

# BUSINESS HIGHLIGHTS

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## Launching Integrated Samsung SDI

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

**SAMSUNG SDI**

**SAMSUNG**

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## Expanding Electric Vehicle Battery Market and Gaining Recognition in Technology

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



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

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



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

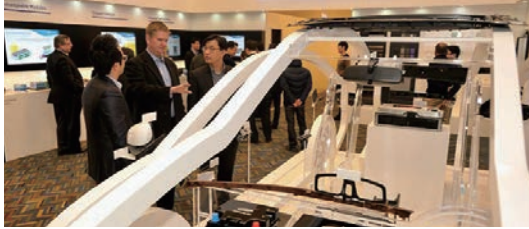
In May 2015, Samsung SDI acquired a global automotive supplier, Magna International's battery pack business for electric vehicles (EV). The acquisition will help Samsung SDI to establish a foothold and become a leader in the EV battery market with MSBS\*'s advanced technology in battery pack on top of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

\*Magna Steyr Battery Systems GmbH & Co OG



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

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



### Tapping into the World Market, Chemicals

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



### New Leap Forward, Electronic Materials

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



### Winning 'iF Design Award' in Germany

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



### Tapping New Global Power ESS Markets

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



# CEO MESSAGE

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



Dear Stakeholders of Samsung SDI all Across the World :

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

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

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

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

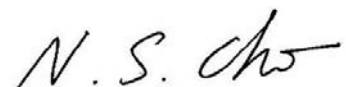
Our programs to grow with our suppliers and local communities have been further developed. With technological developments and educational activities in addition to financial support, Samsung SDI strives to establish a foundation for shared growth with its first-tier suppliers as well as its second and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

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

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

We would like to ask for your continued interest and support for Samsung SDI as we will make every effort to fulfill your expectation. Thank you.

President and CEO  
Namseong Cho



# Samsung SDI

is a world class material and energy solution provider.

## Main Business

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



Small-Sized Li-ion Batteries

14~15p



Automotive and ESS Batteries

16~19p



Electronic Materials

20~21p



Chemicals

22~23p

Sales (KRW trillion)



5.5

Assets (KRW trillion)



16.0

Employees (Headcount)



20,222

Korea: 11,175 / Overseas: 9,047

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

## Global Network

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



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

- |  |   |                                |  |
|--|---|--------------------------------|--|
| <b>01 SOUTH KOREA</b><br>GIHEUNG<br>(HEADQUARTERS)<br>SEOUL<br>UIWANG<br>SUWON(R&D)<br>CHEONAN<br>CHEONGJU<br>GUMI<br>ULSAN<br>YEOSU | <b>02 CHINA</b><br>TIANJIN(2)<br>DONGGUAN<br>SUZHOU<br>XI'AN<br>SHANGHAI(2)<br>BEIJING<br>SHENZHEN<br>TIANJIN<br>SUZHOU<br>WEIHAI | <b>03 TAIWAN</b><br>TAIPEI     | <b>07 JAPAN</b><br>TOKYO<br>NAGOYA                             |
| <b>09 GERMANY</b><br>FRANKFURT<br>MUNICH<br>DRESDEN<br>BRAUNSCHWEIG  | <b>12 HUNGARY</b><br>TATABANYA  | <b>04 VIETNAM</b><br>HANOI     | <b>08 INDIA</b><br>CHENNAI<br>DELHI                            |
| <b>10 ITALY</b><br>ROME<br>MILANO  | <b>13 SLOVAKIA</b><br>BRATISLAVA  | <b>05 THAILAND</b><br>BANGKOK  | <b>16 AUSTRIA</b><br>ZETTLING                                  |
| <b>11 FINLAND</b><br>HELSINKI  | <b>14 TURKEY</b><br>ISTANBUL  | <b>06 MALAYSIA</b><br>SEREMBAN | <b>17 USA</b><br>LOS ANGELES<br>SAN JOSE<br>CHICAGO<br>DETROIT |
| <b>15</b>  | <b>16</b>   | <b>18 MEXICO</b><br>TIJUANA    |  |



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

# OUR — BUSINESS



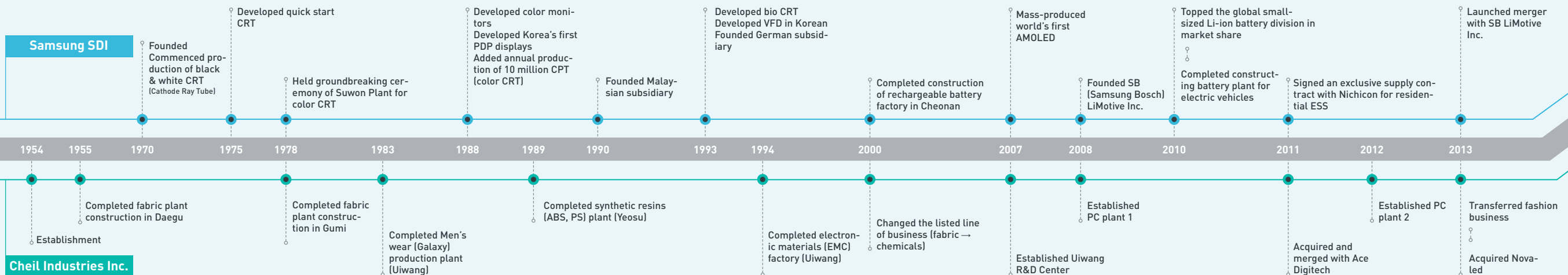
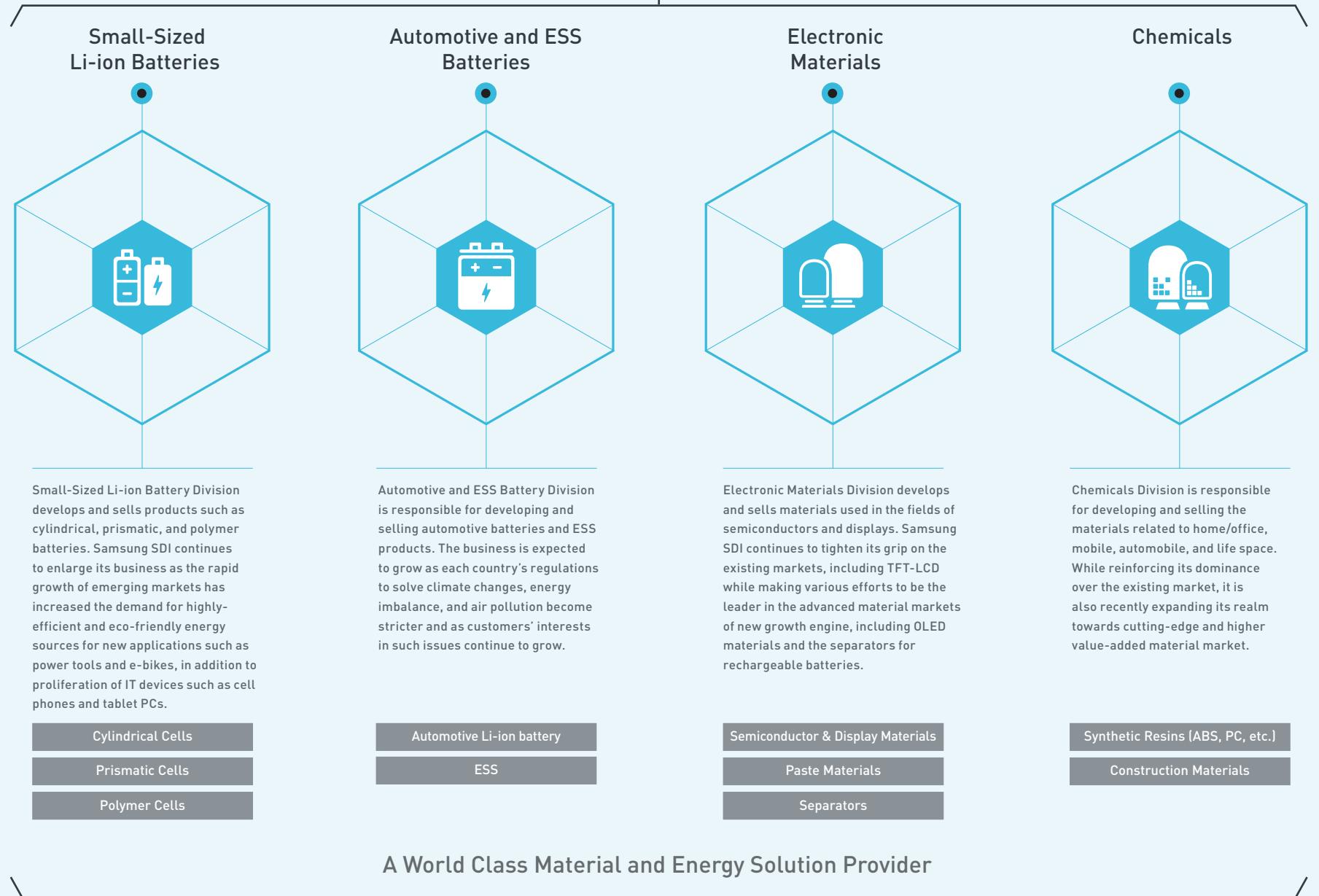


# Samsung SDI

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

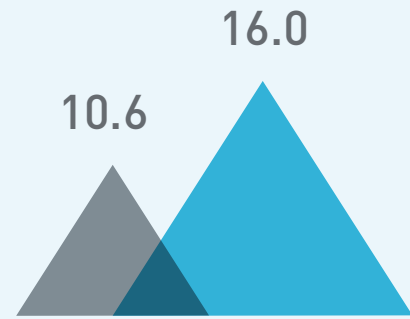
## Business Introduction

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

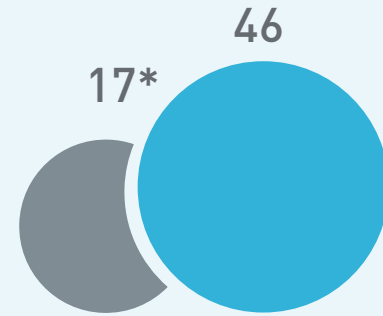


## Generating Integrated Synergy

**Assets** (unit: KRW trillion)

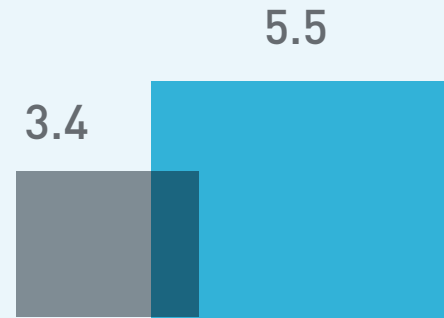


**Global Network** (unit: places)



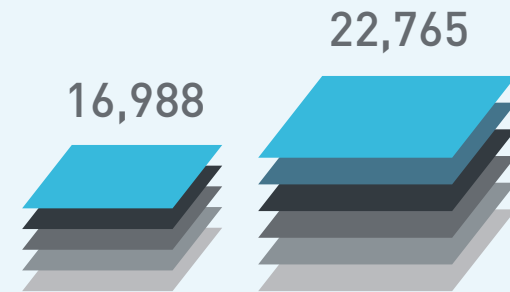
\*excluding overseas sales branches and offices in energy field in 2013

**Sales** (unit: KRW trillion)



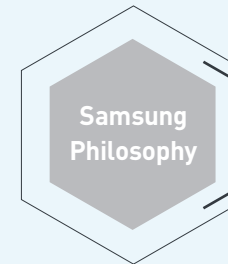
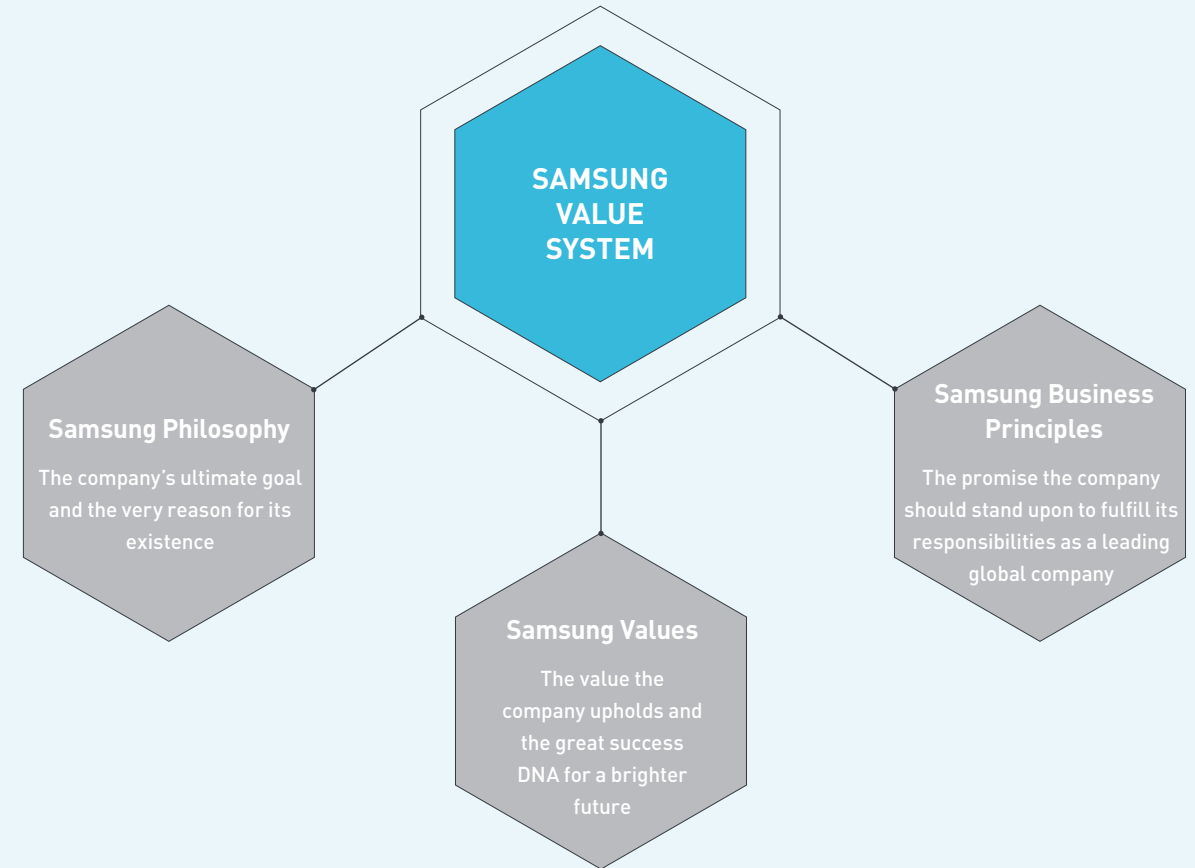
\*Sales of 2013 is limited to energy solution business due to the termination of PDP business

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

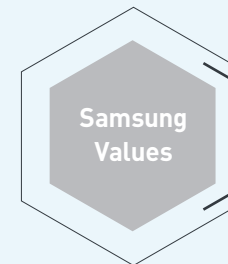


\*based on registered and applied patents

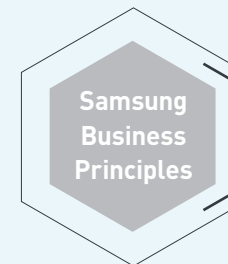
## Samsung Value System



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



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



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

### Launched integrated Samsung SDI

2014





## Small-Sized Li-ion Batteries

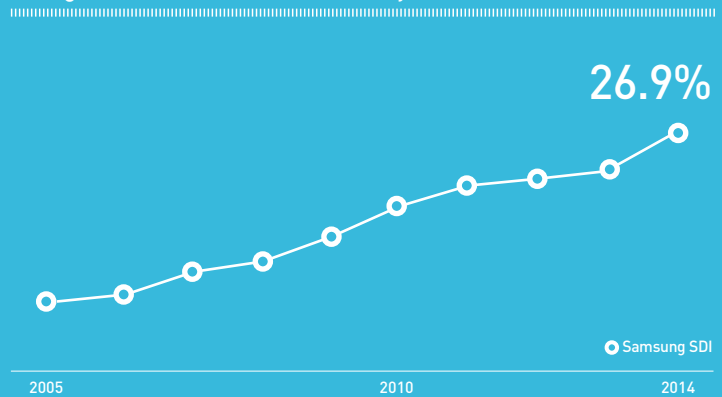
### Small-Sized Li-ion Battery

#### Continue to grow through strong market dominance

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

\*B3: Japanese rechargeable battery market research firm

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



### Major Business Achievements in 2014

#### Achieving leadership in emerging markets including China

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

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

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

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

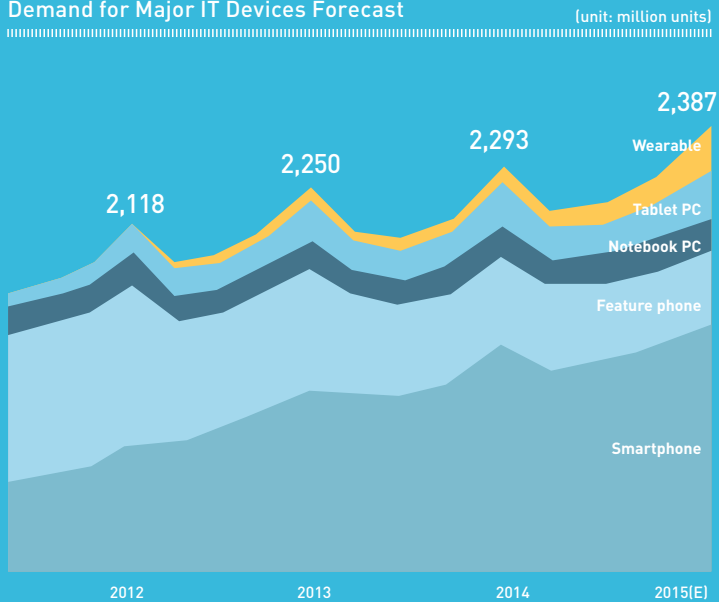
## Market Outlook and Sustainable Growth Strategies

### Market Outlook

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

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

### Demand for Major IT Devices Forecast



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

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

\*\*Wearable: Healthcare wearables, Active cameras, Fitnessband, Smartwatch

### 2015 Business Plans

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

## BUSINESS CASE. 1

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

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

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



Flexible battery developed by Samsung SDI

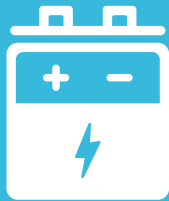
## BUSINESS CASE. 2

### Lithium Battery Pack for Golf Carts

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



Lithium-ion battery pack for various usages



## Automotive and ESS Batteries

### Automotive Batteries

### Automotive Battery

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

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



Automotive battery cells produced by Samsung SDI

### Major Business Achievements in 2014

#### Increasing automotive Batteries Orders

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

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

#### Securing future technologies

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

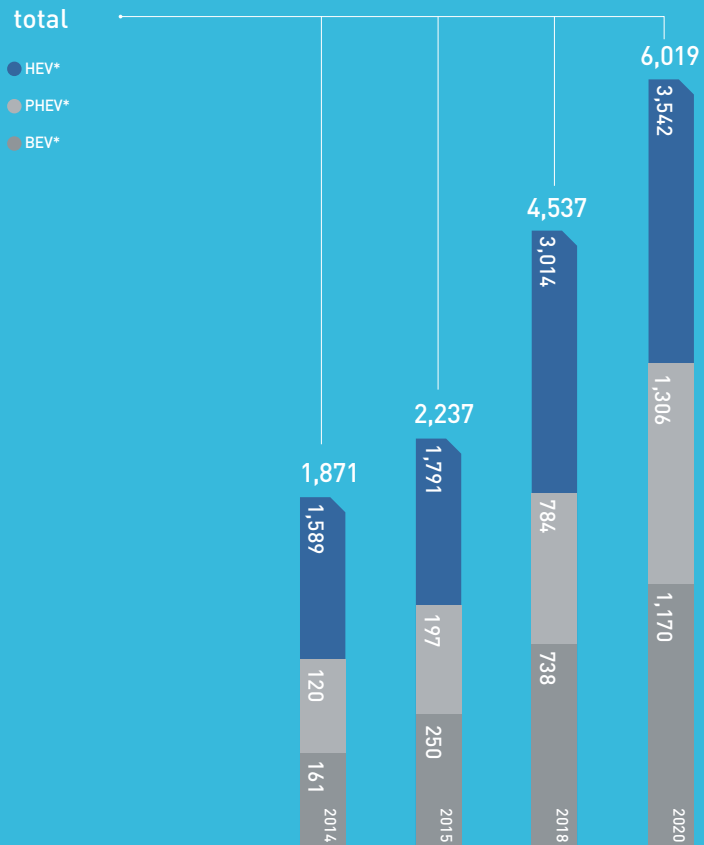
## Market Outlook and Sustainable Growth Strategies

### Market Outlook

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

### Automotive Battery Market Outlook

(unit: 1,000 vehicles)



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

\* source: B3

### 2015 Business Plans

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

## BUSINESS CASE. 1

### Signed an MOU with BMW on EV batteries

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



BMW i3 equipped with Samsung SDI's battery

## BUSINESS CASE. 2

### Acquiring Magna International's Battery Pack Business

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



MSBS(Magna Steyr Battery Systems)



## Automotive and ESS Batteries

Energy Storage  
System

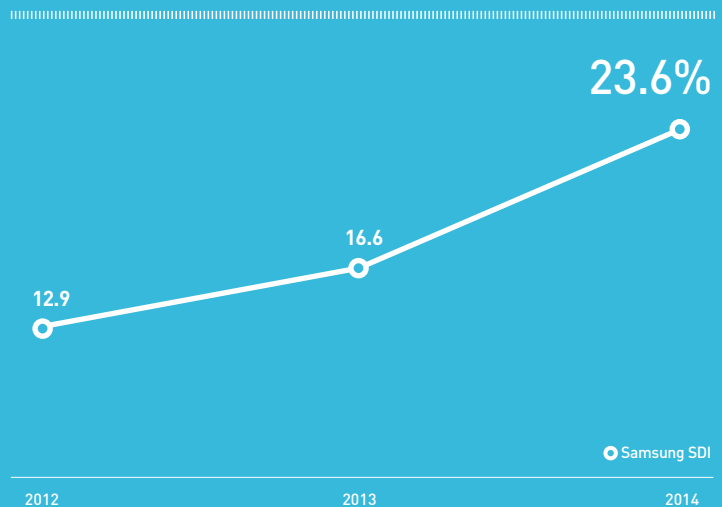
### Energy Storage System

#### Securing future growth engine, eco-friendly & clean energy

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

\*ESS: Energy Storage System

#### Lithium-ion ESS Market Share



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

### Major Business Achievements in 2014

#### Expanding ESS Market

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

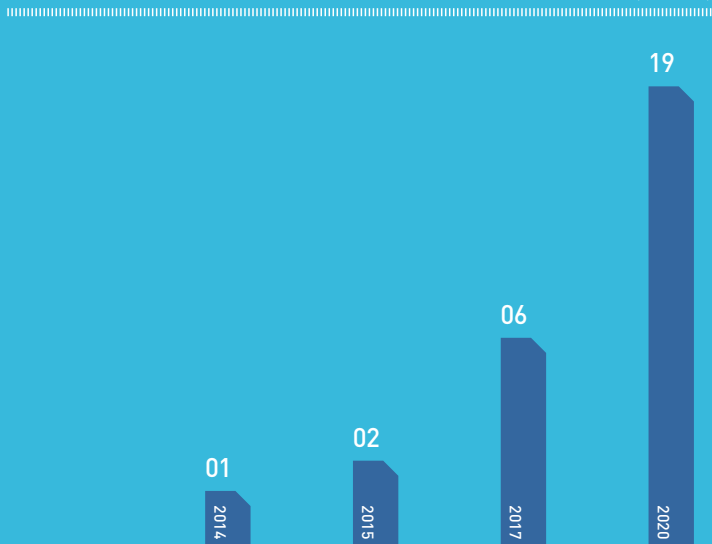
\* Micro grid ESS: A combination of new renewable energy and ESS which is used in places that are difficult to use existing electrical grid such as island and mining regions and it is now expanded to be used in schools and public institutions

## Market Outlook and Sustainable Growth Strategies

### Market Outlook

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

### Lithium-ion ESS Market Outlook



\*source: B3

### 2015 Business Plans

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

\*UPS(Un-interrupted Power System)

\*UES: UPS+ESS SYSTEM



UES installed at Uiwang Site

## BUSINESS CASE. 1

### Targeting Microgrid ESS Market through alliance with ABB

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

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



Signing MOU with ABB for micro grid business cooperation

## BUSINESS CASE. 2

### Establishing joint ESS venture with Sungrow in China

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



Establishing joint ESS venture with Sungrow in China



## Electronic Materials

### Electronic Material

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

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

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

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

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

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

### Major Business Achievements in 2014

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

## Market Outlook and Sustainable Growth Strategies

### Market Outlook

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

### Demand Outlook for 5 Major Items

(unit: KRW 100 million)

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

\*source: Samsung SDI Electronic Materials

### 2015 Business Plans

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

## BUSINESS CASE. 1

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

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

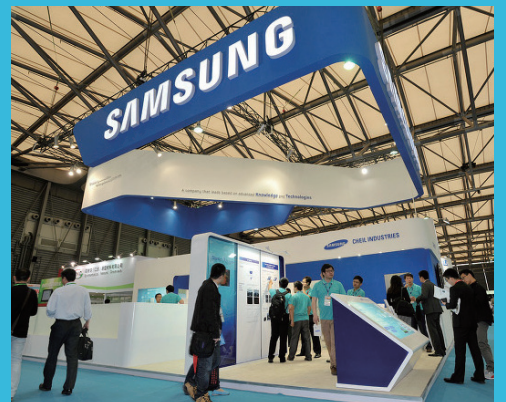


Phosphorescent Green Host(PGH)

## BUSINESS CASE. 2

### Targeting the solar power material market in China

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



Samsung SDI's booth at SNEC Power Expo



## Chemicals

### Chemical

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

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

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

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

### Major Business Achievements in 2014

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

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

#### Developing differentiated products

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



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

## Market Outlook and Sustainable Growth Strategies

### Market Outlook

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

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



\* Source: Samsung SDI Chemicals

### 2015 Business Plans

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

## BUSINESS CASE. 1

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

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

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



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

## BUSINESS CASE. 2

### Completing Dongguan Plant in China

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



Dogguan Plant in China