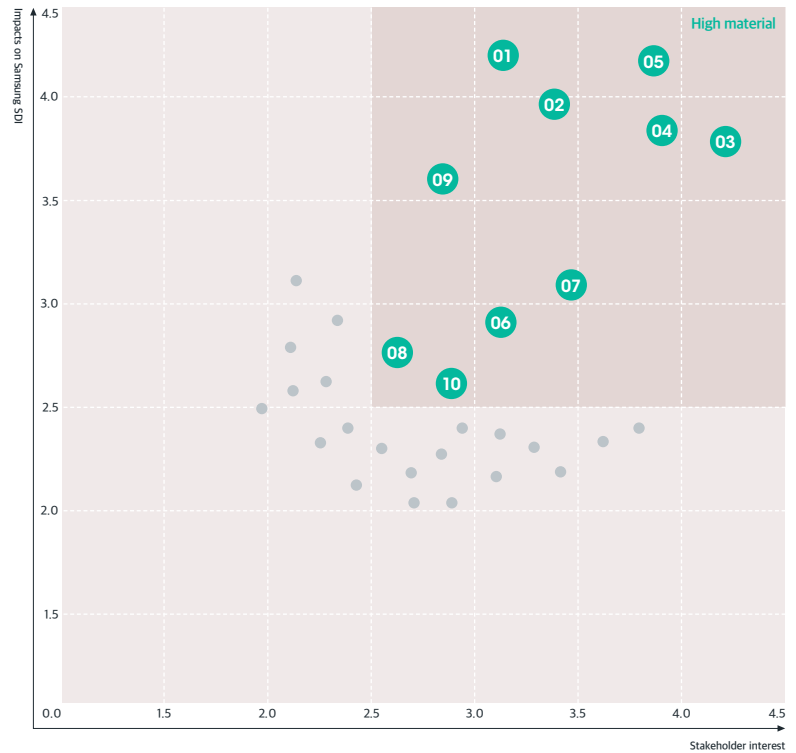
- Composition of financial impacts
- Assessment aiming to explore whether costs will occur or increase in the case of a failure of appropriate management of each issue
- Materiality assessment of the effects of each issue on corporate sales

### Results of Materiality Assessment

Based on the results of a materiality assessment of sustainable management issues of Samsung SDI, 10 High Material Issues were selected in consideration of social interest and business impacts for detailed description in the report. In Medium & Low Material Issues, information generally required by international guidelines and standards was additionally provided.

#### MEDIUM & LOW MATERIAL ISSUE

- Energy saving and use of renewable energy
- Implementation of work-life balance
- Compliance with environmental laws and regulations and responses to regulations
- Reduction in emission of contaminants and recycling
- Development and retention of global talent
- Management of customer relationship
- Establishment of a sound organizational culture
- Selection and evaluation of fair and transparent supply chain management
- Development of environmentally friendly products and services
- Compliance with laws and global anti-corruption principles
- Improvement of resource efficiency
- Enhancement of welfare benefits
- Reduction in the lifecycle environmental impact
- Management of air pollutants (greenhouse gas emissions, etc.)
- Response to conflict minerals
- Water resource management
- Proliferation of culture for shared growth and mutual growth
- Contribution to advancing the local community
- Proliferation of a fair transaction culture
- Establishment of sound corporate governance
- Facilitation of in-house communication



### Analyses of financial/non-financial correlation high material issues

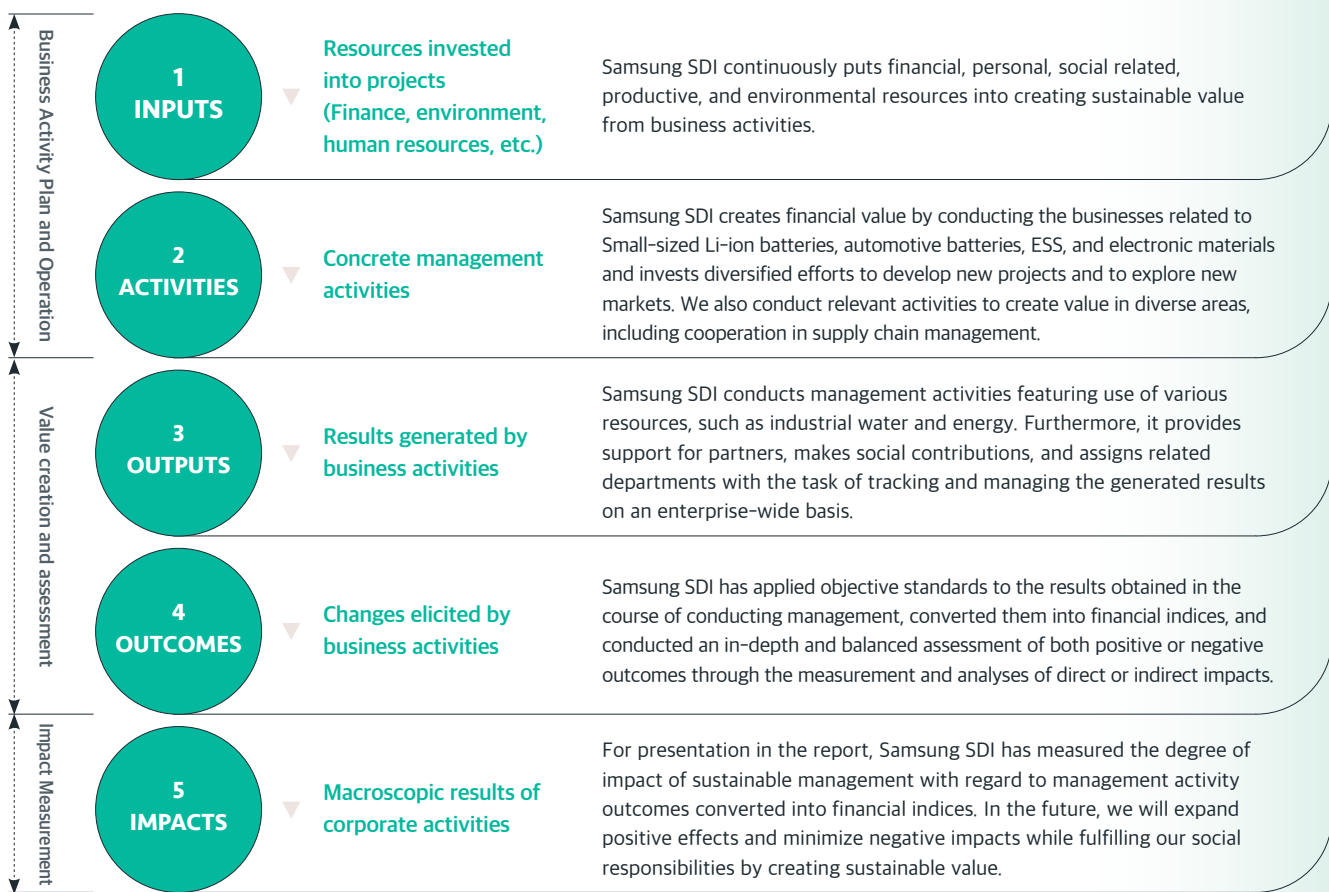
Rank	Issue name	Correlation with financial achievements	Correlation with non-financial achievements	Report page
01	Enhancement of R&D competence	Maximization of sales and profits through the improvement in quality and reduction in costs based on technological development	R&D competence plays an essential role in leading the market, and excellent technology eventually contributes to inducing consistent business activities by realizing an environmentally-friendly society	32-41
02	Acquisition of a future growth engine	Response to the future market trends and maintenance of competitiveness for the sake of creating a consistent economic value	Response to the changing markets and consistent stabilization activities for the enhancement of trust relationship with stakeholders	32-41
03	Achievement of stable management	Stable profit creation that lays the foundation for purchase and investment of further projects	Enhancement of trust relationships with stakeholders, including partners and investors, and the improvement of corporate reputation and brand value	32-41
04	Exploration of new markets	Exploration of new markets leads to increased sales based on expanded sales channels and the generation of impacts on corporate growth	Enhancement of competitiveness for corporate existence through the expansion of business areas and the improvement of corporate reputation	32-41
05	Enhancement of quality and stability	The demand for safe high-quality products leads to the pursuit of increased sales and a reduction in the costs associated with responding to customer claims	Provision of products and realization of credibility to improve satisfaction and to ensure business continuity	44-47
06	Enhancement of handling and management of hazardous substance	Prevention of financial losses, including handling expenses caused by leaks of hazardous chemicals	Environmental issues caused by leaks of hazardous chemicals and threats posed to employees and local residents	48-51
07	Safety and healthcare in the workplace	Handling management costs caused by accidents in establishments and contagious diseases	Improvement of in-house satisfaction and productivity through adequate management of employee health and healthcare	48-51
08	Employee competence development	Possible increase in sales through the acquisition and development of excellent human resources	Enhancement of motivation for self-development through support of the efforts to improve employees' competence and stronger competitiveness in the global market	52-55
09	Issue responses to supply and demand for raw materials	Reduction in the costs associated with purchasing raw materials through the use of recycled materials	Creation of environmental value through resource conservation and response to global environmental regulations	56-59
10	Support for sustainability of supply chain management	Expansion of product sales based on an improved quality of parts through education on and support provided to the supply chain management	Development of the national economy based on corporate reputation, domestically and internationally, and enhancing competitiveness and shared growth	60-67

# SDI Impact Valuation Management

## Measurement of Impacts on Sustainable Management of SDI

In order to thoroughly assess the actual value and impacts of management activities, Samsung SDI measures not only the economic value generated by management activities, but also the positive and negative external effects of social and environmental factors. For this assessment, and before publicizing the results of the report, we have examined and converted the actual impact value based on relevant domestic and international laws and regulations, as well as obtained objective research findings.

### Impact Measurement Framework



<b>1 INPUT</b>	This means that financial and non-financial assets are invested into business and are defined by six aspects (financial, productive, intellectual, personal, social related, and natural) suggested in IIRC as basic factors.	<b>4 OUTCOMES</b>	The results clarify important positive and negative factors that influence Samsung SDI and society with regard to social and environmental aspects caused by the development and sale of products (service).
<b>2 ACTIVITY</b>	This includes direct and indirect management activities based on the six aforementioned aspects and confirms positive and negative results arising from the development and sale of products (services), cooperation within the supply chain management, establishment of industrial infrastructure, etc., all of which influence Samsung SDI and society on the whole.	<b>5 IMPACTS</b>	Based on quantitative analysis of the data, the results suggest that the actual value reflects the weighted value (which considers social issues and importance).
<b>3 OUTPUTS</b>	The results clarify important positive and negative factors that influence Samsung SDI and society with regard to social and environmental aspects caused by the development and sale of products (service).		

### Integrated Value Creation

Samsung SDI collects and analyzes quantitative data on annual achievements regarding the fulfillment of developmental targets for long-term sustainable management. Before making detailed suggestions, we consider both positive and negative results generated from management activities based on the resources put into business projects by citing the figures from global standards and legal standards before detailed suggestion of related sources. The report provides a comprehensive assessment of both positive and negative impacts of value generation and consumption and reports them as graphs. In the future, specific effort will be made to formulate mid-to-long-term improvement tasks and to objectively report the figures regarding specific areas that have yet to be converted due to current limited social consensus and technological restrictions.

Value creation by resource factor		Introduction of indices and methods of calculation
<b>Financial aspects</b>	<b>Net income</b>	<b>657,236</b>
<b>Environmental aspects</b>	Greenhouse gas (GHGs) emission income	18,387
	Air contaminant emission impact	232
	Resource utilization and waste emission impact	2,724
	Water utilization and emission impact	769
<b>Social aspects</b>	Employee welfare impact	342,201
	Shareholder and investor impact	68,765
	Partner impact	2,046
	Local community impact	1,334
<b>Comprehensive value creation</b>	<b>Achievement of social value creation</b>	<b>1,049,470</b>

(Period: January 2017 ~ December 31, 2017, Unit: 1 million KRW)

# SDGs Compass

## Sustainable Development Goals



Sustainable Development Goals (SDGs) suggested in 'The 2030 Agenda for Sustainable Development' by the U.N. that came into effect in early 2016 aim to advance sustainability and equality in the world. 17 universal goals focus on

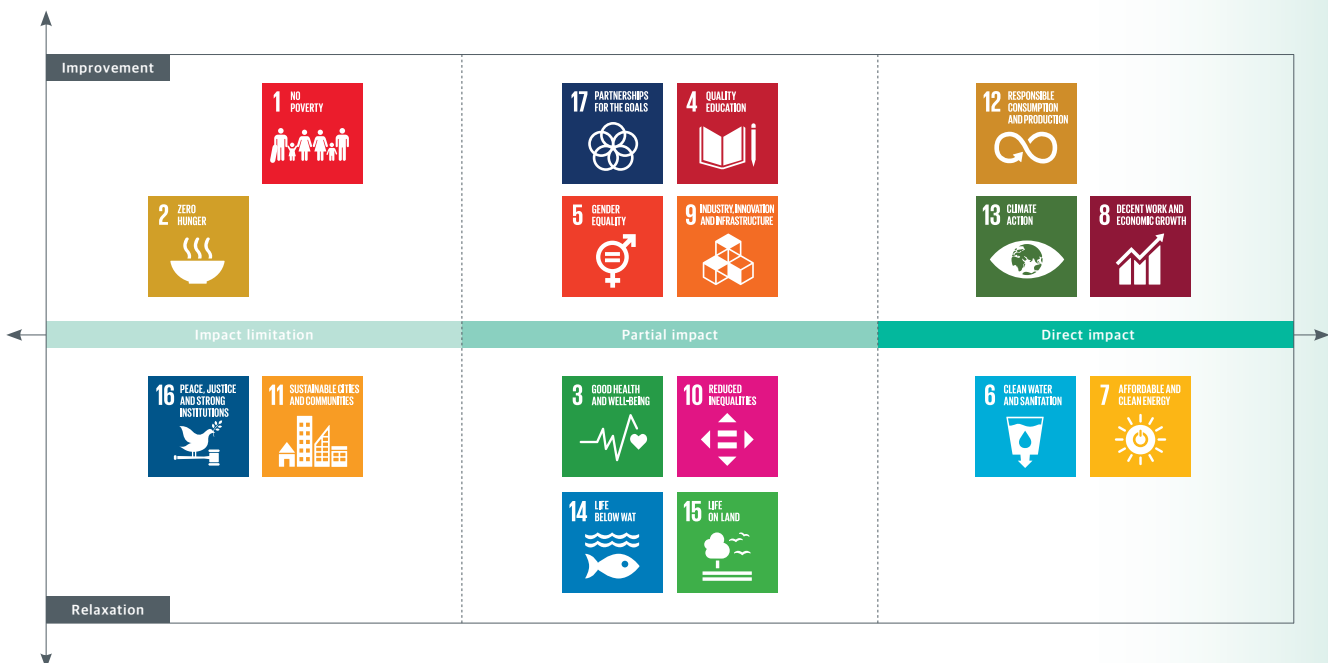
eradication of poverty, protection of the Earth, and promotion of peace and prosperity of all people. The government, corporations, citizens, researchers, and various stakeholders in the private sector will make continuous efforts to completely fulfill the aforementioned goals. As a global company taking the initiative in realizing social value, Samsung SDI is proactively taking part in attaining sustainable development goals for society so as to develop innovative energy solutions that can save the Earth's environment and enhance environmental friendliness of electronic materials.

## Analyses on Correlations between Samsung SDI and 17 SDGs

Samsung SDI reviews linkages with SDGs with regard to the fulfillment of enterprise-wide sustainable management strategies, while reflecting the outcome in mid-to-long-term tasks. In particular, we analyze diverse social impacts caused by business activities and make more proactive investments and more detailed mid-to-long-term plans focusing on the areas expected to produce direct and positive effects generated by corporate activities of social value.

### Definition by Task

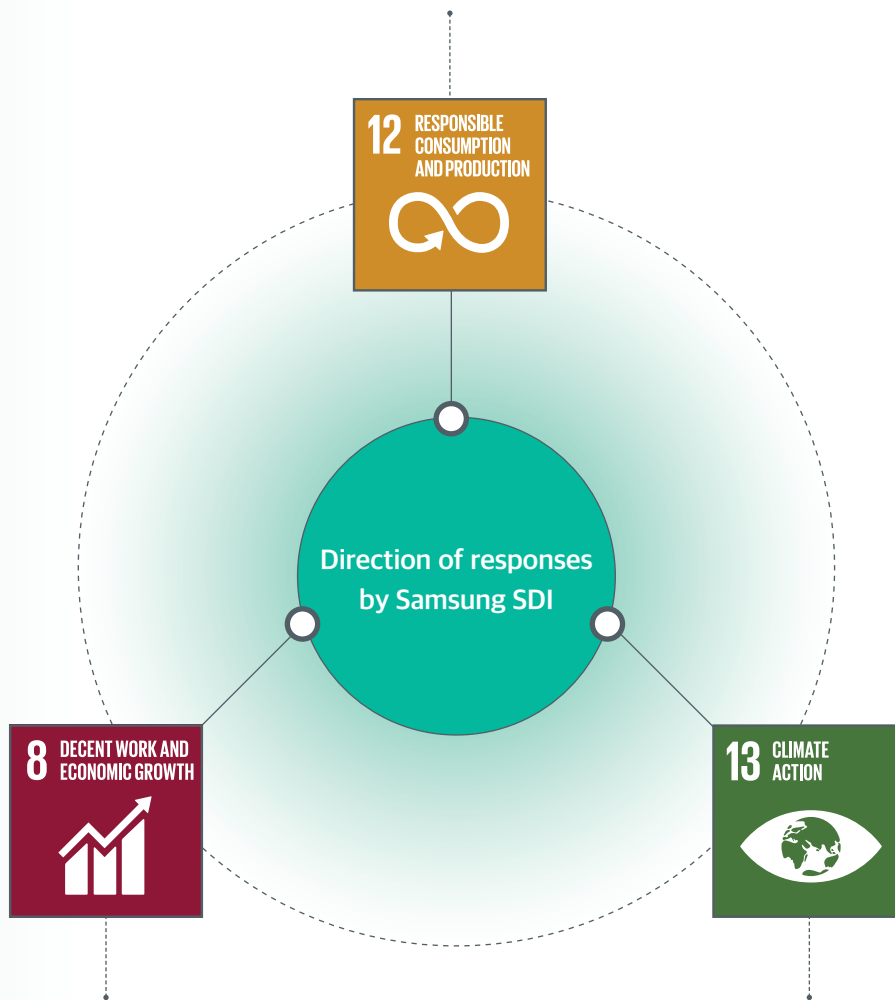
- Goal 1: No Poverty
- Goal 2: Zero Hunger
- Goal 3: Good Health and Well-Being for People
- Goal 4: Quality Education
- Goal 5: Gender Equality
- Goal 6: Clean Water and Sanitation
- Goal 7: Affordable and Clean Energy
- Goal 8: Decent Work and Economic Growth
- Goal 9: Industry, Innovation, and Infrastructure
- Goal 10: Reducing Inequalities
- Goal 11: Sustainable Cities and Communities
- Goal 12: Responsible Consumption and Production
- Goal 13: Climate Action
- Goal 14: Life Below Water
- Goal 15: Life on Land
- Goal 16: Peace, Justice, and Strong Institutions
- Goal 17: Partnerships for the Goals



### Samsung SDI's Activities to Improve Social Impacts

Samsung SDI is reviewing diverse plans to reduce waste occurring in the entire process of design, manufacture, and supply of products, as well as to increase the reuse rate.

In close cooperation with related associations, institutions, and enterprises, we are expanding its research on the effective use of raw materials using effective processes, ensuring that generated waste can be used as raw materials in related industries.



Through global business operations and supporting strategies at the supply chain management level, we have a number of job positions to be filled. In particular, it will guarantee employment equity and will make continuous efforts to increase consumption in the respective local communities.

In an effort to respond to the global campaign for reduced greenhouse gas emissions, Samsung SDI participates in the Carbon Emissions Trading Scheme. Setting a global carbon emission target by global workplace, and using consistent monitoring and verifications, we invest ceaseless efforts to decrease emissions.