

INSPIRE

THE WORLD

SAMSUNG ELECTRONICS SUSTAINABILITY REPORT 2017

CREATE

THE FUTURE

# ABOUT THIS REPORT

At Samsung Electronics, we publish annual sustainability reports with an aim to transparently communicate our diverse achievements in creating economic, social and environmental values to a wide array of stakeholders. 2017 actually marks our 10th annual report.

## Reporting Period

This report illustrates our economic, social and environmental activities and achievements between January 1<sup>st</sup> and December 31<sup>st</sup> of 2016. For a portion of the qualitative achievements, data until May 2017 are included. As for quantitative achievements, this report provides numerical data over the past three years to allow for trend analysis overtime.

## Reporting Scope

This report spans all our worksites and supply chains in domestic and global sites. Financial performance data are based on the consolidated K-IFRS basis. Quantitative environmental performance of worksites is based on the data collected from 38 production subsidiaries in domestic and global sites.

## Reporting Standards

This report was prepared in accordance with the Core Option of the GRI (Global Reporting Initiative) G4 Guidelines.

## For Further Details on This Report

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### Samsung Electronics Website

<http://www.samsung.com>

### Sustainability Website

<http://www.samsung.com/us/aboutsamsung/sustainability/sustainablemanagement/>

### IR Website

<http://www.samsung.com/global/ir/>

### Samsung Electronics Newsroom

<http://news.samsung.com/kr>

<http://news.samsung.com/global>

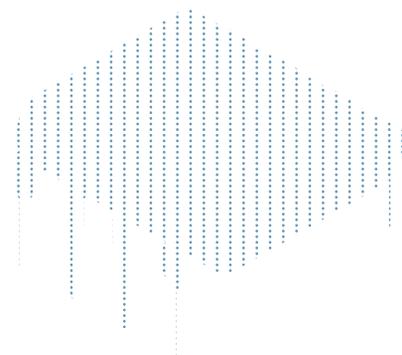
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# CEO MESSAGE

Dear Stakeholders,

We are living through challenging times.

Global economic recovery has been slow and uneven. Geo-political risk, previously confined to the developing world, has also increased uncertainty in the developed world. In parallel, we are seeing a paradigm shift in both economic and social terms as we experience a fourth industrial revolution, sweeping away old assumptions and subjecting us all - both as individuals and businesses - to a new intensity of competition. Given the current rhythm of change, sustainability has never been more vital to us all. As we set out in this report, sound sustainability policy and execution are therefore top priorities for Samsung.

**First**, as a major actor on the business scene worldwide, Samsung is particularly aware of its responsibility for showing strong leadership in the era of the fourth industrial revolution. We are acutely conscious of the need for ever-greater focus on adding value and ensuring synergies across all our activities, thus enabling us to build the foundations for future growth and tomorrow's competitive edge. Indeed we will relentlessly push forward our R&D and open innovation efforts - be this in artificial intelligence, big data, 5G, high-performance semiconductors or any other area - because only through continued innovation and excellence can we be of service to society at large.

**Second**, we fully endorse the UN Sustainable Development Goals (UN SDGs) that aim to achieve a balanced development of economy, society and environment through business' engagement and value creation. Specifically, we are establishing in-house policies to promote the circular economy and hone our supply-chain management. Both of these initiatives will favorably influence our operations going forward and hence boost our contribution to key public policy priorities. We are also stepping up our corporate citizenship programs. In April 2017, we established the Governance Committee on

which a number of high-level non-executive directors sit, in order to bring outside expertise and counsel to bear on our operations and marry shareholder and stakeholder value.

**Third**, we aim to improve communications with all stakeholders.

Operational success is only possible if we can embed into the business a regular and reliable dialogue with our stakeholders – customers, investors, NGOs, local communities, governments and international institutions. Our Newsroom channel will continue to keep people abreast of our corporate views and positions but we will, at the same time, strive to constantly provide feedback into our business operations regarding what our stakeholders are telling us.

We are a learning company and are committed to improving our all-round performance year upon year. The last year was certainly a testing one but we have banked invaluable experience from it. Not only will we improve our risk management system but we will also – with your contribution as stakeholders – aim for world-beating consistency in the quality of our products and processes. This Sustainability Report is intended to illustrate our journey so far. The report in 2017 is structured around the key themes which most interest our stakeholders and which also allow Samsung's commitment to sustainability and its core values to shine through.

We stand solidly by our promise: "Inspire the World, Create the Future".

Thank you.

Vice Chairman & CEO Samsung Electronics Co., Ltd.  
**Oh-Hyun Kwon**



# COMPANY OVERVIEW

## Management Philosophy

At Samsung Electronics, we devote our human resources and technology to create superior products and services, thereby contributing to a better global society. This commitment is guided by our set of values that consist of 'Management Philosophy, Core Values, and Business Principles'. To this end, we translated our five management principles into detailed action plan guidelines to establish the Samsung Global Code of Conduct that all of our employees are guided by. To drive our sustainable growth and define our way forward, we are guided by the following core values, which are instrumental to the way our employees conduct business.

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**Philosophy** We devote our human resources and technology to create superior products and services, thereby contributing to a greater global society.

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- Business Principles**
1. We comply with laws and ethical standards.
  2. We maintain a clean organizational culture with high integrity.
  3. We respect customers, shareholders and employees.
  4. We care for the environment, health and safety of all.
  5. We are a socially responsible corporate citizens.
- 

## Core Values

|  |  |  |
|--|--|--|
| <p><b>People</b></p>  <p>Quite simply, a company is its people. At Samsung, we are dedicated to giving our people a wealth of opportunities to reach their full potential.</p>  | <p><b>Excellence</b></p>  <p>The entirety of our endeavors at Samsung is driven by an unyielding passion for excellence and an unflinching commitment to develop the best possible products and services in the market.</p> | <p><b>Change</b></p>  <p>Change is constant and innovation is critical to the company's survival.</p> |
| <p><b>Integrity</b></p>  <p>Operating in an ethical manner is the foundation of our business. The sum of our every action is guided by a moral compass that ensures fairness, respect for all stakeholders and complete transparency.</p> | <p><b>Co-prosperity</b></p>  <p>Our business cannot be successful unless it creates prosperity and opportunity for people in every local and global community in which we operate.</p>                                      |  |





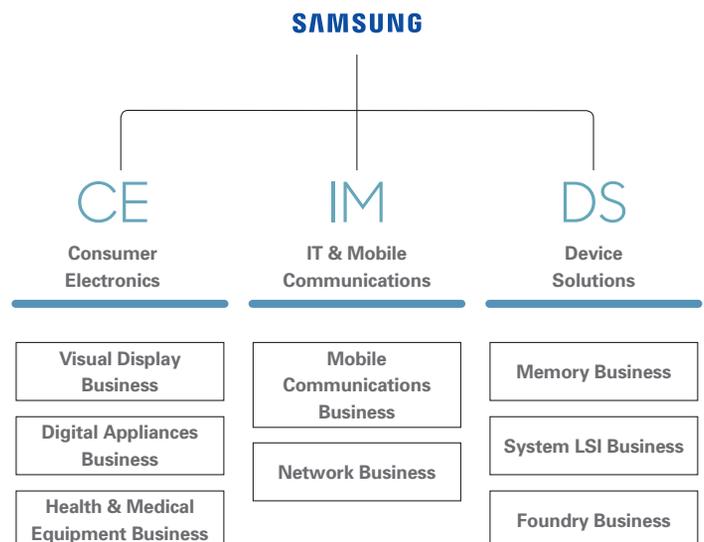
## Company Profile

Established as a leader of home appliances back in 1969, Samsung Electronics is now endeavoring in the Infotainment business – information, telecommunication, and audio & video – as well as in lifecare business, including health care, environment & energy, and convenient services, to shape tomorrow’s society into one complete picture, not limited to the excitement of modernity and the expectation of renowned quality for all. To enable all our worldwide customers to access a more convenient and ‘smarter’ life, our three business divisions – Consumer Electronics (CE), IT & Mobile Communications (IM), and Device Solutions (DS) - serve as the main pillars for generating synergy and delivering products and services with unrivaled quality. As a recognized leader in the global IT industry with about 200 subsidiaries around the world, we set ourselves apart from the competition in manufacturing, R&D, marketing, and services with the help of our local subsidiaries in respective regions while tirelessly pursuing disruptive innovation and creating values.

### Organizational Structure

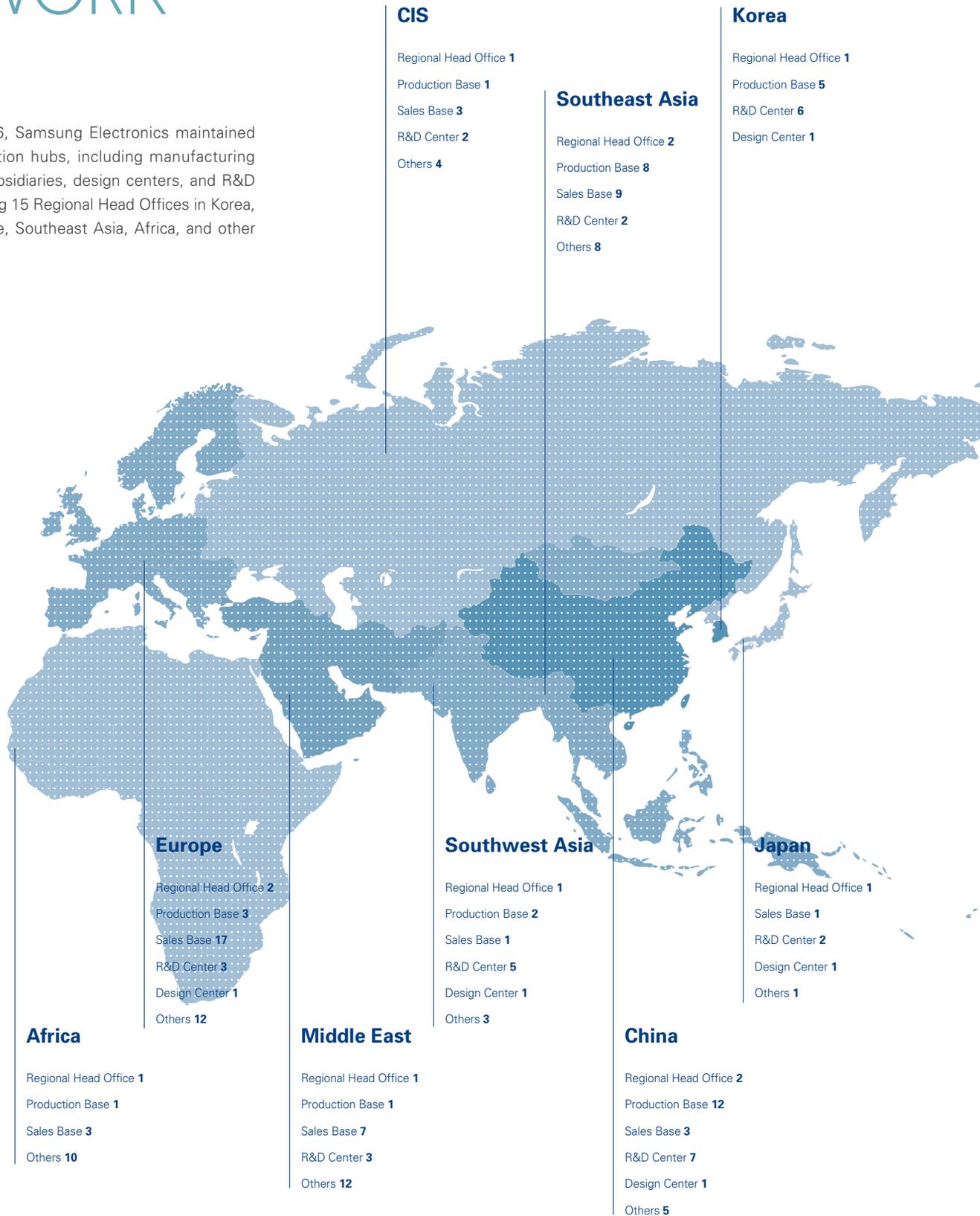
At Samsung Electronics, the three divisions of CE, IM, and DS conduct business independently in accordance with product characteristics to boost their respective competitive edge. The CE division manufactures and sells TVs, monitors, refrigerators, washing machines, medical devices, and other electronics. The IM division manufactures and sells smartphones, computers, network systems, and other telecommunication devices, and the DS division manufactures and sells DRAM, NAND flash, mobile SoCs (System-on-Chips), and other components for use in IT and mobile devices.

### Organizational Chart



# GLOBAL NETWORK

As of the end of 2016, Samsung Electronics maintained 220 worldwide operation hubs, including manufacturing sub-sidiaries, sales subsidiaries, design centers, and R&D centers, while operating 15 Regional Head Offices in Korea, North America, Europe, Southeast Asia, Africa, and other regions of the world.



\* Regional classification is based on Samsung's internal management criteria  
 \* Others : Sales Branches, Service Centers, Distribution Bases, etc.

### North America

- Regional Head Office **2**
- Production Base **2**
- Sales Base **2**
- R&D Center **3**
- Design Center **1**
- Others **7**

### Central/ Latin America

- Regional Head Office **1**
- Production Base **3**
- Sales Base **7**
- R&D Center **1**
- Design Center **1**
- Others **11**

# TOTAL

|                      |    |
|----------------------|----|
| Regional Head Office | 15 |
| Production Base      | 38 |
| Sales Base           | 53 |
| R&D Center           | 34 |
| Design Center        | 7  |
| Others               | 73 |

Employees

308,745

Countries

79

Suppliers

2,468

R&D Investment

14.8 KRW trillion

# BUSINESS DIVISIONS

**CE** Consumer Electronics Division



QLED TV 65Q8C

## Visual Display Business

In 2016, our Visual Display Business released quantum dot TV and was globally recognized for its best-in-class picture quality, and our Serif TV ushered in a new design paradigm in the TV industry and elevated our position as an industry leader.

The year 2017 is forecast to experience rapid growth in UHD TVs and curved TVs thanks to an increasing consumer awareness of high resolution and high picture quality. With an aim to pro-

vide the best-possible viewing experience to our consumers, we will launch the world's first and only QLED TV that delivers the perfect 100% color resolution, a newly emerging standard of picture quality measurement that can strengthen our leadership position in the premium TV market. Moreover, 'The Frame' which transforms any living room into an aesthetically-pleasing gallery, along with other diverse accessories equipped for each product line-up will enable us to cater diverse consumer preferences. Furthermore, more developed version of our Smart Hub will allow customers to enjoy a wide spectrum of content on a single screen and feel the out-

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CES 2017 BEST OF INNOVATION AWARDS

## THE FRAME

standing user experience by controlling their set-top box, game consoles, and all other peripheral devices on a single remote control.

## Digital Appliances Business

Samsung Electronics is relentless in our efforts to deliver innovative products and experiences that maximize user convenience and make the lives of consumers better.

In 2016, we saw an increase in sales throughout Asia in addition to revenue growth across premium appliance markets in North America, Europe, and Korea. Most of all, Samsung's market share ranked first in the US, a key market for home appliance brands. This year, we launched innovative products that shifted market paradigms, like the FamilyHub refrigerator, AddWash washing machine, and WindFree air conditioner. They continue to garner positive feedback from our consumers. We also focused on strengthening and expanding our business with a new built-in lineup and system air conditioners.

In 2017, we will continue to bring real value to consumers by launching differentiated products and technologies. Our ground-breaking and consumer-focused products will challenge routines and stereotypes, leading the market by delivering true innovation and convenience to our valued consumers. We will maintain our market leadership position with premium, innovative products like the FamilyHub refrigerator featuring advanced voice recognition technology that is guaranteed to improve family communication, the FlexWash washing machine which can support two simultaneous or separate washes of different clothing capacities and fabric types, and the WindFree air conditioner for staying cool without direct wind. In addition, we are continuing to invest in revolutionizing products and distribution methods for our high-growth, high-profit B2B business.



FamilyHub

CES 2017 INNOVATION AWARDS

Family Hub Refrigerator,  
FlexWash, FlexDry,  
POWERbot VR7000,  
Wind Free Air Conditioner



FlexWash

## Health & Medical Equipment Business

We both develop and retail diagnostic imaging devices along with diagnostic ultrasound systems, digital radiography systems, mobile CT scanners, and in-vitro diagnostics that are available in a multitude of global medical institutions. In 2016, our premium mobile digital X-ray GM85 made its debut with unprecedented usability features: its compact design reduced its weight by 40% from existing models and its battery life was extended to significantly improve user convenience. This was all made possible through the combination of our advanced technology and design capabilities. In addition to this, Samsung presented diverse products in the market by using its own unique

innovative technology, such as HS60 and HS50 that represent our high-end and mid-range ultrasound systems with distinctive high-quality imaging and intuitive design features, and the PT10V, a blood tester for animals with streamlined procedures and an expedited testing time.

In April 2017, an upgraded version of the WS80A with Elite, featuring intelligent and accurate imaging software developed by long-established capabilities in OB/GYN, was released with an integrated diagnostic solution that supports life-long health for women. Our HS40 that targets the mass-market was also launched in the same month and was credited as a product design awardee honored at the 'International Forum Design Award 2017'.



Veterinary Clinical Chemistry Analyzer 'PT10V'



IT & Mobile  
Communications  
Division



Gear 360

## Mobile Communications Business

We rose to the top in the global smartphone market in 2016 by providing an enriched user experience and smarter product capabilities, thereby solidifying our market leadership. In addition to our premium smartphone models, our mid-/low-priced product line-ups allowed us to benefit from positive consumer feedback in even broader markets around the globe. We strengthened our product ecosystem with wearables, IoT (Internet of Things), and accessories while strengthening our market competitiveness by broadening our service offerings and B2B business portfolio into mobile payment, security solutions, etc.

In 2017, we plan to bring meaningful and life-enriching innovation to deliver an enhanced consumer experience while thoroughly analyzing market conditions to implement our global product line-up strategy and pursue profitability. We will use our top-notch R&D capabilities to introduce innovative products that push the boundary of today's smartphone market and ensure unrivaled quality management to increase consumer benefits. Furthermore, our investment and R&D will continue in the areas of IoT, artificial intelligence, convergence-driven services, and in the B2B, which will drive the momentum for the future growth.

Mobile phone Market Share in 2016

**NO.1** 19.2%

Smartphone Market Share in 2016

**NO.1** 20.8%

Tablet Market Share in 2016

**NO.2** 13.4%

Smartwatch Market Share in 2016

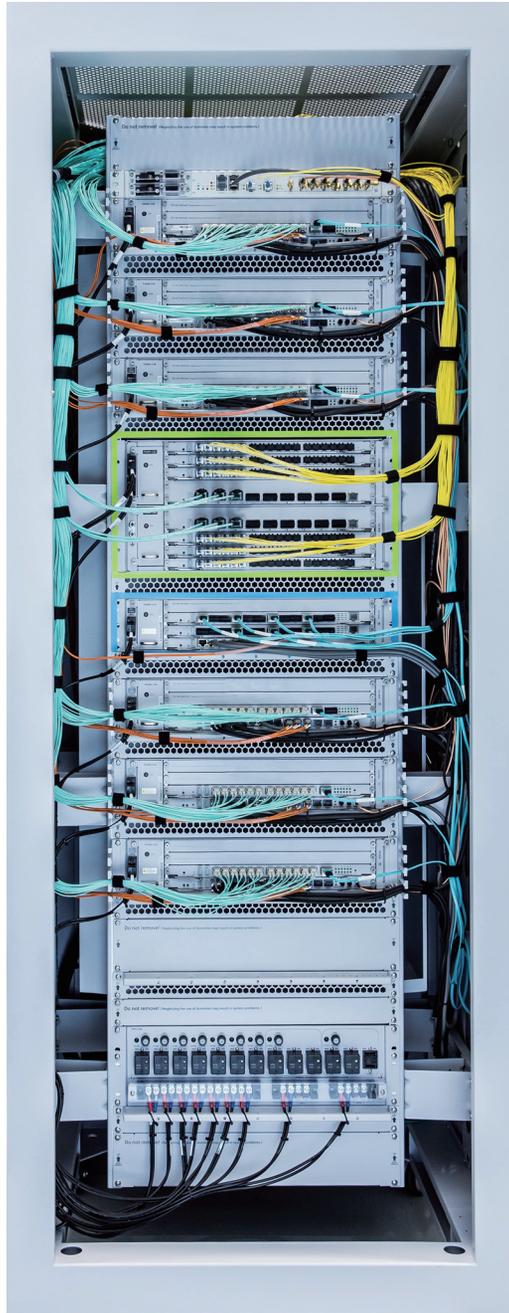
**NO.2** 11.4%

(Based on sales volume, Source: Strategy Analytics)



Galaxy S8

## Networks Business



LTE (4G) Base Station, Digital Unit,  
Centralized Radio Access Network (C-RAN)

We have undertaken a greenfield project to build the world's largest new LTE (4G) network with our major client in India and initiated India's first nationwide LTE service in September 2016. In Malaysia, we launched TD-LTE network, the first LTE that supports VoLTE (Voice over LTE) in the nation aiming nation-wide services. While our endeavors to broaden our presence in emerging markets continue to flourish, we also try to lead such advanced mobile communications markets as those in Korea, the U.S., and Japan. Our new base station products are taking the lead in introducing LTE-Advanced Pro, the evolution of 4G LTE technology before 5G era, and we are working with global leading operators to test next-generation communication technology in the real-use environment with an aim to become the first to commercialize 5G FWA (Fixed Wireless Access) technology.

In 2017, we will continue with 'Infill & Growth' project in India to expand service coverage and network capacity while increasing the application of diverse communications network quality management solutions, including VoMA and DMA. In the advanced market, we will lead the commercialization of the world's first 5-band frequency carrier aggregation technology, 4x4 Multiple Input Multiple Output (MIMO), and narrow-band IoT (NB-IoT) technology while announcing our portfolio of wide-ranging small cell products to reach new customers. We are working to launch a commercial version 5G FWA End-to-End product which was demonstrated at the 2017 Mobile World Congress and are developing FD-MIMO and other 5G millimeter wave technologies as well as Below 6GHz technology at the same time to continue to promote and lead the commercialization of next generation telecommunication technologies.

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MWC 2017 GLOMO AWARD

"BEST MOBILE  
INNOVATION FOR  
EMERGING MARKETS"  
AWARD

# DS

Device  
Solutions  
Division

DRAM Market Share in 2016

**NO.1 47.1%**

NAND flash Market Share in 2016

**NO.1 35.2%**

SSD Market Share in 2016

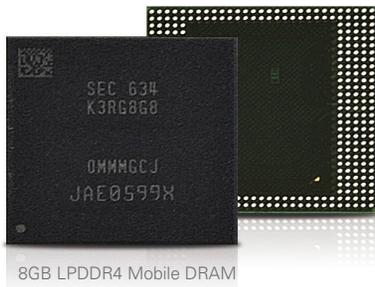
**NO.1 34.7%**

(Based on 2016 sales, Source: IHS)

## Memory Business

Since 1993, we have firmly maintained our No.1 leadership in the global memory semiconductor market while contributing to the overall growth of the global IT market and building an unrivaled competitive edge. In 2016, we pushed the limit of memory semiconductor technology even further by introducing a host of industry-first products: the 10-nanometer class 16Gb LPDDR4 DRAM chips enable an 8GB mobile DRAM package for high-end smartphones and tablets, and the 15.36TB SAS SSD based on 48-layer 256Gb V-NAND technology delivers the industry's highest storage capacity for leading enterprise customers. Also, we have further accelerated the growth of the advanced memory segment by bringing leading-edge DRAM and NAND flash based solutions to the market. Among those, the 8GB HBM2 DRAM and the 8GB LPDDR4/4X mobile DRAM offer exceptionally high speed and bandwidth which are required for next-generation graphics and mobile applications. In the NAND flash sector, consumer SSDs such as the 2TB 960 PRO (M.2 NVMe SSD) and the 2TB T3 (portable SSD) helped the market move toward higher density consumer storage solutions. The 512GB BGA NVMe SSD integrates all essential SSD components in a single, one-gram package, allowing maximized flexibility when designing computing devices.

In 2017, we have been proactively responding to broader market needs from mobile, PC, enterprise, and cloud services to Augmented Reality (AR), Virtual Reality (VR), and automotive applications. To this end, we plan to introduce a more extensive lineup of advanced memory products that deliver unparalleled levels of performance and capacity, including the latest 64-layer V-NAND-based SSDs for consumer and enterprise applications, ultra-compact eUFS and high-speed Z-SSD. We will also continue our advancements in the 10-nanometer process technology for DRAM solutions and next-generation V-NAND technologies to maintain our leadership and contribute to the growth of the global memory market.



8GB LPDDR4 Mobile DRAM



512GB BGA NVMe SSD



960 PRO 2TB

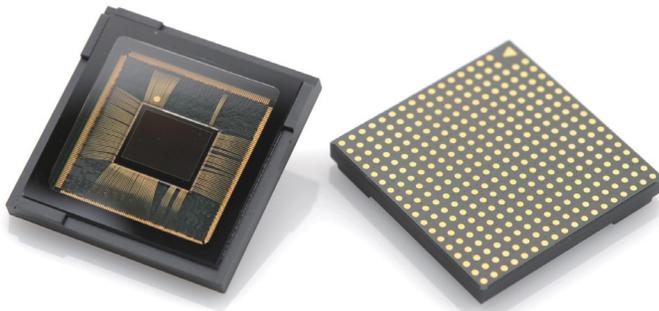
## System LSI Business

Our System LSI Business is focused on developing next-generation products to strengthen our technological competitive edge in the fabless segment and solidifying our position in the global market.

In 2016, the System LSI Business featured a full mobile System-on-Chip (SoC) lineup with 14-nanometer (nm) FinFET process technology, including the Exynos 8 Octa for premium mobile devices, Exynos 7 Quad, a solution with integrated full connectivity for entry-level devices, to the Exynos 7 Dual, which was the industry's first SoC for wearables on 14nm. The company also introduced its Dual-Pixel image sensor that delivers a DSLR camera-level phase-detecting

autofocus on a mobile platform to provide device users with fast photo shooting and premium image quality, even in low light environments.

In 2017, our System LSI Business expects to catalyze the development of innovative products such as next-generation smartphones, VR, and AR devices with its latest Exynos 9 based on 10nm FinFET process technology. The top priority for the System LSI Business in the upcoming years will be to advance its business portfolio by building stronger core design capabilities in diverse sectors – 5G modem, next-generation image sensors, and power management ICs (PMIC) – in addition to its current flagship business areas.



12Mp Dual Pixel Image Sensor

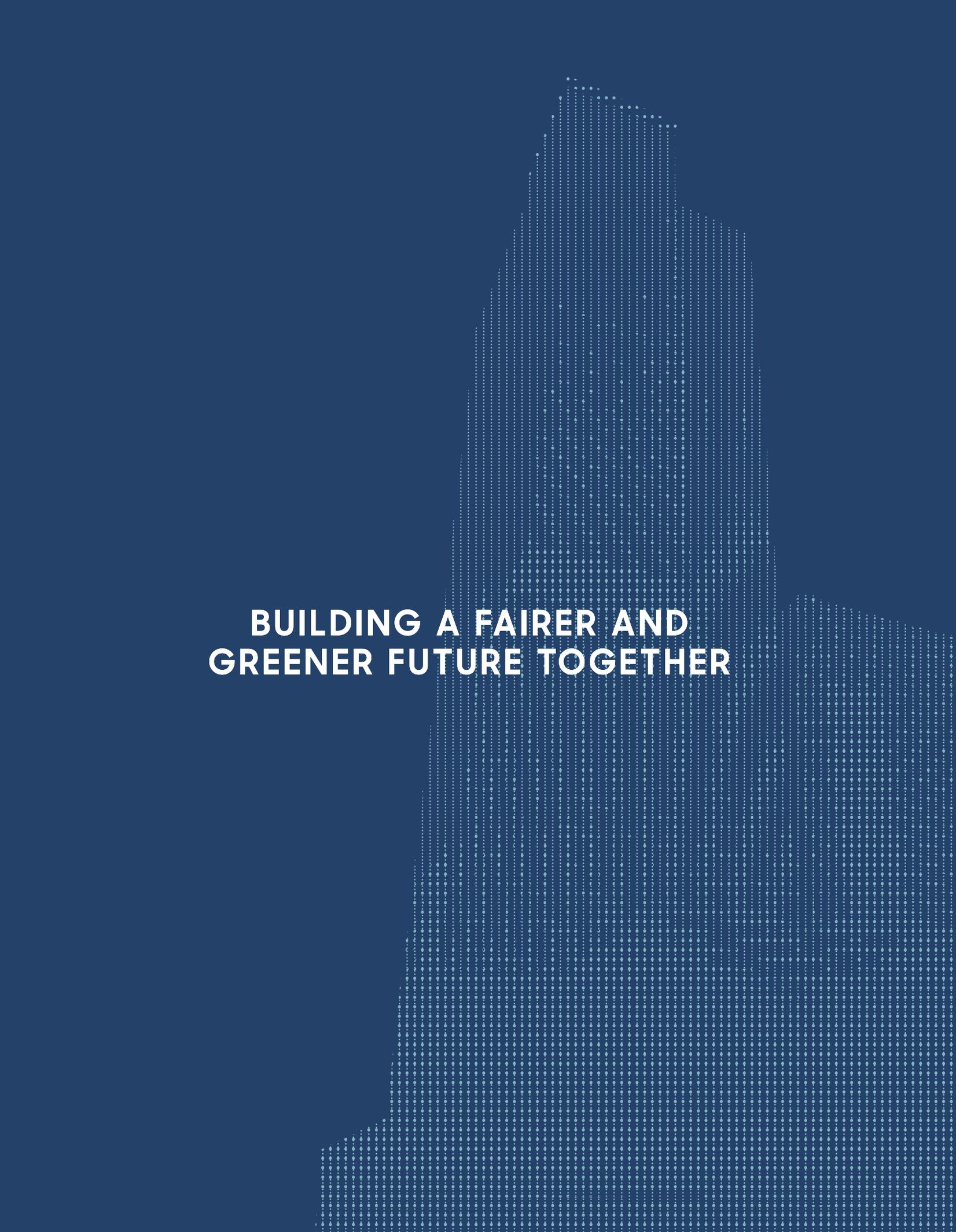


Exynos 9 (8895)

## Foundry Business

In January 2016, Samsung's foundry business successfully demonstrated its continued technology leadership by mass-producing 2nd-generation 14-nanometer (nm) FinFET mobile SoCs (System-on-Chips). The foundry business also started mass production of the industry's first mobile SoC with 10nm FinFET process technology in October 2016. Based on such technological prowess, we are expanding our strategic foundry cooperation with leading global customers and providing next-generation mobile SoCs that power a wide array of advanced mobile devices and IoT products.

Since its establishment in 2005, Samsung's foundry business has been delivering optimized products and services to customers. In May 2017, the Foundry Business unit separated from the System LSI Business with an aim to reinforce its business expertise and to accelerate the growth of its presence within the market. The Foundry Business plans to initiate mass-production of the 2nd-generation 10nm FinFET process by the end of 2017 and will expand its 10nm production capacity to respond to increasing demand. Furthermore, it will continue to make timely development of cutting-edge technologies, including next-generation design nodes beyond 8nm and 18nm FD-SOI (Fully Depleted Silicon on Insulator), to better meet customer needs for logic solutions.

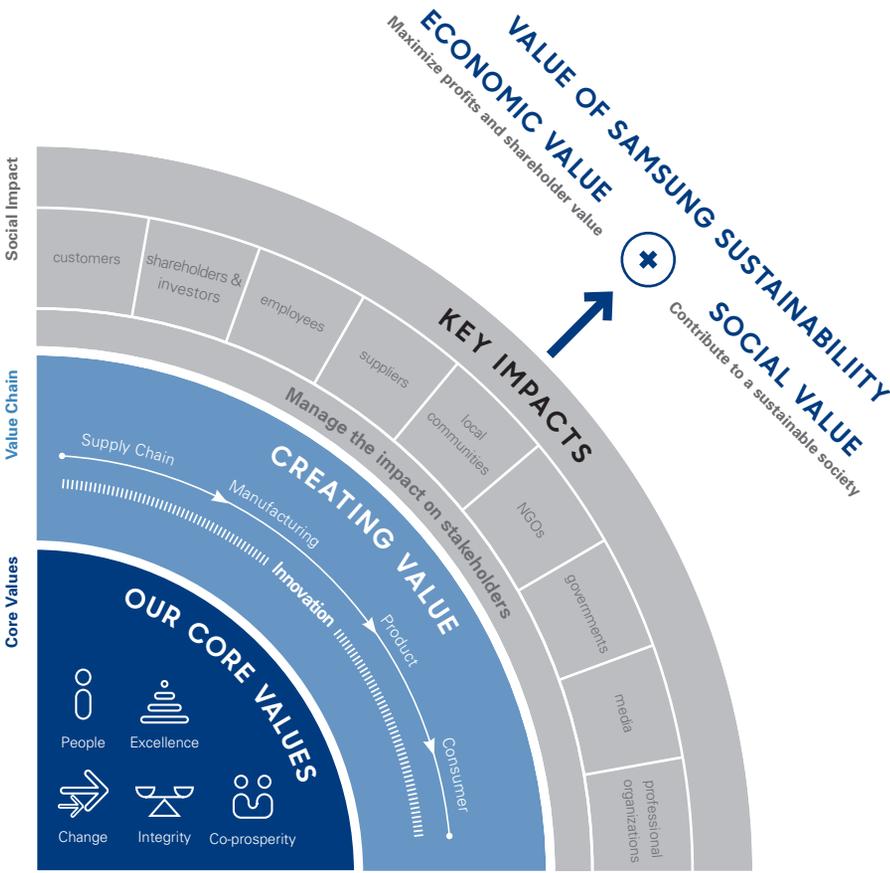


**BUILDING A FAIRER AND  
GREENER FUTURE TOGETHER**

# SUSTAINABILITY STRATEGY

This section highlights our company's sustainability framework focused on value creation in the field of society/environment

# SUSTAINABILITY STRATEGY FRAMEWORK



At Samsung, our sustainability policy aims to create integrated values. Not only do we create economic value by maximizing profits and shareholder value, but also we take on a broader responsibility as a global corporate citizen to create societal values. These societal values are the total accumulation of all the impact generated by direct/indirect causes and serve as resources to usher in a better future. Driven by our core values of People, Excellence, Change, Integrity and Co-prosperity, we deliver innovative products and services that contribute to broad-ranging segments of our society along the value chain and ultimately create economic, social, and environmental value. The financial and non-financial impact we exert on society throughout this process is monitored so that we are able to maximize our positive impacts while minimizing any negative ones. It is through this pioneering approach in operating and innovating our business that we fulfill our social responsibility and create products and services that contribute to a sustainable future across the board, while better positioning ourselves to maximize new opportunities and respond to challenges.

## UN Sustainable Development Goals

As a global corporate citizen, we at Samsung create social values in a way that well incorporates the direction set by the UN. Notably, we pinpointed goals that are highly relevant to our businesses conduct, and are analyzing our impact in achieving these goals based on such mapping processes.

We believe that our endeavors will surely contribute to resolving the key issues that the global community faces.



- ① End poverty in all its forms everywhere
- ② End hunger, improve food security, and promote sustainable agriculture
- ③ Ensure healthy lives and promote well-being for all at all ages
- ④ Ensure quality education and promote life-long learning opportunities for all
- ⑤ Achieve gender equality and empower all women and girls
- ⑥ Ensure availability and sustainable management of water and sanitation for all
- ⑦ Ensure access to sustainable energy for all
- ⑧ Promote sustainable economic growth, full employment and decent work for all
- ⑨ Build resilient infrastructure, promote sustainable industrialization
- ⑩ Reduce inequality within and among countries
- ⑪ Make cities and human settlements inclusive, safe, resilient, and sustainable
- ⑫ Ensure sustainable consumption and production patterns
- ⑬ Take urgent action to combat climate change and its impacts
- ⑭ Protect and sustainably use the oceans, seas, and marine resources
- ⑮ Protect the ecosystem and preserve biodiversity (forests, deserts, land, etc.)
- ⑯ Establish a fair justice system for all
- ⑰ Strengthen the means of implementation and revitalize the global partnership for sustainable development

What We Do in Alignment with the UN SDGs

| Goal  | Relevance <sup>1)</sup>   | Potential Impact <sup>2)</sup>  | Our Status   | Future Plan  |
|---|---|---|--|--|
| <br>SDGs #1    |    | <ul style="list-style-type: none"> <li>+ Improve access through technology, information and communication services</li> <li>- Exert a direct or indirect impact on environmental destruction that may affect local resident's livelihood</li> </ul>                                 | <ul style="list-style-type: none"> <li>• Develop products that guarantee access to information to all regardless of abilities or economic status</li> <li>• Operate the Tech Institute digital skills program to offer employment training to underprivileged/marginalized populations so that they become economically independent</li> </ul> | <ul style="list-style-type: none"> <li>• Pursue technological innovation that meets social needs</li> <li>• Improve the quality of employment training programs and expand employment support</li> </ul>   |
| <br>SDGs #4    |    | <ul style="list-style-type: none"> <li>+ Increase access to education by using ICT</li> </ul>   | <ul style="list-style-type: none"> <li>• Operate the Smart School program to offer ICT-enabled education to vulnerable groups</li> <li>• Provide career development programs aligned with the life cycle needs of employees</li> </ul>   | <ul style="list-style-type: none"> <li>• Expand the Smart School digital skills program and improve its content</li> <li>• Support individuals with strengthening their job expertise</li> </ul>   |
| <br>SDGs #5    |    | <ul style="list-style-type: none"> <li>+ Strengthen female leadership in the workplace and support female-led businesses</li> </ul>   | <ul style="list-style-type: none"> <li>• Operate the STEM training program for female students and the female electronics maintenance technician training program</li> <li>• Operate work programs that ensure maternity protection</li> </ul>   | <ul style="list-style-type: none"> <li>• Expand support for digital education for women</li> <li>• Strengthen gender equality as part of our corporate culture</li> </ul>  |
| <br>SDGs #6    |    | <ul style="list-style-type: none"> <li>+ Ensure the sustainable use and management of water resources</li> <li>- Exert an indirect impact on the shortage of water resources in local communities</li> </ul>  | <ul style="list-style-type: none"> <li>• Manage water resource risks in the workplace and monitor the quality of effluent</li> </ul>   | <ul style="list-style-type: none"> <li>• Reach 50 tons/KRW 100 million in intensity-based use of water resources by 2020</li> </ul>  |
| <br>SDGs #7    |    | <ul style="list-style-type: none"> <li>+ Develop highly energy-efficient products by using IoT technology (e.g. smart home)</li> </ul>  | <ul style="list-style-type: none"> <li>• Research technology that reduces energy use and adopt such technology for products</li> <li>• Implement energy use reduction projects at overseas subsidiaries</li> </ul>   | <ul style="list-style-type: none"> <li>• Increase the use of renewable energy</li> </ul>   |
| <br>SDGs #8   |   | <ul style="list-style-type: none"> <li>+ Ensure a safe work environment and assist in the economic development of local communities</li> <li>- Human rights infringement and child/forced labor in supply chain</li> </ul>  | <ul style="list-style-type: none"> <li>• Offer innovation support programs for domestic/overseas suppliers and help them build Smart Factories</li> <li>• Policy commitment and due diligence work to protect human rights in our operations and supply chain</li> </ul>   | <ul style="list-style-type: none"> <li>• Strengthen the inspection of labor and human rights, health &amp; safety, environmental protection, business integrity, and management systems along the supply chain and expand support for improvements</li> </ul>      |
| <br>SDGs #9  |  | <ul style="list-style-type: none"> <li>+ Support underprivileged areas in establishing communication connections and engaging in economic activities through the development of ICT infrastructure</li> <li>- Indirect impact on environmentally sound industrialization</li> </ul> | <ul style="list-style-type: none"> <li>• Assist India, Malaysia, and other emerging markets in building and improving their communications network</li> <li>• Support the development of disaster safety communications network technology</li> </ul>  | <ul style="list-style-type: none"> <li>• Continuously support infrastructure development to help developing nations increase their access to ICT</li> </ul>  |
| <br>SDGs #10 |  | <ul style="list-style-type: none"> <li>+ Contribute to addressing income inequality by reducing poverty in local communities through job creation, etc.</li> <li>- Exert an indirect impact on income inequalities and poverty within developing nations</li> </ul>                 | <ul style="list-style-type: none"> <li>• Offer customized services for vulnerable groups</li> <li>• Implement policies to protect the rights of vulnerable groups (children, apprentices, migrant workers)</li> </ul>  | <ul style="list-style-type: none"> <li>• Continuously explore customized customer services for vulnerable populations</li> <li>• Continuously monitor our implementation of policies to protect the rights of vulnerable groups</li> </ul>                         |
| <br>SDGs #12 |  | <ul style="list-style-type: none"> <li>+ Ensure the sustainable use and management of resources</li> <li>- Exert a direct or indirect impact on the depletion of natural resources</li> </ul>   | <ul style="list-style-type: none"> <li>• Adopt the Eco-design process and the in-house eco product rating system at product developing phase</li> <li>• Operate the Samsung Re+ program to recover and recycle waste products across the globe</li> </ul>  | <ul style="list-style-type: none"> <li>• Increase the ratio of eco products to 90% of the total product planning and launch by 2020 to contribute to sustainable consumption</li> <li>• Collect 3.8 million tons of cumulative electronic waste by 2020</li> </ul> |
| <br>SDGs #13 |  | <ul style="list-style-type: none"> <li>+ Reduce CO<sub>2</sub> emissions generated from the extraction of resources and product manufacturing</li> <li>- Exert a direct or indirect impact on climate change and air pollution</li> </ul>   | <ul style="list-style-type: none"> <li>• Reduce GHG emissions in the workplace and increase the use of renewable energy</li> <li>• Implement pilot climate change adaptation projects with the Graduate School of Environmental Studies, Seoul National University</li> </ul>  | <ul style="list-style-type: none"> <li>• Reduce GHG emissions by 70% in the workplace by 2020 (against the 2008 base year)</li> <li>• Reach 2.5 million tons in accumulated reduction of GHG emissions in the product use phase by 2020</li> </ul>                 |
| <br>SDGs #15 |  | <ul style="list-style-type: none"> <li>+ Restore/recover ecosystems and ensure their sustainable management</li> <li>- Exert an indirect impact on the destruction of habitats and ecosystem disruptions</li> </ul>   | <ul style="list-style-type: none"> <li>• Develop biodiversity preservation guidelines and identify and improve our impact on the aquatic ecosystem and the habitats of endangered species</li> </ul>   | <ul style="list-style-type: none"> <li>• Undertake regular ecosystem preservation programs with local communities</li> </ul>   |
| <br>SDGs #16 |  | <ul style="list-style-type: none"> <li>+ Monitor and combat human rights violations and corruptive practices</li> <li>- Exert a direct or indirect impact on corruptive practices (collusion between politics and business)</li> </ul>  | <ul style="list-style-type: none"> <li>• Systematically manage our compliance and ethical risks based on Samsung Code of Conduct and Business Conduct Guidelines</li> </ul>  | <ul style="list-style-type: none"> <li>• Perform regular surveys to monitor levels of employee awareness on integrity</li> <li>• Strengthen business management</li> </ul>   |
| <br>SDGs #17 |  | <ul style="list-style-type: none"> <li>+ Support developing nations with technology transfer/distribution and capacity-building</li> </ul>  | <ul style="list-style-type: none"> <li>• Collaborate with global/local community organizations to educate our locally-hired staff at overseas worksites</li> <li>• Undertake localized corporate citizenship initiatives through our global partnerships with international institutions and NGOs</li> </ul>                                   | <ul style="list-style-type: none"> <li>• Expand cooperation with global research institutes and NGOs to develop localized corporate citizenship programs</li> </ul>  |

1) Relevance to Samsung  Low  Medium  High

2) Potential Impact : + Positive, - Negative

# CORPORATE GOVERNANCE

While holding itself firmly to stringent standards in transparency and accountability, Samsung leads its creative and pioneering entrepreneurship to ultimately maximize its corporate value. It is under a close adherence to such standards that the Board of Directors (BOD) decides on matters stipulated by relevant laws & regulations or the Article of Incorporation (AOI), matters delegated through the general shareholder meetings, as well as other major issues concerning the Company's basic guidelines and business execution while supervising the operation of the top management. The BOD operates six committees to proactively respond to changes related to regulations and business conditions and to promote an efficient decision-making process. Notably, the committees enable executives to gather feedback from wide-ranging stakeholders and to integrate its economic, social, and environmental impact into its business conduct.

## Board of Directors (BOD) Composition

In an aim to improve its independence and to allow for transparent decision-making through multidisciplinary discussions, the BOD consists of four executives and five independent directors. We also host meetings composed exclusively of independent directors so as to promote free and fair exchange while gathering opinions on all aspects of the company's business operations.

### BOD Directors

● Chair of the Committee

| Category             | Name            | Responsibility/Career   | Management Committee | Audit Committee | Independent Director Recommendation Committee | Related Party Transactions Committee | Compensation Committee | Governance Committee |
|----------------------|-----------------|---|----------------------|-----------------|---|--------------------------------------|------------------------|----------------------|
| Executive Director   | Kwon, Oh-Hyun   | Chairman of the BOD, Head of Device Solutions Division  | ●                    |                 | ●   |                                      |                        |                      |
|                      | Yoon, Boo-Keun  | Head of Consumer Electronics Division   | ●                    |                 |   |                                      |                        |                      |
|                      | Shin, Jong-Kyun | Head of IT & Mobile Communications Division   | ●                    |                 |   |                                      |                        |                      |
|                      | Lee, Jae-Yong   | Responsible for overall business administration   |                      |                 |   |                                      |                        |                      |
| Independent Director | Lee, In-Ho      | (Former) CEO, Shinhan Financial Group<br>(Former) President & CEO, Shinhan Bank   |                      | ●               |   | ●                                    | ●                      | ●                    |
|                      | Kim, Han-Joong  | President & Chairman, CHA Strategy Committee<br>(Former) President, Yonsei University   |                      | ●               | ●   | ●                                    |                        | ●                    |
|                      | Song, Kwang-Soo | Advisor, Kim & Chang Law Office<br>(Former) Public Prosecutor General, Supreme Public Prosecutor's Office   |                      | ●               |   | ●                                    | ●                      | ●                    |
|                      | Lee, Byung-Gee  | Professor Emeritus, Department of Electrical and Computer Engineering, Seoul National University<br>(Former) President, IEEE Communications Society |                      |                 | ●   |                                      | ●                      | ●                    |
|                      | Bahk, Jae-Wan   | Professor of Public Administration, Sungkyunkwan University<br>(Former) Minister of Strategy and Finance  |                      |                 | ●   |                                      |                        | ●                    |

\* Mr. Kwang-Soo Song and Mr. Jae-Wan Bahk hold independent director positions of other public companies (one company each).

### BOD Qualifications

#### Transparency



- All directors are appointed through resolutions made in general shareholder meetings.
- Executive directors are nominated by the BOD, and independent directors, by the Independent Director Recommendation Committee.

#### Independence



- Directors are restricted from engaging in business activities in the same industry without the BOD's approval.
- Executives, those affiliated with the Company's largest shareholder or with the Company itself, and former employees terminated within two years are restricted from serving as independent directors.
- The BOD Chairman is appointed among directors by the BOD, in accordance with the Articles of Incorporation and BOD regulations.
- Directors are restricted from exercising their voting rights concerning agenda items in which they have special interest.

#### Expertise and Diversity



- Independent director candidates are nominated based on their expertise or experience in business administration, economics, accounting, law, or relevant technologies.
- Internal training is regularly provided to independent directors, via visits to domestic/overseas business sites and through briefings on the company's operations.
- Qualified candidates are considered without regard to religion, race, gender, ancestry, or expertise.

## BOD Operation

In accordance with Article 24 of the AOI, the BOD consists of 3 to 14 directors, and the BOD meets regularly, as well as on an ad hoc basis as the need arises. While the chairman generally convenes BOD meetings, directors can also request to do so by presenting the agenda and the reasons for doing so when deemed necessary for the purpose of business execution. Decisions at the BOD meetings are made when the majority of directors attend and the majority of the attending directors agree. Remote communication is allowed within the legally-allowable scope.

## Evaluation and Compensation

The BOD and its committees perform self-evaluations on their performance, such as meeting attendance. To ensure their independence, independent directors do not receive performance-based pay. Their compensation solely includes a base salary and business travel expenses.

## BOD Committees

During the course of 2016, Samsung's BOD met 11 times to present and to handle a total of 50 agenda items, with an attendance rate of 96% for independent directors. To ensure swift and efficient decision-making, BOD committees were set up in accordance with pertinent laws and regulations. When major agenda items require in-depth expertise and experience, the BOD delegates such items to relevant committees to conduct intensive reviews and to handle them accordingly. The BOD currently operates a total of six committees: the Management Committee, the Audit Committee, the Independent Director Recommendation Committee, the Related Party Transactions Committee, the Compensation Committee, and the Governance Committee (formerly the Corporate Social Responsibility Committee).

### BOD Committee Operations

| Committee                                     | Mandate  | Operational Status in 2016                             |
|---|--|--|
| Management Committee                          | • Deliberate and decide on general management and financial matters as well as the matters entrusted by the BOD  | • Met fourteen times                                   |
| Audit Committee                               | • Audit general business operations as well as the Company's financial status; all three committee members are independent directors   | • Met six times  |
| Independent Director Recommendation Committee | • Assess the qualifications of independent director candidates in their independence from the company, diversity, and abilities; three out of the four committee members are independent directors   | • Met two times in Q1 to appoint independent directors |
| Related Party Transactions Committee          | • Enhance the transparency of business conduct by voluntarily complying with fair trade regulations; all three committee members are independent directors   | • Met nine times                                       |
| Compensation Committee                        | • Secure the objectivity and transparency in determining director compensation; all five committee members are independent directors   | • Met once   |
| Governance Committee (Formerly CSR Committee) | • Established by expanding the former CSR Committee (April 2017)<br>• Assist the company in fulfilling its social responsibility and increase shareholder value; all five committee members are independent directors<br>• The CSR Risk Management Council under the Governance Committee is responsible for supervising the internal CSR risk management system and for consulting on solutions to CSR issues | • CSR Committee met four times                         |

|  | Date                  | Agenda  | Attendance of Independent Directors <sup>1)</sup> |
|--|-----------------------|---|---|
| <b>Major Decisions Made in 2016</b>                  | Jan. 28 <sup>th</sup> | Approval of FY 2015 financial statements and annual business report, and four other items   | 4/5   |
|  | Feb. 12 <sup>th</sup> | Decision to convene the 47 <sup>th</sup> (FY Report on 4Q16 results of CSR Risk Management Council 2016) annual general meeting, and two other items            | 5/5   |
|  | Mar. 11 <sup>th</sup> | Revision of BOD regulations, and six other items  | 5/6 <sup>2)</sup>                                 |
|  | Apr. 28 <sup>th</sup> | Approval of the Q1 2016 financial statements and quarterly report, and five other items   | 5/5   |
|  | May 20 <sup>th</sup>  | Property leasing contract with Samsung Display, plus one other item   | 5/5   |
|  | Jul. 28 <sup>th</sup> | Approval of the H1 2016 financial statements, half-year business report and June quarterly dividend, and five other items                                       | 5/5   |
|  | Sep. 12 <sup>th</sup> | Disposal of Printing Solutions Business, and five other items   | 5/5   |
|  | Oct. 27 <sup>th</sup> | Approval of the Q3 2016 financial statements and quarterly report, and seven other items  | 5/5   |
|  | Nov. 2 <sup>nd</sup>  | Report and disclosure of spin-off completion of Printing Solutions Business, and one other item   | 5/5   |
|  | Nov. 14 <sup>th</sup> | Acquisition of Harman   | 5/5   |
| <b>CSR Committee<sup>3)</sup> Operations in 2016</b> | Nov. 29 <sup>th</sup> | Approval of transactions with affiliate persons, and three other items  | 5/5   |
|  | Apr. 28 <sup>th</sup> | Review of establishment of a Risk Management Council  | 5/5   |
|  | May 20 <sup>th</sup>  | Review of risk management plans<br>Research results and findings of the 2 <sup>nd</sup> -term Research Committee for the Advancement of the Corporate Ecosystem | 5/5   |
|  | Jul. 28 <sup>th</sup> | Establishment of the CSR Risk Management Council  | 5/5   |
|  | Nov. 29 <sup>th</sup> | Q4 2016 report by the CSR Risk Management Council   | 5/5   |

1) Attendees/Total No. of independent directors

2) A temporary period with six independent directors before the expiration of the term of one director

3) Reorganized into the Governance Committee in April 2017

# RISK MANAGEMENT

Facing growing uncertainties in our business landscape, we strive to take a proactive and pre-emptive approach to managing risks. As a leader in the global IT market, we scope out the risks in external/internal factors that cause business uncertainties and firmly respond to them as a way to strengthen a sustainable competitiveness in the market.

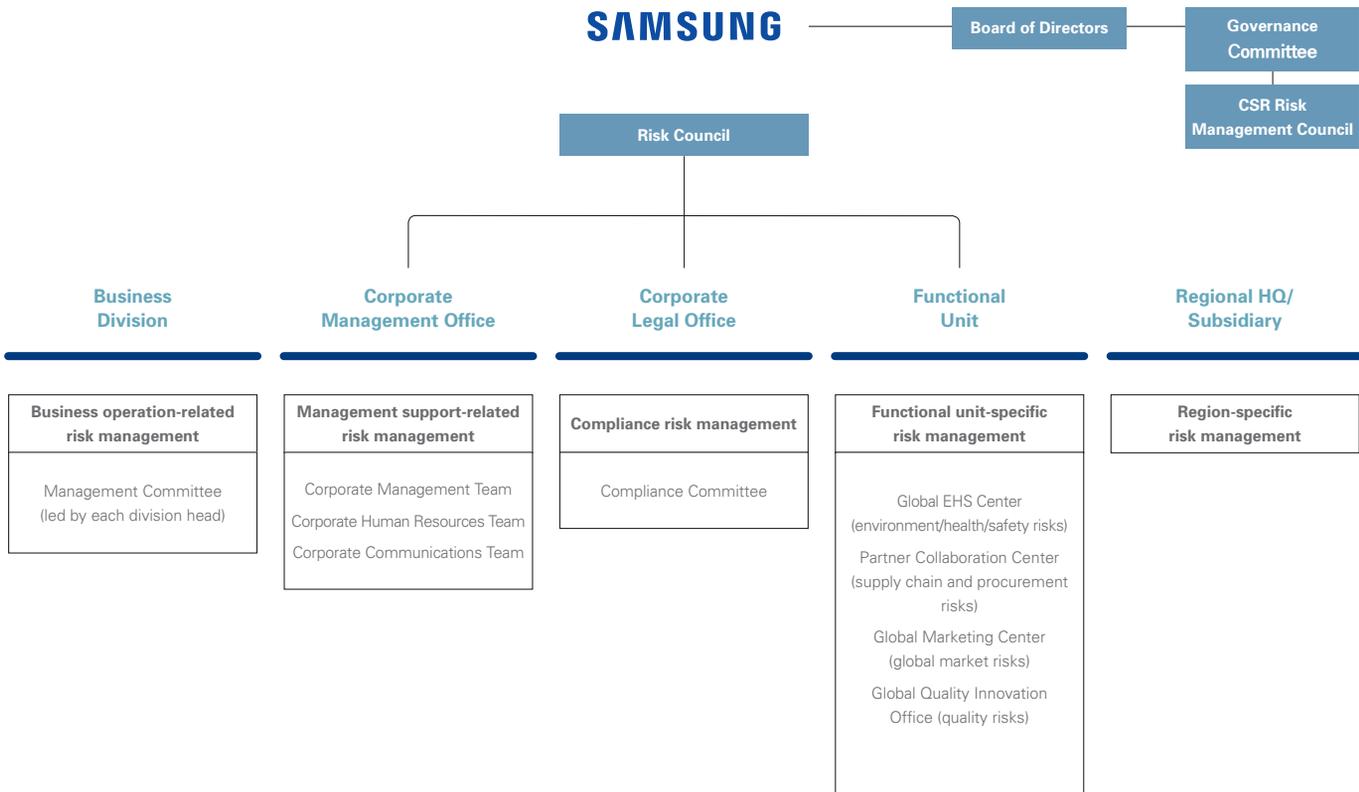
## Sensing Global Issues

To identify and proactively address current economic, social and environmental risks concerning key global issues, we reach out to a network of professional consulting firms, governments, academia, NGOs and other external experts to seek advice on a wide array of risk factors.

## Our Response to Risks

We established systematic risk response policies and processes in respective sectors. Risk factors that have been forecast and identified are reported to the top management to ensure that they are responded effectively. The three business divisions that play key role in the entire business operations and the Corporate Management Office review various risks from the perspective of both non-financial risks of corporate sustainability and financial risks of market, liquidity, and credit etc. through the Management Committee hosted by CEOs and the Risk Council hosted by CFO (Chief Financial Officer). Notably, the CFO also serves as the company-wide CRO (Chief Risk Officer) and is responsible for the regular operation of the Risk Council through cooperation with chief officers in respective functional units, from Legal, HR, Communications, Public Affairs, Global EHS Center, Partner Collaboration Center, Global Product Quality Innovation, etc.

### Risk Management System



**Reinforced BOD  
 Supervision of  
 Risk Management**

To strengthen BOD's supervision on risk response and management, we operate the CSR Risk Management Council that consists of five independent directors under the Governance Committee. The council serves as a supervisor from an independent perspective in relation to our fulfillment of corporate social responsibility and sustainability risks as well as financial performance.

**System-enabled  
 Company-wide  
 Risk Management**

At Samsung, we monitor our global supply chain spanning from development, procurement and manufacturing to logistics, sales and services in real time. This allows us to better detect market conditions, gauge any unusual events and minimize our supply chain risks.

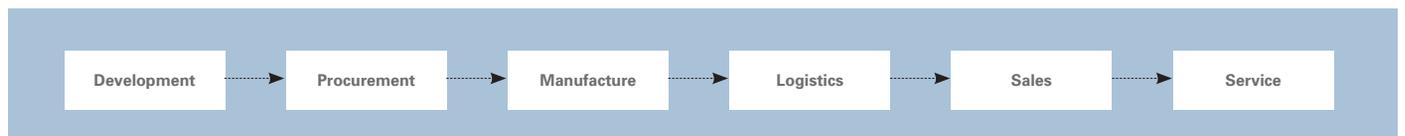
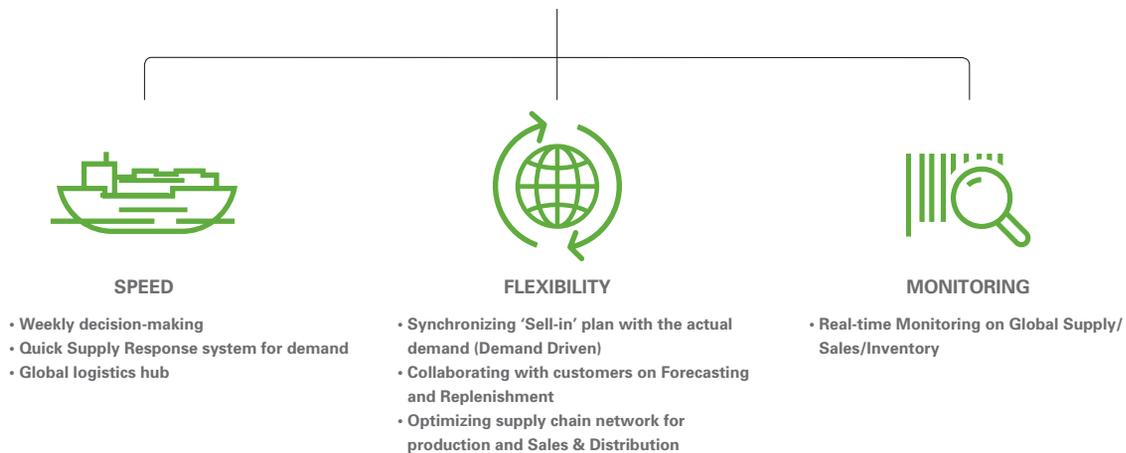
Our Disclosure Control and Procedures (DC&P) system was introduced back in 2004 to allow for company-wide financial risk management and systematic CEO/CFO qualification procedures. Internal control procedures were established to efficiently manage financial risks. We are operating a self-diagnostic system for the purpose of risk prevention that includes such diverse IT systems as Global Enterprise Resource Planning (G-ERP) and Global Supply Chain Management (G-SCM) for financial and supply chain risk management, Global Environment, Health & Safety System (G-EHS) for the integrated management of environmental, health and safety risks, and Global Supplier Relationship Management (G-SRM) for the integrated management of supplier risks.

**Business Continuity  
 Management (BCM)**

We take multitude of actions to prevent such environmental, social, and infrastructure risks as global weather abnormalities, natural disasters, terror attacks, and infectious disease threats from affecting our business operations. Even in the case of an inevitable accident, we ensure that the damage is minimal and that our operations are normalized in the shortest possible time so that we can deliver our goods and services within the prescribed timeframe our customers expect. To this end, each of our worksites is developing its own business continuity management system.

**Global Supply Chain Management**

Optimization of the Supply Chain System &  
 Efficient Management of Business Resources



# STAKEHOLDER ENGAGEMENT

## Key Stakeholders

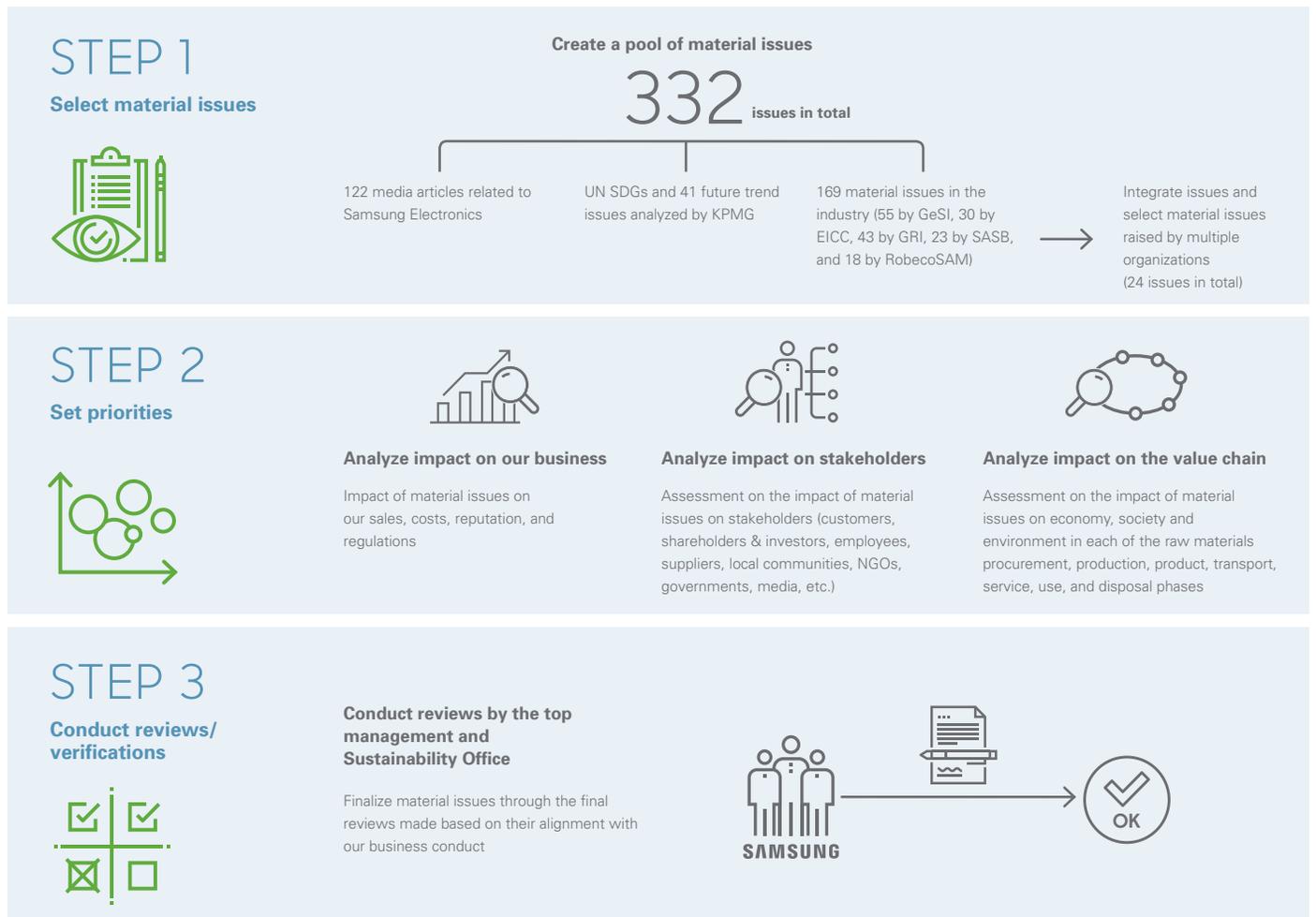
| Stakeholder  | Key Concerns of Stakeholders  | Communication Channel   | Our Strategy*  |
|--|---|---|--|
| <b>Customers</b><br>                                      | <ul style="list-style-type: none"> <li>Product/service quality</li> <li>Safe product use</li> <li>Correct product information</li> <li>Transparent communication</li> </ul>   | <ul style="list-style-type: none"> <li>Customer satisfaction surveys conducted by external organizations</li> <li>Call centers, service centers</li> <li>Prosumer programs</li> <li>Samsung Electronics Newsroom</li> <li>Samsung Semicon Story</li> <li>YoungSamsung Community</li> </ul>  | <ul style="list-style-type: none"> <li>Strengthen the quality and safety management system</li> <li>Provide product information by launching country-specific websites</li> <li>Gather and address the Voice of Customers</li> <li>Identify and consult on customer reputations through the Reputation Institute (Europe/Central and Latin America)</li> </ul>   |
| <b>Shareholders &amp; Investors</b><br>                   | <ul style="list-style-type: none"> <li>Economic outcomes</li> <li>Risk management</li> <li>Information sharing</li> <li>Environmental, Social and Governance factors</li> </ul>   | <ul style="list-style-type: none"> <li>Investor Relations meetings</li> <li>General shareholder meetings</li> <li>One-on-one meetings</li> <li>Analyst Day</li> <li>Samsung Electronics' Corporate Films</li> </ul> <p>YouTube URL: <a href="https://www.youtube.com/samsungelectronics">https://www.youtube.com/samsungelectronics</a></p> | <ul style="list-style-type: none"> <li>Stable profit generation</li> <li>Strengthen shareholder return policy</li> <li>Set up the Governance Committee under the BOD</li> <li>Reinforce transparency in operating external sponsorships</li> <li>Host the Investors Forum (June 2016)</li> <li>- Attended by key institutional investors, analysts, and IT industry experts in domestic and global sites</li> <li>- Brief 'ARTIK', quantum dot', 'PLP' and other leading next-generation technologies</li> </ul> |
| <b>Employees</b><br>                                    | <ul style="list-style-type: none"> <li>Workplace health and safety</li> <li>Diversity and equal opportunity</li> <li>Training and career development</li> <li>Employment and benefits</li> <li>Labor relations</li> </ul>                           | <ul style="list-style-type: none"> <li>Work Council</li> <li>Counseling centers</li> <li>Satisfaction surveys</li> <li>Samsung LiVE</li> <li>Newsletters</li> <li>Reporting systems (compliance, ethics)</li> </ul>   | <ul style="list-style-type: none"> <li>Manage work environment</li> <li>Build a creative organizational culture</li> <li>Declare the three-year Diversity &amp; Inclusion Plan (North America)</li> <li>Operate a customized career life cycle program</li> <li>Host business briefings</li> </ul>   |
| <b>Suppliers</b><br>                                    | <ul style="list-style-type: none"> <li>Fair trade</li> <li>Shared growth</li> <li>Employees' human rights protection</li> <li>Supplier assessment for their impacts on society</li> </ul>   | <ul style="list-style-type: none"> <li>Hotline, Cyber Shinmungo, etc.</li> <li>Supplier meetings, Partner Collaboration Day, etc.</li> <li>Shared Growth Academy</li> <li>Management counseling group for suppliers</li> </ul>  | <ul style="list-style-type: none"> <li>Promote fair trade and shared growth</li> <li>Assist suppliers with their innovation initiatives</li> <li>Host the Tech Trans Fair</li> <li>Operate supplier support fund</li> <li>Ensure responsible management of the supplier work environment</li> </ul>  |
| <b>Local Communities</b><br>                            | <ul style="list-style-type: none"> <li>Local recruitment, local economy revitalization, and other indirect economic effects</li> <li>Local environmental protection</li> <li>Donation, volunteering, and other social-giving initiatives</li> </ul> | <ul style="list-style-type: none"> <li>Local volunteer centers</li> <li>Local community council</li> <li>Samsung Nanum Village</li> <li>Local Community Blog (Suwon, Gumi, and Gwangju sites)</li> <li>Yongin-Hwaseong community Blog (<a href="http://www.sotongsamsung.com/">http://www.sotongsamsung.com/</a>)</li> </ul>                | <ul style="list-style-type: none"> <li>Support local SMEs through the Smart Factory program</li> <li>Preserve the ecosystem of streams in the vicinity of our worksites</li> <li>Implement educational and recruitment corporate citizenship programs</li> <li>Operate employee volunteer groups</li> </ul>  |
| <b>NGOs, CSR Councils, Specialized Institutions</b><br> | <ul style="list-style-type: none"> <li>Social responsibility for local communities and the environment</li> <li>Contribution to the UN SDGs</li> <li>Transparent and prompt information disclosure</li> </ul>                                       | <ul style="list-style-type: none"> <li>Business networking events</li> <li>Open and transparent engagement with NGOs</li> </ul>   | <ul style="list-style-type: none"> <li>Gather feedback from global NGOs</li> <li>Engage in the work of EICC (Electronic Industry Citizenship Coalition) and GeSI (Global e-Sustainability Initiative)</li> <li>Develop human rights policies in cooperation with BSR (Business for Social Responsibility)</li> </ul>   |
| <b>Governments</b><br>                                  | <ul style="list-style-type: none"> <li>Indirect economic effects</li> <li>Fair trade</li> <li>Health and safety</li> <li>Compliance</li> </ul>  | <ul style="list-style-type: none"> <li>Attend policy debates</li> <li>Attend council meetings</li> <li>Participate in policy consultative bodies</li> </ul>   | <ul style="list-style-type: none"> <li>Operate SME support programs with government agencies</li> <li>Comply with laws and regulations on fair trade, workplace health &amp; safety, and the environment</li> <li>Develop and operate a venture investment window in collaboration with governments</li> </ul>   |
| <b>Media</b><br>  | <ul style="list-style-type: none"> <li>Transparent and prompt information disclosure</li> </ul>   | <ul style="list-style-type: none"> <li>Press releases</li> <li>Samsung Electronics Newsroom</li> </ul>  | <ul style="list-style-type: none"> <li>Support their news coverage</li> <li>Host Media Day</li> </ul>  |

\* For details of the major activity and impact that stakeholders have interest in, please refer to the chapter titled Key Impacts (page 40)

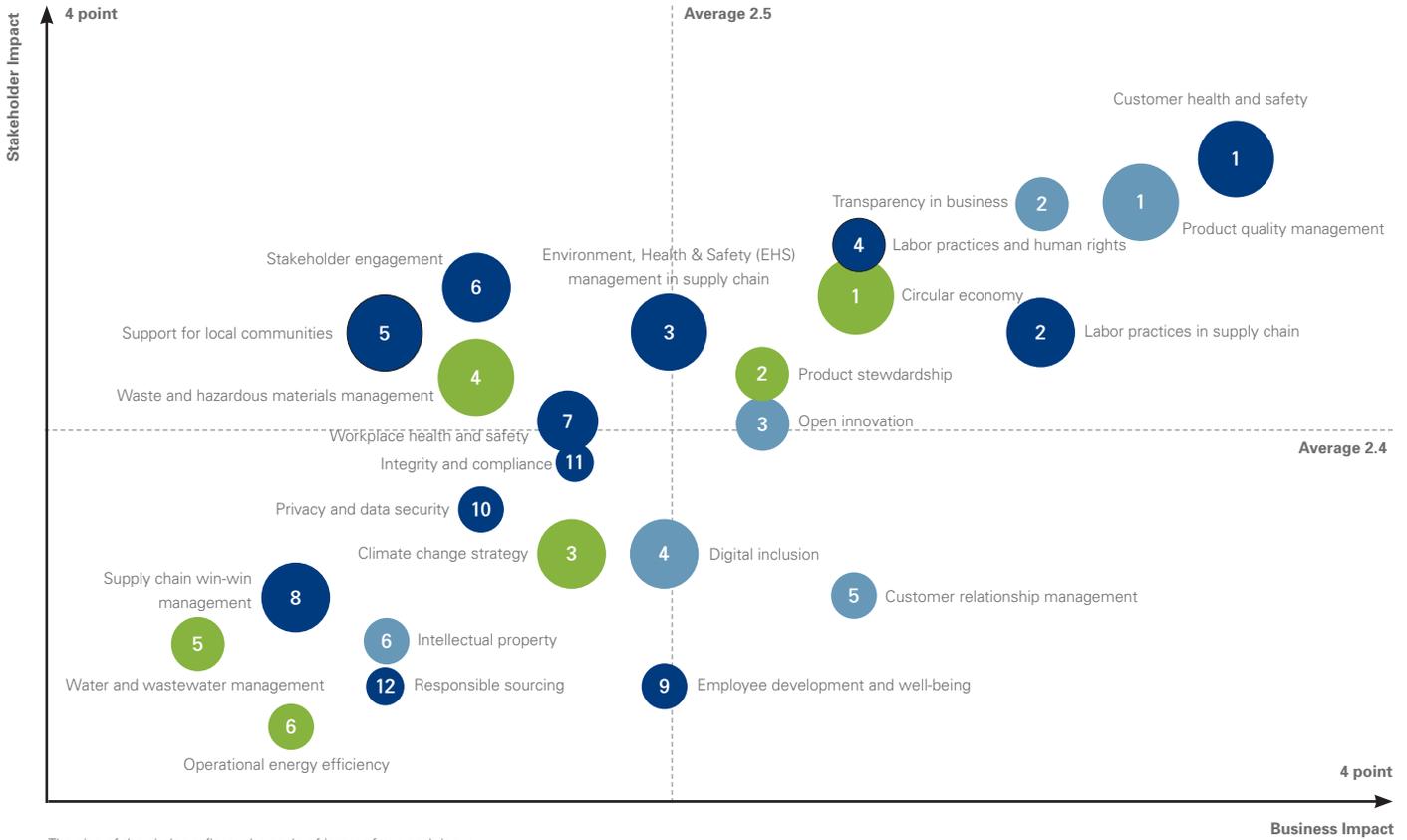
# MATERIALITY ANALYSIS

Taking into account the key concerns raised by the key stakeholders, we clearly understand our current status and necessary improvements we should make. We also communicate with our stakeholders sincerely and transparently. This is why we conduct the materiality analysis every year and use the outcomes of this test to identify material issues and disclose relevant data in our sustainability reports. These material issues reflect our economic, social, and environmental impact and mean the corporate data required for our key stakeholders (customers, shareholders & investors, employees, suppliers, local communities, NGOs, governments, media, etc.) when making their decisions.

We created a pool of material issues based on media reports, business conditions, global standards & initiatives, and experts' opinions. Through internal discussions among relevant departments, we then identified 24 material issues for the materiality analysis. These issues were prioritized in consideration of the stakeholder impact assessed on our key external stakeholders in the economic, social, and environmental aspects as well as business impact assessed by our employees from relevant departments in terms of sales, cost, reputation, and regulations. The materiality analysis outcomes were finalized in accordance with the final reviews performed by the Corporate Sustainability Management Office that will be reported to top management.



Materiality Analysis Outcomes



| Economy                             |
|-------------------------------------|
| 1. Product quality management       |
| 2. Transparency in business         |
| 3. Open innovation                  |
| 4. Digital inclusion                |
| 5. Customer relationship management |
| 6. Intellectual property            |

| Society  |
|--|
| 1. Customer health and safety                                    |
| 2. Labor practices in supply chain                               |
| 3. Environment, Health & Safety (EHS) management in supply chain |
| 4. Labor practices and human rights                              |
| 5. Support for local communities                                 |
| 6. Stakeholder engagement  |
| 7. Workplace health and safety                                   |
| 8. Supply chain win-win management                               |
| 9. Employee development and well-being                           |
| 10. Privacy and data security                                    |
| 11. Integrity and compliance                                     |
| 12. Responsible sourcing   |

| Environment                                 |
|---|
| 1. Circular economy                         |
| 2. Product stewardship                      |
| 3. Climate change strategy                  |
| 4. Waste and hazardous materials management |
| 5. Water and wastewater management          |
| 6. Operational energy efficiency            |

**Our Targets by Material Issue**

| Material Issue  | Target   | Deadline   | On Track | Completed |
|---|--|------------|----------|-----------|
| Product quality management                                    | <ul style="list-style-type: none"> <li>Innovate the quality management system (production process innovation, support for component suppliers, risk verification reinforcement, quality system optimization, etc.)</li> <li>Nurture in-house quality experts by assisting employees in obtaining internationally-certified quality expert qualifications</li> </ul>                    | 2017       | ●        |           |
|   |  | Every year | ●        |           |
| Transparency in business                                      | <ul style="list-style-type: none"> <li>Establish the CSR Risk Management Council to strengthen BOD's risk management</li> <li>Reorganize the sponsorship operational process and disclose its executional details</li> </ul>   | 2016       |          | ●         |
|   |  | Every year | ●        |           |
| Open innovation   | <ul style="list-style-type: none"> <li>Build the basis for IoT-based connectivity across all products</li> <li>Allow more than 1% of all domestic R&amp;D staff to experience the C-Lab</li> </ul>   | 2020       | ●        |           |
|   |  | 2020       | ●        |           |
| Digital inclusion   | <ul style="list-style-type: none"> <li>Broaden product features and service development to improve access to information for vulnerable groups</li> </ul>  | Every year | ●        |           |
| Customer relationship management                              | <ul style="list-style-type: none"> <li>Expand localized customer services</li> </ul>   | Every year | ●        |           |
| Intellectual property   | <ul style="list-style-type: none"> <li>Consistently manage intellectual property risks (operate an IT system to manage the use of software, provide compliance training)</li> </ul>  | Every year | ●        |           |
| Customer health and safety                                    | <ul style="list-style-type: none"> <li>Reinforce the product safety verification system and secure technology to respond to new safety standards</li> </ul>  | Every year | ●        |           |
| Labor practices in supply chain                               | <ul style="list-style-type: none"> <li>Prevent child labor at suppliers</li> <li>Perform on-site inspections on all critical suppliers</li> </ul>  | Every year | ●        |           |
|   |  | Every year |          | ●         |
| Environment, Health & Safety (EHS) management in supply chain | <ul style="list-style-type: none"> <li>Ban the use of hazardous substances (benzene, n-hexane) in the manufacturing process of suppliers</li> </ul>  | Every year | ●        |           |
| Labor practices and human rights                              | <ul style="list-style-type: none"> <li>Disclose policies and activities that prevent forced labor along the supply chain</li> <li>Launch Employee Resource Groups for female staff in respective units</li> </ul>  | 2017       |          | ●         |
|   |  | 2018       | ●        |           |
| Support for local communities                                 | <ul style="list-style-type: none"> <li>Strengthen cooperation with local stakeholders – governments, NGOs – to expand local community development programs</li> </ul>  | Every year | ●        |           |
| Stakeholder engagement  | <ul style="list-style-type: none"> <li>Strengthen cooperation with NGOs and other external organizations in addressing key human rights issues</li> </ul>  | Every year | ●        |           |
| Workplace health and safety                                   | <ul style="list-style-type: none"> <li>Reach grade A in safety culture level across all worksites</li> <li>Maintain all of the current healthy &amp; safety management system certification at manufacturing sites</li> </ul>  | 2020       | ●        |           |
|   |  | Every year |          | ●         |
| Supply chain win-win management                               | <ul style="list-style-type: none"> <li>Provide KRW 50 billion to assist 2<sup>nd</sup>-tier suppliers and SMEs that do not have business with us in innovating their productivity</li> <li>Increase the No. of Smart Factories to approx. 1,000 among domestic SMEs</li> </ul>   | 2017       | ●        |           |
|   |  | 2017       | ●        |           |
| Employee development and well-being                           | <ul style="list-style-type: none"> <li>Implement global HR innovation programs (establish a horizontal organization culture, job function-based HR system and field-oriented HR operation)</li> </ul>  | 2020       | ●        |           |
| Privacy and data security                                     | <ul style="list-style-type: none"> <li>Reinforce privacy organizations and policies</li> </ul>   | 2017       | ●        |           |
| Integrity and compliance                                      | <ul style="list-style-type: none"> <li>Endeavor continuously to reduce compliance violations</li> </ul>  | Every year | ●        |           |
| Responsible sourcing  | <ul style="list-style-type: none"> <li>Reach 100% in the number of smelters that join the Conflict Free Smelter Program (CFSP)</li> </ul>  | 2016       |          | ●         |
| Circular economy  | <ul style="list-style-type: none"> <li>Collect 3.8 million tons of cumulative electronic waste by 2020</li> </ul>  | 2020       | ●        |           |
| Product stewardship   | <ul style="list-style-type: none"> <li>Reach 90% or above in the ratio of Good Eco Products designated under our in-house eco product rating system (based on the No. of product development projects)</li> <li>Reach 2.5 million tons in accumulated estimated GHG emissions reduction in the product use phase by improving product energy efficiency (from 2009 onwards)</li> </ul> | 2020       | ●        |           |
|   |  | 2020       | ●        |           |
| Climate change strategy                                       | <ul style="list-style-type: none"> <li>Reduce intensity-based GHG emissions by 70% (against the 2008 base year)</li> </ul>   | 2020       | ●        |           |
| Waste and hazardous materials management                      | <ul style="list-style-type: none"> <li>Reach 95% in converting waste generated from the workplace into resources</li> <li>Strengthen the management of hazardous substances from the manufacturing process and manage such materials contained in products (polyvinyl chloride, brominated flame retardants, phthalate)</li> </ul>   | 2020       | ●        |           |
|   |  | Every year | ●        |           |
| Water and wastewater management                               | <ul style="list-style-type: none"> <li>Reach 50ton/KRW 100 million in intensity-based consumption of water resources</li> </ul>  | 2020       | ●        |           |
| Operational energy efficiency                                 | <ul style="list-style-type: none"> <li>Meet the annual energy consumption target (2016 target: 22,735 GWh)</li> </ul>  | Every year |          | ●         |

# SUSTAINABILITY MANAGEMENT VALUE CREATION

At Samsung, we strive to create social and environmental value as well as economic value through our sustainability management so as to contribute to the development of the global society. Since such social and environmental values are difficult to quantify, we have taken a 'quality over quantity' approach in setting and managing our sustainability management goals. Since 2016, we have adopted the 'True Value' method of KPMG that quantifies social and environmental indicators in order to visualize the values that we create. In 2017, we reexamined and supplemented our value calculation methodology and added detailed implementation guides to further improve the reliability of the data.

We identified any positive/negative impacts our business operations had on the society or the environment and chose quantitative indicators that best represent such impacts. We also studied global research outcomes that analyzed the economic value created by social and environmental issues in order to calculate the unit-based monetary value of respective indicators. Such monetary value is presented in either positive (+) or negative (-) numbers, and they represent the total social value (benefits and costs) that we either created or reduced at Samsung over the past year by December 31<sup>st</sup> of 2016. This approach identifies our True Value that integrates socio-economic and environmental values, as well as financial ones, created through our business operation.

Since it is not viable to measure the value of all our sustainability management initiatives through the use of currently available indicators, we are constantly monitoring the research activities conducted in measuring such value in order to expand our management indicators. We will strive to measure and manage our social and environmental impact through the most diverse perspectives. In 2016, our financial value was approximately KRW 22.7 trillion, and our True Value, that includes socio-economic and environmental values, amounted to nearly KRW 26 trillion. This means that our True Value rose by approximately 14.4% compared to the current Financial Value and also rose by approximately 14.0% compared to 2015 True Value.

\* The 2015 True Value figure was modified to KRW 22,787,178 million due to our use of renewable energy, integration of GHG emissions, and change in aquatic environmental impact value.

## Value Measurement Methodology

| Category             | Type | Measurement Methodology <sup>1)</sup>   |
|----------------------|------|---|
| Socio-Economic Value | +    | • Dividends and interest payments to investors and creditors  |
|                      | +    | • Investments made in the Partner Collaboration Fund  |
|                      | +    | • Return on investment made in educational projects (118%) <sup>2)</sup><br>• Return on investment made in infrastructure development projects (250%) <sup>3)</sup><br>• Return on investment made in sanitary facility development projects (550%) <sup>4)</sup> |
| Environmental Value  | -    | • Social costs that incur due to GHG emissions <sup>5)</sup>  |
|                      | -    | • Social costs that incur due to the emission of air pollutants (NOx, SOx, PM) <sup>6)</sup>  |
|                      | -    | • Social costs that incur due to water consumption based on severe water shortages in the area where our worksites are located <sup>7)</sup>  |
|                      | -    | • Social costs that incur due to waste landfilling, incineration, and recycling respectively <sup>8)</sup>  |

1) The above benefits and costs are adjusted in consideration of price fluctuations, and the currency rate was KRW 1,205/USD and KRW 1,270.19/Euro as of December 31<sup>st</sup> of 2016.

2) G.Psacharopoulos and H.A. Patrinos, Returns to investment in education: a further update (2004)

3) BCG, The cement sector: a strategic contributor to Europe's future (2013)

4) G. Hutton, Global costs and benefits of drinking-water supply and sanitation interventions to reach the MDG target and universal coverage (2012)

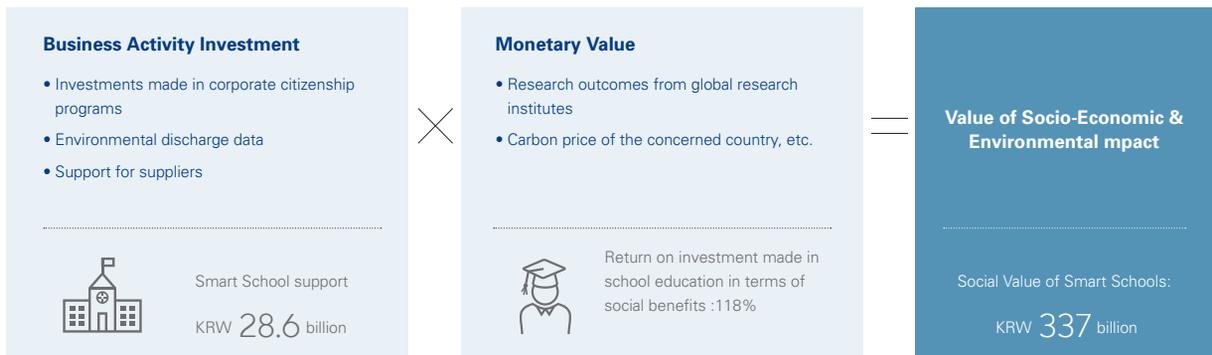
5) EPA, Technical update of the social cost of carbon for regulatory impact analysis (2013)

6) EEA, Revealing the cost of air pollution from industrial facilities in Europe (2011)

7) TruCost PLC, Natural capital at risk: the top 100 externalities of business (2013)

8) A. Rabl, J. V. Spadaro and A. Zoughaib, Environmental impacts and costs of solid waste: a comparison of landfill and incineration (2009)

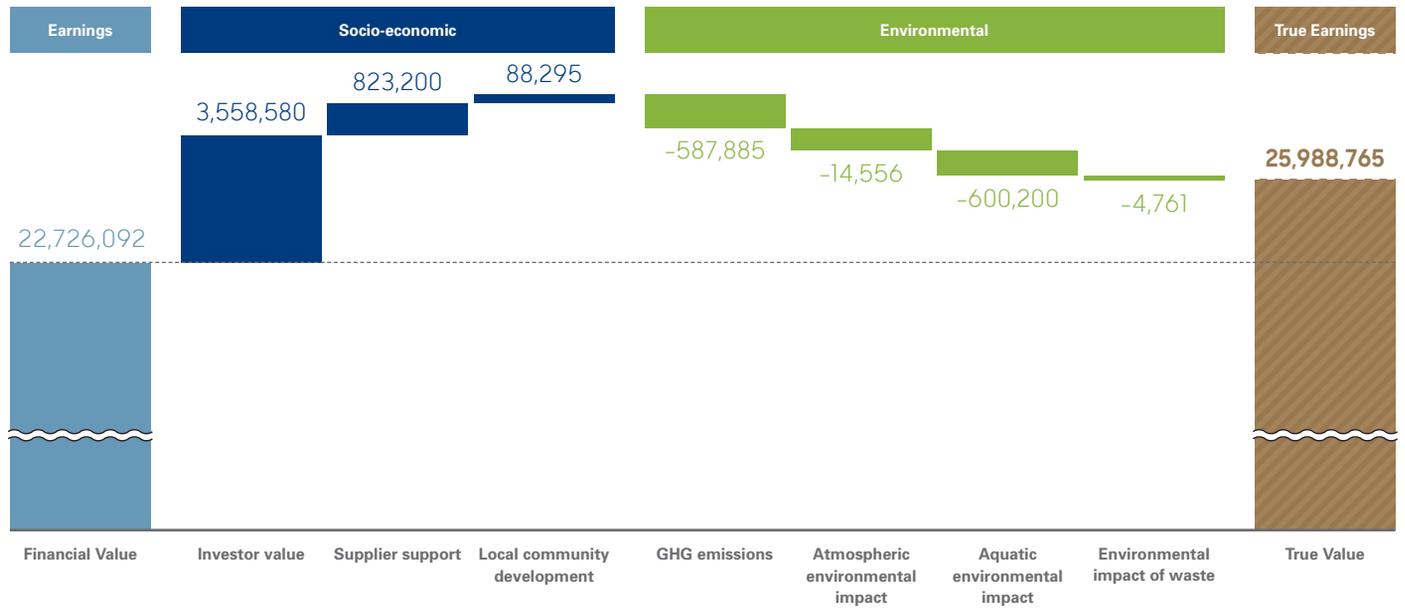
## Calculation Method



### Example

2016 Samsung Electronics Sustainability Management Value

(Unit: KRW million)



Alignment between Integrated Performance Values and Material Issues

| Indicator            | Material Issue in 2016 and 2017  | Page   |
|----------------------|----------------------------------|--|
| Financial Value      | Sales & Operating profit         | Customer relationship management (53-55), Open innovation (59), Digital inclusion (59-60)  |
|                      | Investor value                   | Product quality management (42-43, 51-53), Customer health and safety (42-43, 53), Protection of intellectual property rights (96), Privacy and data security (98-99), Integrity and compliance (94-99), Transparency in business (44) |
| Socio-Economic Value | Supplier support                 | Labor practices in supply chain (46, 76-83), Environment, Health & Safety (EHS) management in supply chain (76-83), Supply chain win-win management (76-83), Responsible sourcing (76-83)  |
|                      | Local community development      | Stakeholder engagement (24, 89, 100-107), Support for local communities (100-107)  |
|                      | Occupational injury *            | Workplace health and safety (74-75)  |
|                      | HR development*                  | Employee development and well-being (45, 86-93)  |
|                      | Human rights*                    | Labor practices and human rights (46, 86-93), Operational energy efficiency (70-71)  |
| Environmental Value  | GHG emissions in the workplace   | Climate change strategy (68-71)  |
|                      | GHG emissions from product use * | Product stewardship (61-65)  |
|                      | Atmospheric environmental impact | Waste and hazardous materials management (72-73, 75), Water and wastewater management (71-72)  |
|                      | Aquatic environmental impact     | Water and wastewater management (71-72)  |
|                      | Environmental impact of waste    | Circular economy (47, 61-65)   |

\* As it is difficult to measure the value of these indicators, we have excluded them from the calculation.

# PERFORMANCE SUMMARY

| Economy  |           |           |           |                  |
|--|-----------|-----------|-----------|------------------|
|  | 2014      | 2015      | 2016      | Unit             |
| <b>Key Financial Performance<sup>1)</sup></b>          |           |           |           |                  |
| Sales  | 206.2     | 200.7     | 201.9     | KRW trillion     |
| Operating profit                                       | 25.0      | 26.4      | 29.2      | KRW trillion     |
| Net income   | 23.4      | 19.1      | 22.7      | KRW trillion     |
| <b>Sales by Business Division<sup>2)</sup> /Region</b> |           |           |           |                  |
| Consumer Electronics                                   | 50.2(22)  | 46.9(21)  | 47.0(21)  | KRW trillion (%) |
| IT & Mobile Communications                             | 111.8(49) | 103.6(46) | 100.3(44) | KRW trillion (%) |
| Device Solutions_Semiconductor                         | 39.7(18)  | 47.6(21)  | 51.2(23)  | KRW trillion (%) |
| Device Solutions_Display                               | 25.7(11)  | 27.5(12)  | 26.9(12)  | KRW trillion (%) |
| Americas   | 68.7(33)  | 68.9(34)  | 68.7(34)  | KRW trillion (%) |
| Europe/CIS   | 43.0(21)  | 38.6(19)  | 38.3(19)  | KRW trillion (%) |
| China  | 33.0(16)  | 31.0(15)  | 35.6(18)  | KRW trillion (%) |
| Korea  | 20.7(10)  | 20.8(10)  | 20.2(10)  | KRW trillion (%) |
| Asia/Africa  | 40.8(20)  | 41.3(22)  | 39.1(19)  | KRW trillion (%) |
| <b>Economic Value Distribution</b>                     |           |           |           |                  |
| [Supplier] Procurement costs                           | 139.5     | 128.8     | 127.0     | KRW trillion     |
| [Local Community] Social contributions                 | 523       | 523       | 445       | KRW billion      |
| [Shareholder/Investor] Dividends                       | 3,000     | 3,069     | 3,992     | KRW billion      |
| [Shareholder/Investor] Pay-out ratio                   | 13.0      | 16.4      | 17.8      | %                |
| [Creditor] Interest expenses                           | 593       | 777       | 588       | KRW billion      |
| [Employee] Remuneration                                | 22.5      | 23.5      | 24.0      | KRW trillion     |
| [Government] Taxes and dues by region                  | 5.5       | 7.8       | 8.9       | KRW trillion     |
| Asia   | 29        | 35        | 19        | %                |
| Korea  | 53        | 51        | 67        | %                |
| Americas/Europe  | 17        | 13        | 13        | %                |
| Others   | 1         | 1         | 1         | %                |

1) Based on the consolidated financial statement, 2) Based on net sales

## Ratio of Economic Value Distributed in 2016 (excluding 10.2% in retained earnings)

| Supplier <sup>1)</sup> | Local Community <sup>2)</sup> | Shareholder & Investor <sup>3)</sup> | Creditor <sup>4)</sup> | Employee <sup>5)</sup> | Government <sup>6)</sup> |
|------------------------|-------------------------------|--------------------------------------|------------------------|------------------------|--------------------------|
| 69.2%                  | 0.2%                          | 2.2%                                 | 0.3%                   | 13.1%                  | 4.8%                     |

1) Cost of all products and services purchased by Samsung for its business operations, 2) Sum of all social contributions made through donations and other expense accounts, 3) Dividends paid, 4) Interest expenses paid, 5) Sum of salaries, severance payments, and welfare benefits included in the cost of sales, R&D costs and SG&A costs, 6) Sum of consolidated income taxes, other taxes, and dues calculated on an accrued basis

## Business Status and Outlook

Amid the sustained low global economic growth spurred by interest rate increase in the U.S. and the Brexit in the U.K., the Korean economy also shrank within such uncertainty. All in all, the year 2016 consistently presented challenging business conditions. Nevertheless, the sales of our semiconductor and other components set a new record and our financial performance improved from last year. In 2016, our sales inched up from the previous year to approximately KRW 202 trillion, and our operating profits and net income rose by 11% and 19%, KRW 29 trillion and KRW 23 trillion respectively. Turning to our financial performance, our financial structure remained solid, with our consolidated debt-to-equity ratio valued at 35.9%, equity ratio at 73.6%, and return on equity ratio 12.2%. Our brand value as announced by Interbrand in 2016 increased by 14% from the previous year to US\$ 51.8 billion, which placed us 7<sup>th</sup> among all global companies for three consecutive years.

Even bigger uncertainty is expected in 2017 within the global economy due to the sustained low growth across the world. Meanwhile, our competitors are expected to make bold investments and catch up the technological development. Taking into account all these, we will do our best to reinforce the technological competitiveness of current business, explore and develop emerging business through strategic M&A and R&D and secure future opportunities.

## Consumer Electronics (CE)

The 2016 sales of our Consumer Electronics division rose by 0.3% from the previous year to KRW 47.0454 trillion. Our TV business strengthened its competency in premium products through SUHD TV launch, which added further upgraded features through the adoption of quantum dot technology, and it successfully maintained its No. 1 leadership in market share for 11 consecutive years since 2006. As we continued to release innovative products, such as FamilyHub refrigerators and Active/Add Wash washers whose smart features have been further upgraded, we firmed up our competitive edge in the premium home appliances market.

In 2017, our QLED TV, that delivers the ultimate picture quality based on our proprietary quantum dot technology, will enable us to lead the premium segment and remain at the forefront of the consumer electronics industry.

## IT & Mobile Communications (IM)

While IM sales in 2016 fell by 3.1% from the previous year to KRW 100.3021 trillion, its operating profits rose by 6.6% during the same period to KRW 10.8076 trillion. Our flagship model Galaxy S7 released in H1 of 2016 increased its global sales and our mid-to-low price Galaxy A and Galaxy J series were also met with favorable market response. However, the quality issues related to the Galaxy Note7 forced us to discontinue its sales.

In 2017, our IM division plans to respond to varied consumer demand through its wearable products – Gear S3, and VR – that cater to the customer needs and through its accessory products that improve the use and convenience of the terminal devices. It will also continue to invest in new growth drivers, such as mobile payment (Samsung Pay), cloud, intelligence service, and mobile B2B.

## Device Solutions (DS)

2016 Semiconductor Sales increased by 7.5% from the previous year to KRW 51.1570 trillion, and its operating profits rose by 6.3% in the same period to KRW 13.5950 trillion. As the market demand for major applications, such as mobiles and servers, persists, our memory business set a new record through differentiated process technology, cost reduction and increased sales of high value-added products. As new products are being developed in the mobile segment and our competitors suffer delays in developing high performance products, the DRAM market went from having an over supply to being in short supply. Since such market conditions are expected to remain for the time being, the demand for our products will continue to grow. Our System LSI business strengthened its competitive edge in the mobile AP and foundry business on the basis of its 13nm process technology, and expanded its sales of image sensors, DDI and other high value-added LSI products to increase its financial performance from the previous year.

In 2017, we expect to witness sustained growth in the memory semiconductor market, and we are determined to lead the unrivaled memory market leader through our differentiated technology and products based on our meticulous procedure. While our System LSI business is expected to suffer sluggish growth primarily in the smartphone, tablet and other mobile product market in 2017, the status of the overall demand may remain the same. This can be attributed to such new emerging markets as IoT, wearables, automobile electronics and health care.

2016 Display Sales fell by 2.0% from the previous year to KRW 26.9286 trillion, and operating profits also dropped by 3.0% in the same period to KRW 2.2266 trillion. Our display business expanded its ratio of highly value-added products among the improving supply-demand landscape in the LCD industry and thus significantly improved its financial performance from H2 of 2016. It also reinforced its future growth platform by expanding OLED business partners, increasing its profitability, and making pre-emptive investments to meet consistently growing needs.

The mobile display market is expected to experience a sustained deployment of OLED panels by key smartphone makers as a way to differentiate their products. In addition, smartphone panels are expected to deliver higher resolutions and larger screens while the demand for flexible products will only rise. As such, we plan to invest strategically and develop new technology to respond to the shifting paradigm of the IT industry (IoT, artificial intelligence and automobile electronics).

| Society  |        |        |        |                  |      |
|--|--------|--------|--------|------------------|------|
|  | 2014   | 2015   | 2016   | Unit             | Page |
| <b>Customer Value Enhancement</b>  |        |        |        |                  |      |
| Ratio of CS Career Path (in-house certification program)-certified employees <sup>1)</sup> | 97     | 97     | 95     | %                | 53   |
| Customer Satisfaction  | 84.1   | 83.7   | 84.0   | Point            | 55   |
| <b>An Eco-friendly and Safe Workplace</b>  |        |        |        |                  |      |
| <b>Workplace health and safety</b>   |        |        |        |                  |      |
| Frequency rate <sup>2)3)</sup>   | 0.289  | 0.240  | 0.227  |                  | 74   |
| Injury rate <sup>2)4)</sup>  | 0.054  | 0.045  | 0.044  |                  | 74   |
| <b>Sustainable Supply Chain</b>  |        |        |        |                  |      |
| <b>Securing suppliers' sustainable competitiveness _ Comprehensive supplier evaluation</b> |        |        |        |                  |      |
| Suppliers evaluated <sup>5)</sup>  | 71     | 86     | 83     | %                | 79   |
| Suppliers rated excellent  |        | 70     | 70     | %                | 79   |
| Ratio of ISO 14001-certified suppliers <sup>6)</sup>                                       | 76     | 87     | 86     | %                | 79   |
| Ratio of OSHAS 18001-certified suppliers   | 40     | 46     | 39     | %                | 79   |
| <b>Securing suppliers' sustainable competitiveness _ Partner Collaboration Programs</b>    |        |        |        |                  |      |
| Investment in the Partner Collaboration Fund   | 7,952  | 8,649  | 8,232  | KRW 100 million  | 80   |
| 1 <sup>st</sup> -tier suppliers  | 5,567  | 6,121  | 6,015  | KRW 100 million  | 80   |
| 2 <sup>nd</sup> -tier suppliers  | 2,385  | 2,528  | 2,217  | KRW 100 million  | 80   |
| Benefit shared in monetary value <sup>7)</sup>   | 123    | 173    | 162    | KRW 100 million  | 80   |
| Attendees at supplier training   | 577    | 615    | 759    | No. of suppliers | 80   |
| 1 <sup>st</sup> -tier suppliers  | 460    | 517    | 664    | No. of suppliers | 80   |
| 2 <sup>nd</sup> -tier suppliers  | 117    | 98     | 95     | No. of suppliers | 80   |
| Trainees at supplier training <sup>8)</sup>  | 11,927 | 12,694 | 13,089 | No. of persons   | 80   |
| 1 <sup>st</sup> -tier suppliers  | 10,796 | 11,002 | 12,673 | No. of persons   | 80   |
| 2 <sup>nd</sup> -tier suppliers  | 1,131  | 1,692  | 416    | No. of persons   | 80   |
| 1 <sup>st</sup> -tier suppliers supported for their innovation initiatives                 | 60     | 53     | 64     | No. of suppliers | 80   |
| Korea  | 60     | 53     | 45     | No. of suppliers | 80   |
| Overseas   |        |        | 19     | No. of suppliers | 80   |
| Beneficiaries of the Industry Innovation Campaign <sup>9)</sup>                            | 428    | 433    | 562    | No. of companies | 80   |
| 2 <sup>nd</sup> -tier suppliers  | 345    | 310    | 436    | No. of suppliers | 80   |
| SMEs without business transactions with Samsung  | 83     | 123    | 126    | No. of companies | 80   |
| Beneficiaries of the Smart Factory program <sup>10)</sup>                                  |        | 120    | 479    | No. of companies | 80   |
| Samsung suppliers  |        | 22     | 31     | No. of suppliers | 80   |
| SMEs without business transactions with Samsung  |        | 98     | 448    | No. of companies | 80   |

1) Among all CS staff, 2) Based on all domestic employees and employees at the overseas manufacturing subsidiaries, 3) (No. of injuries ÷ No. of annual work hours) x 1,000,000, 4) (No. of injured workers ÷ No. of workers) x 100, 5) All suppliers excluding those registered less than two years ago (annual registration) are subject to evaluations conducted in eight categories, 6) Demand that suppliers comply with ISO 14001 or other corresponding standards in the standard contract form, 7) Supported a total of 92 suppliers in 2016, 8) Including redundancies, a portion of the 2<sup>nd</sup>-tier suppliers became 1<sup>st</sup>-tier suppliers between 2015 and 2016, 9) 2014: 2nd year (Aug. 2014~Jul. 2015), 2015: 3rd year (Aug. 2015~Jul. 2016), 2016: 4th year (Aug. 2016~Jul. 2017), 10) Aim to support more than 1,000 companies by 2017

**Responsible management of the supplier work environment**

**Third-party Initial Audits on the supplier work environment\***

(Unit: No. of occasions)



**Third-party Closure Audits on the supplier work environment\***

(Unit: No. of occasions)



**Transparency in mineral management**

**On-site inspections for suppliers' conflict minerals management\***

(Unit: No. of sites)



\* Accumulated since 2013

**Supplier Compliance by Key Third-party Verification Item\***

(Unit: %)

| Category             | Item                              | 2014 | 2015 | 2016 |
|----------------------|-----------------------------------|------|------|------|
| Labor & Human Rights | Freely chosen employment          | 99   | 99   | 97   |
|                      | Prohibition of child labor        | 100  | 100  | 100  |
|                      | Protection of underage workers    | 90   | 100  | 100  |
|                      | Work hour management              | 94   | 89   | 83   |
|                      | Guarantee of one-day off per week | 96   | 95   | 94   |
|                      | Wages and benefits                | 94   | 98   | 99   |
|                      | Humane treatment                  | 100  | 100  | 98   |
|                      | Non-discrimination                | 100  | 100  | 100  |
| Health & Safety      | Occupational safety               | 83   | 89   | 98   |
|                      | Emergency preparedness            | 88   | 94   | 91   |
|                      | Occupational injury and illness   | 95   | 96   | 99   |
|                      | Physically-demanding work         | 98   | 90   | 100  |
|                      | Machine safeguarding              | 90   | 100  | 100  |
|                      | Food, sanitation & housing        | 91   | 98   | 98   |
| Environment          | Pollution prevention              | 88   | 100  | 100  |
|                      | Hazardous substance management    | 87   | 99   | 100  |
|                      | Wastewater/solid waste management | 96   | 88   | 100  |

(Unit: %)

| Category    | Item                                    | 2014 | 2015 | 2016 |
|-------------|---|------|------|------|
| Environment | Air pollution                           | 96   | 98   | 100  |
|             | Restriction of product materials        | 100  | 100  | 100  |
| Ethics      | Business integrity                      | 95   | 100  | 100  |
|             | No improper advantage                   | 93   | 100  | 100  |
|             | Disclosure of information               | 100  | 100  | 100  |
|             | Intellectual property                   | 98   | 100  | 100  |
|             | Protection of identity                  | 95   | 100  | 100  |
|             | Protection of personal information      | 95   | 100  | 100  |
| Management  | Non-retaliation                         | 100  | 100  | 100  |
|             | Company commitment                      | 95   | 100  | 100  |
| System      | Management responsibility               | 93   | 100  | 100  |
|             | Risk assessment                         | 93   | 100  | 100  |
|             | Training                                | 95   | 100  | 100  |
|             | Communication                           | 93   | 100  | 100  |
|             | Employee feedback                       | 100  | 100  | 100  |
|             | Corrective action                       | 98   | 100  | 100  |
|             | Management of Business Improvement Goal | 83   | 100  | 100  |

\* Figures that reflect the improvements made

|   | 2014                  | 2015    | 2016    | Unit           | Page |
|---|-----------------------|---------|---------|----------------|------|
| <b>People First</b>   |                       |         |         |                |      |
| Total employees <sup>1)</sup>                                       | 319,208               | 325,677 | 308,745 | No. of persons | 86   |
| Korea   | 99,386                | 96,902  | 93,204  | No. of persons | 86   |
| Overseas  | 219,822               | 228,775 | 215,541 | No. of persons | 86   |
| Employees on permanent contracts                                    | 310,036               | 318,965 | 304,715 | No. of persons | 86   |
| Employees on fixed-term contracts <sup>2)</sup>                     | 9,172                 | 6,712   | 4,030   | No. of persons | 86   |
| Under 30  | 187,052               | 191,986 | 172,272 | No. of persons | 86   |
| 30's  | 92,874                | 92,701  | 93,348  | No. of persons | 86   |
| 40 and older  | 39,282                | 40,990  | 43,125  | No. of persons | 86   |
| Product development   | 70,398                | 65,602  | 62,546  | No. of persons | 86   |
| Manufacturing   | 188,235               | 204,943 | 194,669 | No. of persons | 86   |
| Sales/Marketing   | 31,785                | 27,788  | 25,836  | No. of persons | 86   |
| Others  | 28,790                | 27,344  | 25,694  | No. of persons | 86   |
| Staff <sup>3)</sup>   | 263,093 <sup>4)</sup> | 265,944 | 248,415 | No. of persons | 86   |
| Managers  | 54,420 <sup>4)</sup>  | 58,105  | 59,014  | No. of persons | 86   |
| Executives  | 1,695 <sup>4)</sup>   | 1,628   | 1,316   | No. of persons | 86   |
| Korea   | 99,386                | 96,902  | 93,204  | No. of persons | 86   |
| Southeast Asia/Southwest Asia/Japan                                 | 112,041               | 140,437 | 134,386 | No. of persons | 86   |
| China   | 56,492                | 44,948  | 37,070  | No. of persons | 86   |
| North America/Central & Latin America                               | 27,996                | 23,947  | 25,988  | No. of persons | 86   |
| Europe/CIS  | 18,602                | 15,487  | 14,445  | No. of persons | 86   |
| Middle East   | 3,565                 | 2,998   | 2,810   | No. of persons | 86   |
| Africa  | 1,126                 | 958     | 842     | No. of persons | 86   |
| Domestic turnover <sup>5)</sup>                                     | 3.1                   | 5       | 5.5     | %              | 86   |
| Overseas turnover <sup>5)</sup>                                     | 19.1                  | 15.9    | 16.9    | %              | 86   |
| <b>Human rights _ diversity and inclusion</b>                       |                       |         |         |                |      |
| Employees who took childcare leave <sup>6) 7)</sup>                 | 3,376                 | 3,816   | 3,818   | No. of persons | 91   |
| Employees who return to work after childcare leave <sup>6) 7)</sup> | 91                    | 93.3    | 93.8    | %              | 91   |
| Daycare center capacity <sup>6)</sup>                               | 2,551                 | 2,551   | 2,905   | No. of persons | 91   |
| No. of daycare centers <sup>6)</sup>                                | 12                    | 12      | 14      | No. of centers | 91   |
| No. of mentally/physically-challenged employees <sup>6)</sup>       | 1,668                 | 1,649   | 1,550   | No. of persons | 91   |
| Ratio of mentally/physically-challenged employees <sup>6)</sup>     | 1.68                  | 1.7     | 1.7     | %              | 91   |

1) As of the end of the year, excluding supplier employees stationed in Samsung, those who are taking leave, interns, and those who are taking full-time degree courses, 2) Korea: Non-regular + part-time, Overseas: Contractor + apprentice, 3) Including those working flexible work hours and other positions, 4) Numerical errors corrected, 5) As for employees on permanent contracts, ratio of employees who resigned against the average No. of employees during the concerned fiscal year, 6) Scope of data collection: Domestic employees, 7) As for employees on permanent contracts

|   | 2014    | 2015    | 2016    | Unit            | Page |
|---|---------|---------|---------|-----------------|------|
| <b>Ratio of female employees<sup>1)</sup></b>   | 42      | 46      | 44      | %               | 91   |
| Product development   | 17      | 17      | 17      | %               | 91   |
| Manufacturing   | 54      | 58      | 56      | %               | 91   |
| Sales/Marketing   | 30      | 29      | 29      | %               | 91   |
| Others  | 38      | 39      | 37      | %               | 91   |
| Korea   | 26.9    | 26.2    | 25.3    | %               | 91   |
| Southeast Asia/Southwest Asia/Japan   | 57.2    | 63.5    | 63.2    | %               | 91   |
| China   | 45.2    | 43.2    | 41.4    | %               | 91   |
| North America/Central & Latin America   | 36.6    | 35      | 34.9    | %               | 91   |
| Europe/CIS  | 33.6    | 34.3    | 35      | %               | 91   |
| Middle East   | 15.1    | 13.4    | 14.1    | %               | 91   |
| Africa  | 34.1    | 32.8    | 32.5    | %               | 91   |
| Staff   | 48.3    | 53.1    | 51.8    | %               | 91   |
| Managers  | 12.4    | 12.4    | 12.7    | %               | 91   |
| Executives  | 4.2     | 4.5     | 6.3     | %               | 91   |
| <b>Career development</b>   |         |         |         |                 |      |
| Employees who received training <sup>2)</sup>   | 348     | 419     | 477     | 10,000 persons  | 92   |
| Korea   | 129     | 107     | 109     | 10,000 persons  | 92   |
| Overseas  | 219     | 312     | 368     | 10,000 persons  | 92   |
| Average training hours per person <sup>3)</sup>   | 74      | 78      | 71      | No. of hours    | 92   |
| Korea   | 95      | 80      | 80      | No. of hours    | 92   |
| Overseas  | 64      | 77      | 67      | No. of hours    | 92   |
| Total training expenditures <sup>4)</sup>   | 1,281   | 1,294   | 1,117   | KRW 100 million | 92   |
| Training expenditures per person <sup>5)</sup>  | 1,299   | 1,335   | 1,198   | KRW 1,000       | 92   |
| Training expenditure against sales <sup>6)</sup>  | 0.06    | 0.06    | 0.06    | %               | 92   |
| Training expenditures against remuneration costs <sup>7)</sup>                              | 1.1     | 1.1     | 1.1     | %               | 92   |
| Employees who applied for re-employment through the Career Development Center <sup>8)</sup> |         | 5,500   | 6,400   | No. of persons  | 92   |
| Employees re-employed through the Career Development Center <sup>8)</sup>                   |         | 4,823   | 5,508   | No. of persons  | 92   |
| Employees re-employed through the Career Development Center                                 |         | 87.7    | 86.1    | %               | 92   |
| <b>Organizational culture</b>   |         |         |         |                 |      |
| Welfare and benefit expenditure in domestic and global sites                                | 3,479   | 3,853   | 3,459   | KRW billion     | 93   |
| <b>Compliance Management</b>  |         |         |         |                 |      |
| Employees who received compliance training <sup>4) 9)</sup>                                 | 247,985 | 190,919 | 210,229 | No. of persons  | 97   |
| Reports of the violation of business integrity <sup>10)</sup>                               | 894     | 903     | 628     | No. of reports  | 98   |
| Reports of corruption   | 19      | 13      | 18      | %               | 98   |
| Reports of consumer complaints  | 56      | 58      | 52      | %               | 98   |
| Other   | 25      | 29      | 31      | %               | 98   |
| Employees who received anti-corruption training <sup>11)</sup>                              | 336,287 | 320,399 | 313,590 | No. of trainees | 98   |

1) Based on the total number of global employees, 2) Based on online/offline training, including redundancy, 3) Based on online/offline training, 4) Scope of data collection: Domestic employees, 5) Total training expenditure ÷ total No. of employees in Korea, 6) Total training expenditure ÷ consolidated sales, 7) Total training expenses ÷ labor expenses, 8) On an accumulated basis between 2001 and 2016, 9) including redundancy, 10) Based on the data collected from the Samsung Electronics business integrity website (sec-audit.com)

|   | 2014              | 2015              | 2016      | Unit            | Page |
|---|-------------------|-------------------|-----------|-----------------|------|
| <b>Corporate Citizenship</b>                            |                   |                   |           |                 |      |
| Total corporate citizenship management expenditures     | 523,109           | 523,395           | 444,789   | KRW million     | 100  |
| Total hours of domestic and global sites employee work  | 1,162,824         | 1,044,847         | 1,083,849 | No. of hours    | 100  |
| Total domestic employee volunteer teams                 | 1,997             | 2,263             | 1,860     | No. of teams    | 100  |
| Volunteer hours per person <sup>1)</sup>                | 3.64              | 3.21              | 3.51      | No. of hours    | 100  |
| <b>Corporate Citizenship Program</b>                    |                   |                   |           |                 |      |
| Samsung Smart School expenditures                       | 73,690            | 47,198            | 28,579    | KRW million     | 101  |
| Accumulated No. of Samsung Smart School beneficiaries   |                   | 667,326           | 1,401,776 | No. of persons  | 101  |
| No. of Samsung Smart School program <sup>2)</sup>       | 1,209             | 2,360             | 3,231     | No. of programs | 102  |
| Europe  | 460               | 1,378             | 1,997     | No. of programs | 102  |
| North America   | 21                | 24                | 35        | No. of programs | 102  |
| Central & Latin America                                 | 114               | 137               | 166       | No. of programs | 102  |
| China   | 3                 | 4 <sup>3)</sup>   | 4         | No. of programs | 102  |
| Southeast Asia  | 85                | 102 <sup>3)</sup> | 129       | No. of programs | 102  |
| Middle East   | 137               | 139 <sup>3)</sup> | 167       | No. of programs | 102  |
| CIS   | 39                | 44 <sup>3)</sup>  | 51        | No. of programs | 102  |
| Southwest Asia  | 201               | 376 <sup>3)</sup> | 508       | No. of programs | 102  |
| Africa  | 55                | 62                | 66        | No. of programs | 102  |
| Japan   | 18                | 18                | 18        | No. of programs | 102  |
| Korea   | 76                | 76                | 90        | No. of programs | 102  |
| Samsung Tech Institute expenditure                      | 2,876             | 18,598            | 15,033    | KRW million     | 103  |
| Accumulated No. of Samsung Tech Institute beneficiaries |                   | 39,659            | 74,192    | No. of persons  | 103  |
| No. of Samsung Tech Institute program <sup>2)</sup>     | 123 <sup>3)</sup> | 191               | 231       | No. of programs | 103  |
| Europe  | 42 <sup>3)</sup>  | 65                | 71        | No. of programs | 103  |
| North America   | 4                 | 10                | 10        | No. of programs | 103  |
| Central & Latin America                                 | 20                | 39                | 46        | No. of programs | 103  |
| China   | 4                 | 10 <sup>3)</sup>  | 10        | No. of programs | 103  |
| Southeast Asia  | 14                | 21 <sup>3)</sup>  | 37        | No. of programs | 103  |
| Middle East   | 10                | 12                | 19        | No. of programs | 103  |
| CIS   | 3                 | 3                 | 3         | No. of programs | 103  |
| Southwest Asia  | 19                | 22                | 24        | No. of programs | 103  |
| Africa  | 6                 | 8                 | 10        | No. of programs | 103  |
| Japan   | 1                 | 1                 | 1         | No. of programs | 103  |
| Solve for Tomorrow expenditures                         | 21,395            | 16,367            | 12,674    | KRW million     | 104  |
| Accumulated No. of Solve for Tomorrow beneficiaries     |                   | 212,135           | 324,961   | No. of persons  | 104  |
| Total No. of Solve for Tomorrow Contests                | 18                | 17                | 18        | No. of sessions | 104  |

1) Total domestic employee volunteer hours : 11.3 hours in 2014, 9.9 hours in 2015, 10.4 hours in 2016, 2) Accumulated since 2013, 3) Numerical errors corrected

| Environment  |         |                      |         |                             |      |
|--|---------|----------------------|---------|-----------------------------|------|
|  | 2014    | 2015                 | 2016    | Unit                        | Page |
| <b>Product Innovation</b>  |         |                      |         |                             |      |
| <b>Environmental innovation</b>  |         |                      |         |                             |      |
| Development of eco-friendly products <sup>1)</sup>   | 58      | 74                   | 86      | %                           | 61   |
| <b>Environmental innovation _ Improving efficiency in energy use</b>   |         |                      |         |                             |      |
| Estimated GHG emissions reduction in the product <sup>2)</sup> use phase <sup>3)</sup>                       | 123     | 156                  | 188     | Million tCO <sub>2</sub> e  | 65   |
| Estimated GHG emissions reduction in the product <sup>2)</sup> use phase of the concerned year <sup>4)</sup> | 34,500  | 32,805               | 32,232  | Thousand tCO <sub>2</sub> e | 65   |
| Estimated reduction <sup>4)</sup> in energy consumption for products <sup>2)</sup>                           | 42      | 47                   | 49      | %                           | 65   |
| <b>Environmental innovation _ Improving efficiency in resource use</b>                                       |         |                      |         |                             |      |
| Accumulated recovery of end-of-life products <sup>3)</sup>   | 191     | 226                  | 264     | 10,000 tons                 | 64   |
| Recovery of end-of-life products in the concerned year   | 371,931 | 355,683              | 381,667 | Ton                         | 64   |
| Asia/Oceania   | 59,890  | 86,102               | 105,429 | Ton                         | 64   |
| Europe   | 259,906 | 215,227              | 222,620 | Ton                         | 64   |
| Americas   | 52,135  | 54,354               | 53,618  | Ton                         | 64   |
| Recycling of packaging materials <sup>5)</sup>   | 6,549   | 7,040                | 7,911   | Ton                         | 64   |
| Recycling of products <sup>5)</sup>  | 59,044  | 73,677 <sup>6)</sup> | 93,852  | Ton                         | 64   |
| Refrigerators  |         | 41,609 <sup>6)</sup> | 52,163  | Ton                         | 64   |
| Washers  |         | 17,089 <sup>6)</sup> | 21,639  | Ton                         | 64   |
| Display  |         | 11,987 <sup>6)</sup> | 13,659  | Ton                         | 64   |
| Other  |         | 2,992 <sup>6)</sup>  | 6,391   | Ton                         | 64   |
| Conversion into resources <sup>5)</sup>  | 50,965  | 69,010               | 79,165  | Ton                         | 64   |
| Scrap metal  | 23,938  | 32,414               | 37,184  | Ton                         | 64   |
| Nonferrous metal   | 8,875   | 12,017               | 13,786  | Ton                         | 64   |
| Synthetic resin  | 14,454  | 19,572               | 22,452  | Ton                         | 64   |
| Glass  | 1,056   | 1,430                | 1,640   | Ton                         | 64   |
| Other  | 2,642   | 3,577                | 4,103   | Ton                         | 64   |
| Consumption of recycled plastics   | 33,628  | 34,322               | 30,849  | Ton                         | 64   |
| Adoption of recycled plastics  | 5       | 6.3                  | 5       | %                           | 64   |

1) Product development projects rated Good Eco-Product or above, 2) Scope of data collection: Eight major product categories (mobile phones, notebooks, TVs, monitors, refrigerators, washers, air conditioners, and printers), 3) Accumulated since 2009, 4) Average annual energy consumption against the average annual energy consumption in 2008, 5) Scope of data collection: Korea, 6) Numerical errors corrected

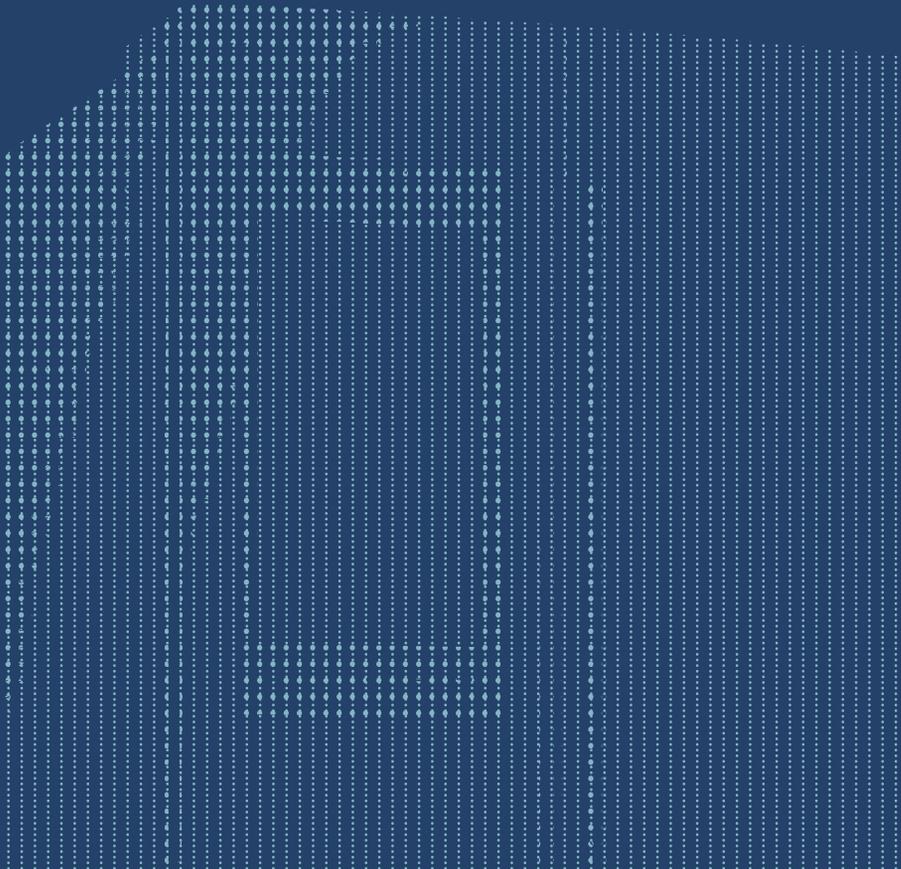
|  | 2014    | 2015    | 2016              | Unit                               | Page |
|--|---------|---------|-------------------|------------------------------------|------|
| <b>Eco-friendly and Safe Workplace</b>                               |         |         |                   |                                    |      |
| Environment and safety Investment <sup>1)</sup>                      | 6,883   | 6,590   | 9,334             | KRW 100 million                    | 68   |
| Violation of environmental regulations                               | 0       | 0       | 0                 | No. of violations                  | 68   |
| <b>Climate change</b>  |         |         |                   |                                    |      |
| Use of renewable energy  | 31.6    | 92.06   | 181.77            | GWh                                | 70   |
| GHE emissions generated in the workplace <sup>2)</sup>               | 9,290   | 10,192  | 11,600            | 1,000tCO <sub>2</sub> e            | 70   |
| Scope 1  | 2,620   | 2,445   | 2,554             | 1,000tCO <sub>2</sub> e            | 70   |
| Scope 2  | 6,670   | 7,747   | 9,046             | 1,000tCO <sub>2</sub> e            | 70   |
| CO <sub>2</sub>  | 7,366   | 8,524   | 9,909             | 1,000tCO <sub>2</sub> e            | 70   |
| CH <sub>4</sub>  | 2       | 2       | 2                 | 1,000tCO <sub>2</sub> e            | 70   |
| N <sub>2</sub> O   | 290     | 305     | 264               | 1,000tCO <sub>2</sub> e            | 70   |
| HFCs   | 207     | 218     | 218               | 1,000tCO <sub>2</sub> e            | 70   |
| PFCs   | 1,271   | 1,018   | 1,115             | 1,000tCO <sub>2</sub> e            | 70   |
| SF <sub>6</sub>  | 153     | 124     | 92                | 1,000tCO <sub>2</sub> e            | 70   |
| GHG emissions intensity <sup>3)</sup>                                | 2.72    | 2.64    | 3.04              | tCO <sub>2</sub> e/KRW 100 million | 70   |
| Scope 3 emissions  | 23,470  | 18,528  | 7,649             | 1,000tCO <sub>2</sub> e            | 70   |
| Emissions from suppliers <sup>4)</sup>                               | 12,741  | 7,942   | N/A <sup>5)</sup> | 1,000tCO <sub>2</sub> e            | 70   |
| Emissions from logistics   | 10,608  | 10,478  | 7,562             | 1,000tCO <sub>2</sub> e            | 70   |
| Emissions from business trips <sup>1)</sup>                          | 121     | 108     | 87                | 1,000tCO <sub>2</sub> e            | 70   |
| Energy consumption in the workplace <sup>6)</sup>                    | 17,082  | 19,478  | 21,073            | GWh                                | 70   |
| Power  | 13,315  | 15,368  | 16,587            | GWh                                | 70   |
| Others   | 3,767   | 4,110   | 4,486             | GWh                                | 70   |
| Energy consumption intensity <sup>3)</sup>                           | 4.5     | 4.8     | 5.0               | MWh/KRW 100 million                | 70   |
| <b>Environmental resource management _ Water resource management</b> |         |         |                   |                                    |      |
| Water consumption  | 74,684  | 92,414  | 104,253           | 1,000 ton                          | 71   |
| Industrial water   | 49,806  | 58,444  | 62,986            | 1,000 ton                          | 71   |
| Municipal water (tap water)  | 23,659  | 32,830  | 40,147            | 1,000 ton                          | 71   |
| Underground water  | 1,219   | 1,140   | 1,120             | 1,000 ton                          | 71   |
| Intensity of water consumption <sup>7)</sup>                         | 41      | 53      | 60                | t/KRW 100 million                  | 71   |
| Wastewater discharge   | 55,428  | 72,583  | 81,716            | 1,000 ton                          | 72   |
| Reuse of water   | 37,594  | 46,200  | 48,602            | 1,000 ton                          | 72   |
| Rate of water reused   | 50.3    | 50      | 46.6              | %                                  | 72   |
| Supply of ultra-pure water for reuse                                 | 31,782  | 34,397  | 37,770            | 1,000 ton                          | 72   |
| Recovery of ultra-pure water for reuse                               | 14,067  | 14,632  | 15,529            | 1,000 ton                          | 72   |
| Rate of recovery of ultra-pure water                                 | 44.3    | 42.5    | 41.1              | %                                  | 72   |
| Suppliers' water consumption <sup>4)</sup>                           | 327,638 | 134,733 | N/A <sup>5)</sup> | 1,000 ton                          | 72   |

1) Scope of data collection: Domestic worksites, 2) Calculated in accordance with nation-specific GHG management guidelines, IPCC guidelines, and ISO 14064 standards, 3) (total emissions/total consumption/total generation) ÷ consolidated global sales, excluding sales of the Display Business Division, Price index: Producer price index as disclosed by the Bank of Korea for the concerned year (Base: 2005 = 1), 4) Concerns all 1<sup>st</sup>-tier suppliers, their consumption of power, fuel, or water during the previous year was examined in 2015 and 2016 respectively, and then calculations were made in consideration of their respective share of business conducted with Samsung, 5) Not applicable, 6) Based on global worksites, the 2014 and 2015 numbers were modified due to the change in reporting unit from TJ to GWh, 7) Total consumption ÷ consolidated global sales, excluding the sales of the Display Business Division

|  | 2014                | 2015                | 2016      | Unit             | Page |
|--|---------------------|---------------------|-----------|------------------|------|
| <b>Environmental resource management _ Waste management</b>                  |                     |                     |           |                  |      |
| Waste generation   | 778,430             | 937,341             | 1,078,309 | Ton              | 72   |
| General waste  | 606,495             | 680,614             | 728,905   | Ton              | 72   |
| Hazardous waste <sup>1)</sup>  | 171,935             | 256,727             | 349,404   | Ton              | 72   |
| Waste processed  | 778,430             | 937,341             | 1,078,309 | Ton              | 72   |
| Conversion into resources  | 718,251             | 875,828             | 1,022,686 | Ton              | 72   |
| Incineration (outside the Company)   | 32,089              | 31,123              | 26,622    | Ton              | 72   |
| Landfill (outside the Company)   | 28,090              | 30,390              | 29,001    | Ton              | 72   |
| Conversion of waste into resources   | 92                  | 93                  | 95        | %                | 72   |
| <b>Environmental resource management _ Pollutant management</b>              |                     |                     |           |                  |      |
| Emission of air pollutants   | 1,019 <sup>2)</sup> | 1,222 <sup>2)</sup> | 2,062     | Ton              | 73   |
| NOx  | 612                 | 642                 | 635       | Ton              | 73   |
| SOx  | 164                 | 117                 | 196       | Ton              | 73   |
| Dust   | 225                 | 438                 | 1,197     | Ton              | 73   |
| NH <sub>3</sub> <sup>2)</sup>  | 12                  | 18                  | 27        | Ton              | 73   |
| HF <sup>2)</sup>   | 6                   | 7                   | 7         | Ton              | 73   |
| VOC emissions  | 106,695             | 118,258             | 130,576   | Kg               | 73   |
| Discharge of water pollutants  | 1,086               | 1,936               | 3,055     | Ton              | 73   |
| COD  | 540                 | 970                 | 1,639     | Ton              | 73   |
| BOD  | 128                 | 277                 | 520       | Ton              | 73   |
| SS   | 200                 | 436                 | 598       | Ton              | 73   |
| F  | 211                 | 240                 | 253       | Ton              | 73   |
| Heavy metal  | 7.2                 | 12.7                | 45        | Ton              | 73   |
| Consumption of ozone-depleting substances (CFC-eq) <sup>3)</sup>             | 10                  | 13                  | 5         | Ton              | 73   |
| <b>Workplace health &amp; safety _ Chemicals management in the workplace</b> |                     |                     |           |                  |      |
| Consumption of chemicals <sup>3)</sup>                                       | 472                 | 588 <sup>4)</sup>   | 577       | 1,000 ton        | 75   |
| Leakage of major harmful substances  | 0                   | 0                   | 0         | No. of occasions | 75   |

1) Based on the calculation criteria adopted by the country of respective worksites, 2) Reported additionally by collecting data from 2014 and 2015, 3) Scope of data collection: Korea, 4) Numerical errors corrected

# SHOWING LEADERSHIP AND SETTING INDUSTRY BENCHMARKS



# KEY IMPACTS

This section highlights the developments of key issues that our stakeholders have paid attention to

# Our Commitment to Quality

We extend our sincerest apologies for the inconvenience by the Galaxy Note 7 incidents that incurred to our customers who dearly love our products. Ever since this incident, we have learned a lot and in the interest of guaranteeing safety, we recalled the product and discontinued its sales. Moreover, we have labored to perform in-depth analysis to identify the root cause of the battery burnout. It is our hope that at least our expedient response to rectify this issue will serve to alleviate some of the inconvenience on the part of our valued customers.

## The Lessons We Learned

A massive pool of investigators was created to identify causes of the battery burnout that affected the Galaxy Note7. The investigations were launched across the entire manufacturing process, from distribution and storage to all phases of finished products and respective verifications in the following several months. Nearly 700 principle engineers reproduced the burnout process for precision analysis, and more than 200,000 devices and 30,000 batteries underwent testing. Furthermore, we requested three external professional investigators – UL (Underwriters Laboratory, one of the most widely recognized organizations in the U.S. for its safety standards and certification capability), Exponent (professional U.S. analysis service provider in the science and technology field), and TÜV Rheinland (German-headquartered global testing and certification body) - to independently investigate the cause of such a battery burnout. As a result of the thorough review, spanning from hardware, software to assembly, testing and transport, the battery cell itself was found to be the culprit. Battery A and Battery B that were subject to the first and second recalls respectively had different issues leading to the burnout.

## Multi-Faceted Endeavors to Find Solutions

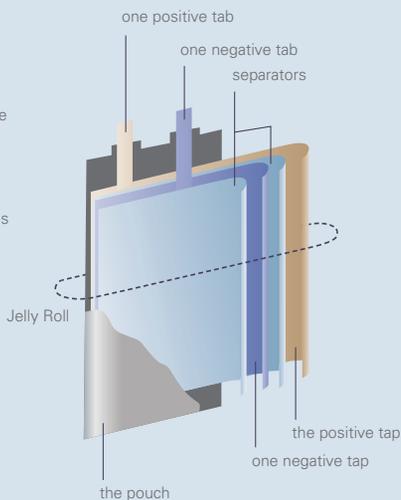
With the aim to prevent any battery burnout of the Galaxy Note7s yet to be recovered, we updated the software to cap their battery charging capacity, and discontinued their telecommunication services in cooperation with telecom carriers in respective countries. Undoubtedly, we were well aware of the social and environmental impact caused by our action to recall the Galaxy Note7 and made improvements accordingly. We offered detailed compensation to our suppliers who were financially affected by the recall and did it in an eco-friendly way (resource recycling via the reuse of recovered phones through recycling their components and resources) to minimize our environmental footprint.



## Main Causes for Battery Burnout

### Lithium-Ion Battery Structure of the Galaxy Note7

- One positive tab, one negative tab and separators between the two are rolled in the 'Jelly Roll' form within the pouch
- When the separators within the 'Jelly Roll' are damaged, this creates contact between the negative and positive tabs, causing short circuits within the pouch



### A Defects behind the Battery Burnout in Battery A

The tip of the negative tap around the upper righthand corner of the 'Jelly Roll' wound up bent and eventually touched the positive tab, causing short circuits

### Battery

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### B Defects behind the Battery Burnout in Battery B

An abnormal nodule developed within the welded positive tab, and this perforated the insulation tap and even separators to eventually touch the negative tab, or the insulation tape was missing in some of the batteries, which caused the battery to short circuit

### Battery

## Yet again, Product Safety Comes before Everything

To prevent the defect found in the Galaxy Note7 from ever reoccurring, we not only improved our company-wide processes – stage-specific re-examinations of the entire smartphone manufacturing process, and improvements of the quality assurance programs – but also undertook the following immediate actions.

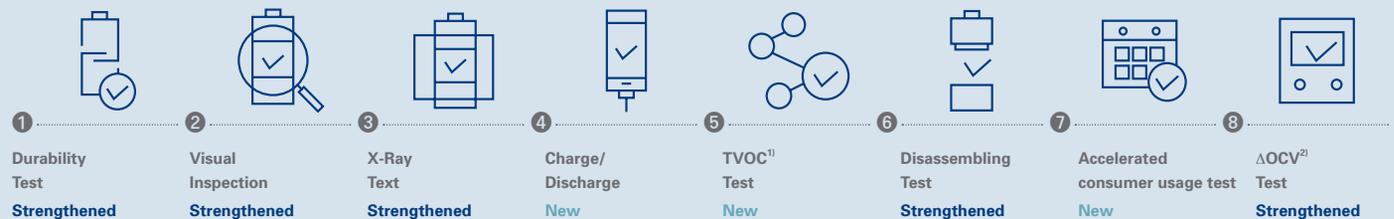
• **Eight-Point Battery Safety Checklist** \_ This comprehensive battery check system that we introduced spans the entire manufacturing process from components to manufacturing and shipment. Special equipment was used to examine the issues that occur inside the battery, and large-scale charging/discharging tests were performed both on batteries and finished products. More robust accelerated tests were also conducted in consideration of actual usage conditions.

• **Multiple Safety Design Features** \_ Multiple safety design features were adopted even from the product planning phase, which resulted in the addition of a device that mitigates physical shocks when users drop their phones. Furthermore, safer algorithms were introduced concerning charging temperatures, currents and charging speeds.

• **Special Battery Advisory Group** \_ Our special battery advisory group is joined by renowned lithium-ion battery experts. And it is responsible for constantly securing objective analysis data on battery safety and quality assurance.

This unfortunate incident served as an opportunity for us to take a second look and develop countermeasures on our entire service quality and safety assurance process that govern all our products and services as well as mobile phones and batteries. For further details on our reinforced product quality and safety assurance systems and initiatives, please go to page 50 of this report.

### 8 Point Battery Safety Checklist



1) Total Volatile Organic Compound  
2) Delta Open Circuit Voltage

### Countermeasures to Address Customer Inconvenience and Management of Our Social and Environmental Impact

- 1 Prevent uncollected phones from battery burnout**

  - Battery charging capacity was capped to 0% (The U.S., Korea, China, Europe, etc.)
  - Galaxy Note7's telecommunication services were suspended in Dec. 2016 (Australia, Canada, New Zealand)
- 2 Compensate relevant suppliers**

  - Fully compensate suppliers for their entire inventory of finished/semi-finished products and raw materials, and review them for allocating the volume of other smartphone models (1<sup>st</sup>-tier suppliers)
  - Plan to use the dedicated Galaxy Note7 facility whose investment was made by suppliers in order to produce other models
  - Check whether compensation is offered along the supply chain, from 1<sup>st</sup>-tier suppliers into 2<sup>nd</sup>-tier (component) and 3<sup>rd</sup>-tier suppliers (processing)
- 3 Take a green approach to handling collected phones**

  - Use the components of unused Galaxy Note7s in launching new Galaxy Note FE
  - Extract reusable components and sell or use them (as test samples for semiconductor or camera modules)
  - Extract rare metals (copper, nickel, gold, silver, etc.) and process them through eco-friendly recycling service providers
  - Join the project to research and develop testing on new green processing technology

## Improved Business Transparency

Since 2016, Samsung Electronics has promoted its commitment to reforming its business operations to stakeholders as well as to shareholders: this includes improving its governance system and sponsorship programs.

### BOD's Commitment to Strengthening Management Supervision

Our Board of Directors (BOD) strives to create an institutionalized structure that can ensure transparency and reinforce risk supervision function.

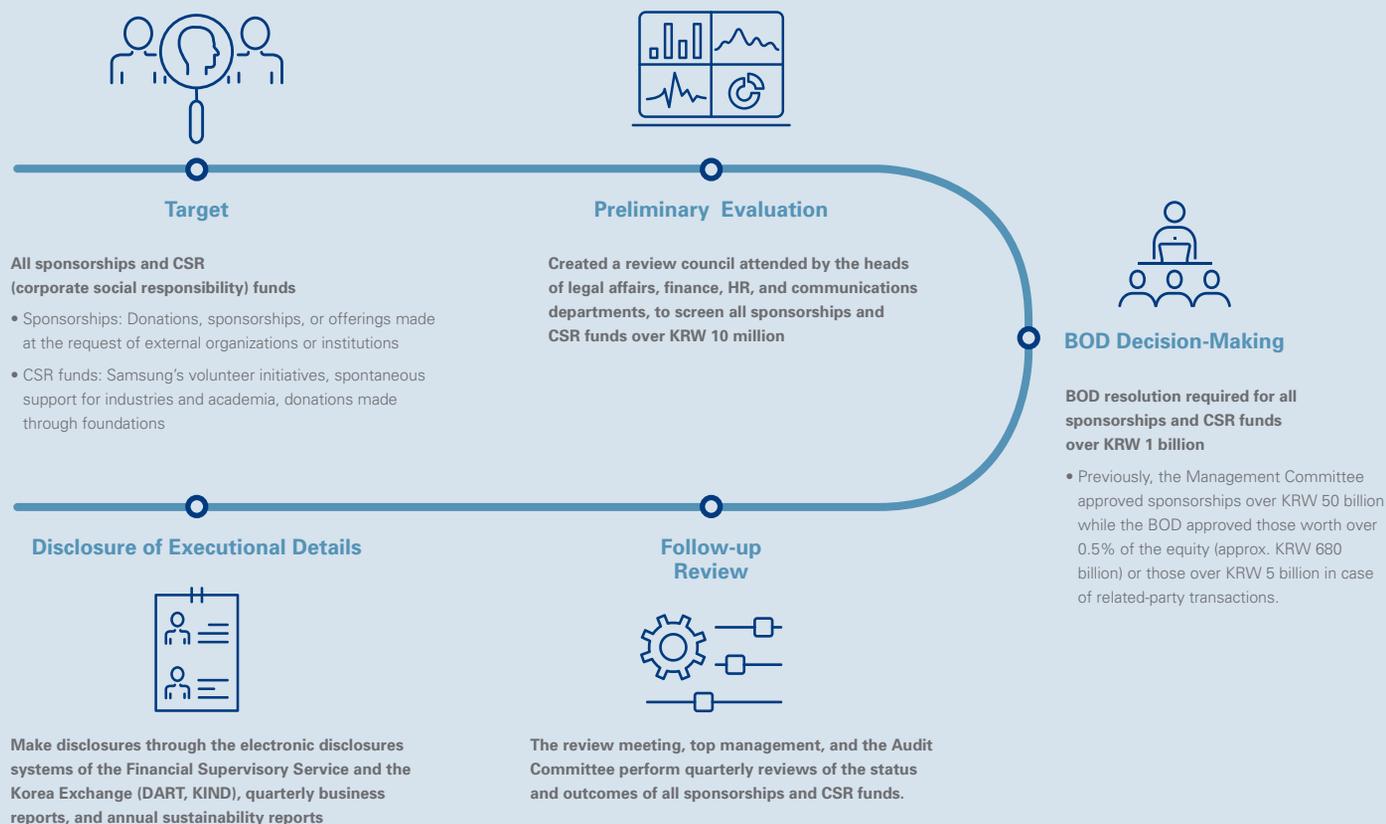
To reinforce risk monitoring on the BOD level, the CSR Committee held three meetings in 2016 to review our current risk monitoring practice, which resulted in the creation of the CSR Risk Management Council under the umbrella of the CSR Committee. With participation by all five independent directors and representatives of relevant departments, the council is responsible for supervising our in-house CSR risk management system, discussing solutions to CSR issues, and implementing them in our operations.

We have also supplemented our institutional devices to improve transparency. In 2016, we revised our Articles of Incorporation and BOD regulations

so that the BOD chairmanship, which previously held by the CEO, could be held by any one of our directors, elected by a BOD resolution. Furthermore, our BOD regulations were revised to restrict directors with potential conflicts of interest from exercising their voting rights on matters presented in BOD meetings.

As a way to strengthen our communication with external stakeholders, our directors consulted with the Asia Corporate Governance Association (ACGA) in 2016 on best practices concerning corporate governance and corporate social responsibility. As part of our commitment announced through our BOD resolution in November 2016 to improve mid-/long-term shareholder value, the CSR Committee was expanded in April 2017 and reorganized into the Governance Committee, and the committee is currently performing an extended role in relation to increasing shareholder value (e.g. shareholder return).

### Improved Transparency in Operating External Sponsorship Funds



# Changing Organization Culture

With ever changing business conditions, such as the economic uncertainties in domestic and global sites, we have built a stronger competitiveness primarily in HR innovation. In 2016, we announced our 'Start-up Culture Innovation' to develop a creative organizational culture that benefits both our status as a global company and a start-up like agile and flexible work environment. As part of this cultural innovation initiative, we renovated our HR systems to pursue a horizontal corporate culture that facilitates open communication among employees.

In July 2015, a massive debate was hosted on our on-line platform for discussion and idea gathering, that was named MOSAIC under the mandate of Global HR Innovation. A total of nearly 26,000 employees in domestic and global sites posted 1,200 suggestions and replies, which were gathered to analyze issues regarding our current organizational culture and to establish

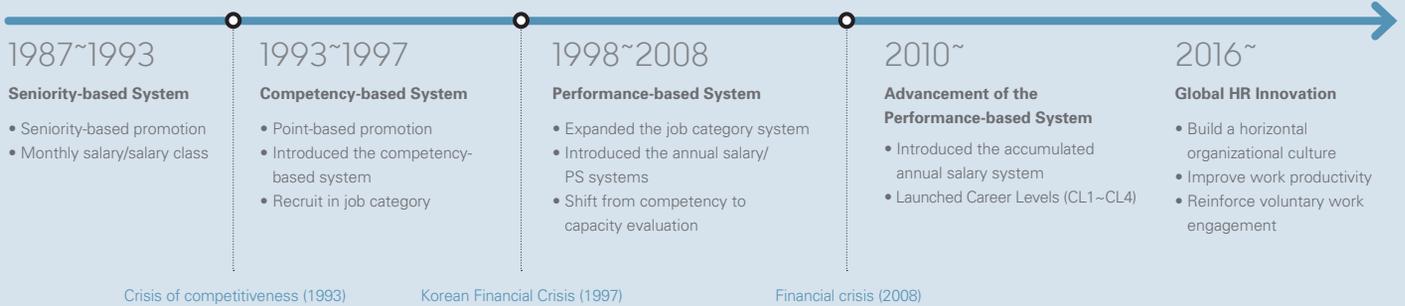
three key strategies for cultural innovation.

As of March 1<sup>st</sup> 2017, our job level system was reformed from a job function/role-based one, to a system that places focus on employee work area and expertise.

| Category           | Before Reform  | After Reform   |
|--------------------|--|--|
| Job Level System   | <ul style="list-style-type: none"> <li>7 levels based on seniority: Engineer 1/2/3, Assistant Engineer, Manager, Senior Engineer, General Manager</li> </ul> | <ul style="list-style-type: none"> <li>4 Career Levels: CL1 ~ CL4</li> </ul>   |
| Official Job Title | <ul style="list-style-type: none"> <li>Addressed by job title</li> </ul>   | <ul style="list-style-type: none"> <li>Address each other under a horizontal organizational culture*</li> </ul>  |
| Compensation       | <ul style="list-style-type: none"> <li>Fixed rate of performance pay increases</li> </ul>  | <ul style="list-style-type: none"> <li>Variable rate of performance pay increases (Aligned with annual business performance)</li> <li>Reinforce performance-based compensation in line with individual performance and contribution</li> </ul> |

\* According to the work characteristics of respective departments, any of the following ways of addressing one another: 'Mr/Ms./Mrs.', 'Pro', or by 'English name' is acceptable. Those in manager positions, however, are addressed in their job position.

## History of HR Innovation



## Culture Innovation

### Build Horizontal Organizational Culture



- Top Management sign the declaration to eliminate authoritarianism
- Use the collective intelligence platform to host discussions between the top management and employees, and expand horizontal communication

### Improve Work Productivity



- Improve business meeting practices (consolidate and reduce these meetings by half)
- Implement the three principles of expedient reporting (simultaneous reporting, working-level reporting, and simple reporting)

### Reinforce Voluntary Work Engagement



- Prohibit unnecessary overtime work
- Promote employees to take a long-term leave

# Protecting Human Rights

We defined a key vulnerable group including children, apprentices, and migrant workers whose human rights are often violated. We have dedicated special care and attention to this group with human rights protection, and we developed various policies to protect the rights of such individuals. To ensure that such policies are duly implemented at all our worksites as well as throughout the supply chain, we provide awareness improvement training, develop risk assessment tools, and conduct regular on-site inspections and monitoring. As a member of the Electronic Industry Citizenship Coalition (EICC), we strive to fulfill our responsibility in respecting human rights as requested by broad-ranging stakeholders and the international community.

## Policy and Guideline Development

Our policies and guidelines designed to protect socially vulnerable populations were developed in consideration of local specificities through collaboration with external stakeholders with expertise in this field. We increasingly extend the scope of such policies and guidelines across our global worksites and throughout our whole supply chain.

## Policy and Guideline Implementation Management

**• Education and Training** \_ We educate the top management and HR officers of our worksites, suppliers and labor supply agencies on the intention and details of our policies and guidelines while sharing the EICC Code of Conduct, region-specific labor regulations and newly enacted/revised regulations, along with best practices on the management of work environments. In doing so, we support working-level capacity building to protect the human rights of vulnerable individuals. Furthermore, we require that our suppliers sign a pledge to implement such policies and guidelines to confirm their commitment to voluntary compliance.

- Risk Assessment Tool Development** \_ In addition to providing policies and guidelines, we developed self-assessment checklists and on-site inspection manuals to verify the violation of human rights – forced labor, discrimination, and unreasonable treatment – and distribute these checklists and manuals to respective worksites and suppliers. We educated the compliance management officers of respective worksites on such on-site inspection manuals. In January 2017, we translated our migrant worker survey questionnaire into ten languages including Bangladesh, Cambodian, Indonesian, Nepali, Vietnamese, and Myanmar and distributed these questionnaires across all our worksites to help them identify and mitigate the risks these workers face.
- On-site Inspection and Monitoring** \_ We performed on-site inspections of our worksites, suppliers, and labor supply agencies based on our on-site inspection manuals and self-assessment checklist. If any issues are identified, their causes are analyzed, short-/mid-/long-term countermeasures are developed, and improvement progress is tracked down through continuous monitoring. In doing so, we make sure that we abide by relevant policies.

### Child Labor Prohibition Policy (Jun. 2014)



#### Collaboration with the CCR CSR<sup>1</sup>

- Zero-tolerance for child labor, ex ante/post measures
- Set criteria to protect teenage workers and employ apprentices

### Guidelines for Apprenticeship Training (Apr. 2016)



#### Collaboration with the BSR<sup>2</sup>/PIC<sup>3</sup>

- Comply with local regulations on apprentice employment – recruitment size, and apprentice hours and expenses
- Offer expertise improvement training and develop grievance handling systems to protect their rights

### Guidelines for Migrant Workers (Dec. 2016)



#### Collaboration with the BSR<sup>2</sup>

- Ban the collection of recruitment fees, provide labor contracts in respective language to guarantee their freedom in job seeking
- Eliminate inhumane and discriminatory treatment

1) Center for Child Rights and Corporate Social Responsibility, 2) Business for Social Responsibility, 3) Partners in Change

## On-Site Inspections Conducted

| Category   | Description  |
|--|--|
| Chinese subsidiary's patrol preventing child labor (2016)      | Conducted more than four times a year on 179 suppliers (intensive inspections during school vacation periods)          |
| Adherence to the Guidelines for Apprenticeship Training (2016) | Conducted at Indian worksites and suppliers to identify 19 improvement tasks, out of which 100% of them were completed |
| Adherence to the Guidelines for Migrant Workers                | Conducted on Thai suppliers, Malaysian subsidiary and suppliers and labor supply agencies in H1 of 2017                |

# Advancing into Circular Economy

Unlike the Linear Economy where resources are consumed as disposable, the Circular Economy creates a virtuous cycle in production and consumption: the amount of resources used in the manufacturing process is reduced and products are repaired easily, recycled, or reused to minimize the resources that are simply thrown away. Increasing worldwide consumption is giving rise to such challenges as the depleting natural resources, along with the waste accumulation and climate change. By transitioning into a circular economy, businesses can respond to risks that include fluctuations in raw material prices caused by rapidly decreasing resources as well as stricter environmental regulations while contributing to the sustainable development of the global society such as UN SDGs and providing opportunity to create economic, social, and environmental value.

## Our 'Resource Efficient' Management System

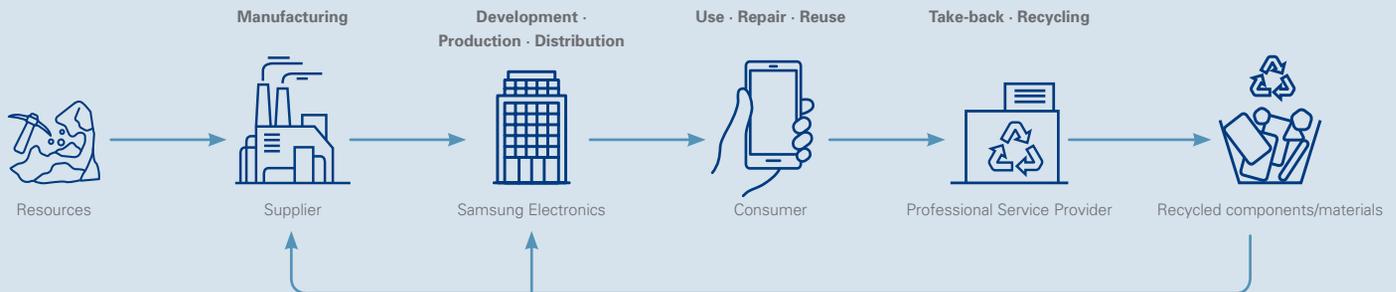
It is based on our principle of 'responsibility throughout the product lifecycle' and 'environmental policy' that we operate a resource recycling management system to minimize any negative social or environmental impact throughout the entire process of product development, manufacturing, use and disposal. Broad-ranging initiatives are undertaken to efficiently use our valuable resources: planning products that reduce energy and resource consumption in accordance with our Eco-Design Process, converting waste generated from the manufacturing process into resources, offering firmware upgrades to extend the life cycle of our products, and operating country-specific end-of-life product take-back programs.

## Built to Last, and Easier to Recycle

The key of our circular economy initiative lies in manufacturing products that are built to last and in recycling these products to further improve the efficiency of resources that we use.

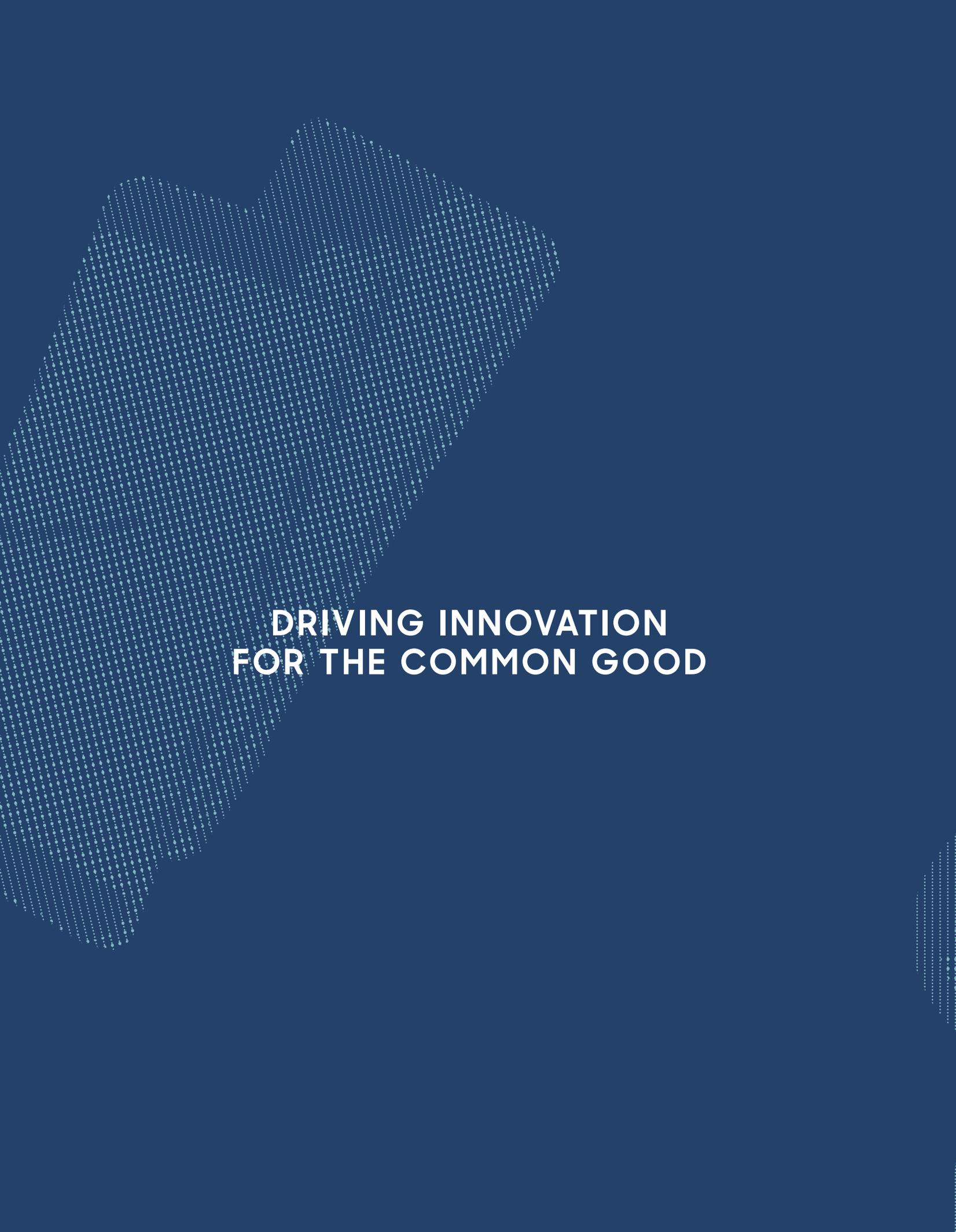
- **Service to Improve Resource Efficiency** \_ This service aims to allow for the upgrade of firmware that continuously improves product performance and to extend warranty periods to ensure that consumers use our products longer. Notably, the Firmware Over The Air (FOTA) service enables users to upgrade their firmware to the latest version in a Wi-Fi or 3G environment. Even products that have reached their 'end of life' cycles are revived through component replacement and repair. This both maximizes resource efficiency and reduces product waste.
- **Global e-waste Take-back and Recycling Program (Samsung Re+)** \_ We manage our e-waste take-back and recycling systems by country in order to make recycling easier all the way from the product development stage. For further details on our take-back system and program, please go to page 64 of this report.

## Recycling of Resources by Stage



## Actions Taken at Samsung

| Stage                 | Actions Taken at Samsung   |
|-----------------------|--|
| Development           | <ul style="list-style-type: none"> <li>• Plan products that help reduce the use of energy and resources (Eco-mark certification)</li> <li>• Design products that are easy to repair, disassemble and recycle (Eco-design process)</li> <li>• Give precedence to eco-friendly raw materials that are less environmentally-harmful and easier to recycle in making procurement decisions (Guidelines for green procurement)</li> <li>• Do business only with suppliers whose eco-friendliness has been proved (Eco-Partner certification)</li> </ul> |
| Manufacturing         | <ul style="list-style-type: none"> <li>• Minimize the consumption of energy and water at worksites, reuse water, convert waste into resources, reduce GHG emissions, replace harmful chemicals with non-toxic substances, etc.</li> </ul>  |
| Distribution          | <ul style="list-style-type: none"> <li>• Use eco-friendly, lightweight and minimal packaging materials to increase the number of products transported in each load in order to reduce fuel consumption and GHG emissions</li> </ul>  |
| Use                   | <ul style="list-style-type: none"> <li>• Purchase highly energy efficient products to indirectly reduce GHG emissions</li> <li>• Upgrade the firmware for product performance improvement and extend its warranty period</li> </ul>  |
| Repair & Reuse        | <ul style="list-style-type: none"> <li>• Operate worldwide repair service centers and post self check guide on our applications and website</li> </ul>   |
| Take-back & Recycling | <ul style="list-style-type: none"> <li>• Operate country-specific e-waste take-back programs: some e-waste are repaired for refurbishment process while others are separated, cleaned and processed by material type to be used in the manufacturing process (Samsung Re+ Program)</li> </ul>  |

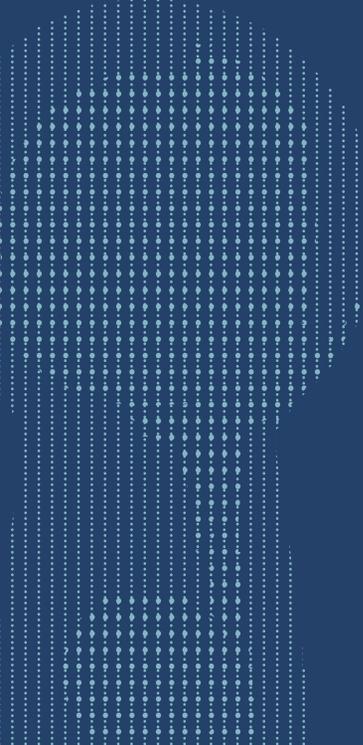


**DRIVING INNOVATION  
FOR THE COMMON GOOD**



# CREATING VALUE

This section highlights our key activity and task in each aspect of whole value chain including customers, supply chain, etc.



# Customer Value Enhancement

## OUR VISION FOR VALUE

Customer satisfaction constitutes one of the most important fundamental factors in securing a company's competitive edge in today's era of global competition. Driven by the vision to deliver customer satisfaction through product quality and service innovation, Samsung aims to maximize customer value and improve people's quality of life to ultimately contribute to the enhancement of human society. The quality control issues that Samsung suffered in 2016 rather served as an opportunity to take a second look at the Company's quality management. It not only prompted Samsung to prevent the recurrence of such issues and deliver sustained improvement in quality and service, but also provided the impetus to ultimately pursue and move closer to perfection in quality.

### TRENDS & CHALLENGES

**Product Liability Reinforcement** \_ Facing with unfortunate Product Liability (PL) incident that threatened the health and safety of customers, stakeholders (international organizations, governments, customers, NGOs, and others) are increasingly voicing their concerns and demand that manufacturers be held accountable for the quality and safety of their products (UN SDGs 3). For the manufacturing industry to maintain its credibility, it needs to develop a stringent product verification system to ensure that such products will never compromise the health and/or safety of customers, and for the unfortunate case that any accidents could occur, to respond in a swift and transparent manner through authentic communication and offering effective remedies.

**Inclusive Innovation** \_ UN SDGs aim to deploy ICT and other technologies to bring improved access to information to the vulnerables so as to bring them closer to economic wellbeing, eliminate income inequality and promote social development (UN SDGs 5, 8, and 10). Businesses can contribute to reaching these goals by identifying the needs of such consumers who previously had limited access to products and services and by providing products and services with improved accessibility for people with disabilities and all social groups.

**Customized After-Sales Service** \_ When a product targets a wide spectrum of customers who span across diverse income levels and cultural/geographical regions, its sales should be followed by localized and customized after-sales services. If a business provides such services to the vulnerable groups in local regions, it can assist local communities to develop their economy and present direct solutions to local social issues.

**Customer Data Privacy** \_ The emergence of a global network and the advancement of information and communication technology increase the risk of hacker attacks and personal data leaks. As businesses that have large amounts of personal information (online shopping malls and financial institutions) are likely to face risks of privacy violations of customer data, consumers are paying more attention to data security. Businesses should develop systematic

protection and management processes for the personal data collected during purchase and using products. For Samsung's personal information protection system, please refer to the page 98 of this report.

### OUR COMMITMENT

Samsung places utmost priority in delivering quality products and services and ensuring customers' health and safety to deliver truly compelling customer experiences. Even following product sales, Samsung engages in constant customer communication to gather consumer voice and to reflect it back into its product design, distribution and service. All Samsung employees perform in-depth analysis of customer needs, their lifestyle, and changing behaviors to understand product and service issues and seek solutions from the customers' point of view. Samsung aims to continuously pursue technology and product innovation and to deliver unparalleled service to our consumers.

### WHAT WE ACHIEVED IN 2016-2017

- **[Product Quality and Safety]** Created the Global Quality Innovation Division; Developed a smart quality management system; Strengthened quality standards; Created a dedicated organization to support suppliers with quality operations; Reinforced the verification of product safety (Adopting double safety designs, reflecting customers' abnormal and inappropriate usage, conducting intensive safety for components).
- **[Customer Service]** Expand the service line of the Galaxy Consultants who provide support service to customers at retail stores ; Offer friendly and useful customer services (Sign language guidance for the hearing-impaired, Female Engineers to the Home of Female Customers in the Middle East).

### FUTURE PLANS

1. **Continued Innovation of the Quality Assurance System** \_ Samsung plans to establish a smart quality management system to align and analyze the quality data gained through the entire life cycle of products. It will begin with product planning and going beyond product launching while constantly raising the bar for its product quality and safety assurance in the development phase.
2. **Localized and Customer-oriented Service** \_ Samsung's regional subsidiaries will identify services that cater to their specific local characteristics and conditions and share best practices in order to improve the quality of service across the board.

## Management Approach

Samsung takes into account product quality and customers' health and safety issues even from the product planning and development phase, and endeavors to provide fast and convenient services when issues arise in product use. We integrate customer feedback in developing new products through collaboration among relevant departments (customer service, R&D, marketing, sales, etc.). With an aim to prevent the recurrence of product quality issues that occurred in 2016, we created the Global Quality Innovation Office in March of 2017. As a supervisor for both the Global Technology Center and Global Customer Satisfaction Center, this new unit is responsible for integrating our competency in manufacturing technology and quality management expertise in order to constantly pursue the innovation of our quality management system. Operated under the direct leadership of the CEO, the division has established a system and is operating an accident response process to monitor and prevent any issues that negatively affect product quality and customer safety and to immediately report to the top management when such issues occur.

### Organizational Chart



**Quality Management Innovation for 2017**

- Innovate the manufacturing process and quality management of production subsidiaries
- Support component suppliers and their quality innovation
- Strengthen quality/safety risk verification
- Integrate/optimize the quality system

## Quality Management Policy

Under the quality management vision of 'Perfection in Quality beyond Your Imagination' in 2009, Samsung announced its Code of Conduct in 2009 as follows to fully commit to delivering unrivaled quality.

**Code of Conduct in Quality Management**

| Category                     | Description   |
|------------------------------|---|
| Customer-Oriented            | We appreciate even the unspecified requirements of customers and fully reflect them in our products so as to enhance customer value.                    |
| Focus on the Basics          | Since quality is our conscience and can never be compromised, we strictly abide by quality rules and processes.   |
| Professionalism              | We hold ourselves accountable for quality: we do not tolerate any defects and every employee has a sense of ownership in achieving zero-defect quality. |
| Masterpiece Quality          | We deliver masterpiece quality with the determination that the <b>SAMSUNG</b> can only be used for products with outstanding quality.                   |
| Lifetime Value for Customers | We respond to the Voice of Customers with agility and accuracy as our customers' trust and loyalty is our greatest asset.                               |

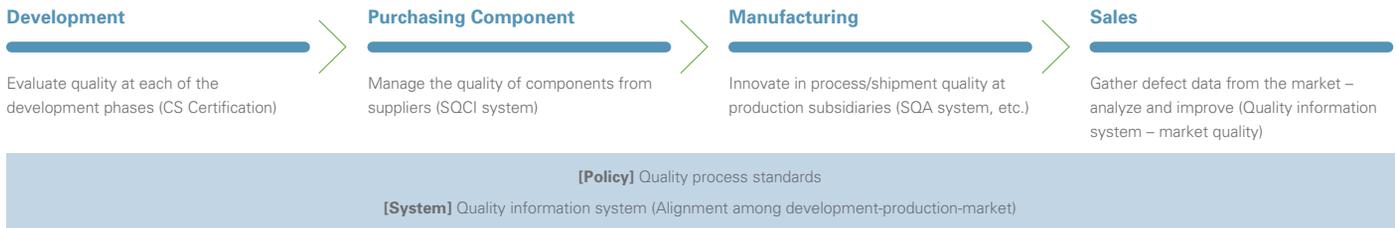
## Product Quality and Customer Health & Safety

### Quality Assurance System

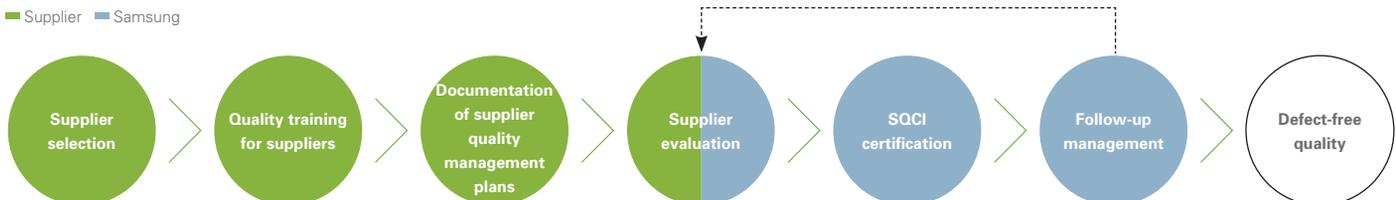
Samsung operates a quality assurance system to manage product quality throughout the entire process of planning, development, manufacturing, and sales while offering quality training to all its employees. In 2017, Samsung is realigning its general quality assurance system to reinforce quality management through innovation.

- **Quality Information System** \_ We compile, analyze, and process all quality data from across the globe for input into our database while operating a smart quality management system to identify mechanisms of causing defects and pre-emptively manage defect factors. Specifically, we analyze quality data and customer after-sales service data in order to take emergency improvement measures (early warning, suspension of manufacturing), when quality issues arise during product development. Presently, we are working to integrate and optimize our system and database to further align and analyze quality-related data obtained from the respective stages of development, manufacturing, shipment, sales and etc.
- **Quality Work Standards** \_ We established documented standards for all quality-related processes and imposed penalties in accordance with the set criteria when quality rules and processes are violated. Recently, we have significantly raised the bar on our quality work standards: effective actions are going to be taken when quality standards are not met, and business will be discontinued when our suppliers fail to abide by our quality standards and processes.
- **CS Certification** \_ Under this quality pre-validation system, departments working in quality-related areas cooperate to select review items for the CS certification and conduct tests and evaluations in each of the development stages. The executive council attended by the top management is responsible for performing final quality verification prior to the initiation of manufacturing. To ensure these evaluation items are constantly up to date, we develop and conduct new verification methods for new products and functions as well as testing techniques under their usage situation including customers' abnormal use or/and extreme use.

**Quality Assurance System**



**SQCI Evaluation Process**



- **Supplier Quality Control Innovation (SQCI) System** \_ Every Samsung supplier should be SQCI-certified to ensure that their components deliver defect-free quality. Our product quality innovation council is attended by suppliers of key components, and periodical quality inspections are conducted. In 2017, a dedicated supplier support unit was created under the 'Global Quality Innovation Office to provide quality-related technical support.
- **Samsung Electronics Quality Awards (SEA)** \_ Since 1993, Samsung has been reviewing the quality management achievements and quality assurance system of respective divisions and overseas manufacturing subsidiaries in order to award top-performers accordingly. This enables the company to raise the bar on its quality assurance system across the board and disseminate quality-driven mindset.

## Product Safety

- **Authorized Testing Lab and Safety Standards Certification** \_ We operate an international testing lab authorized by multiple countries across the globe to conduct standard assessments and certification tests in relation to Electromagnetic Compatibility (EMC), product safety, and communication. We also ensure a timely response to newly-introduced criteria by constantly building technological capability and making facility investments.
- **Product Safety Verification** \_ We have introduced a dual safety design for both products and components to protect customers from any harm in case of other product-related accidents. We are also conducting safety verifications by taking into account the abnormal product use by consumers and poor use conditions. Furthermore, the key components such as battery, power supply unit, and charger that are closely related to safety accidents must go through intensive multi-phase safety inspections.

## Quality Training

- **CS Talent Management** \_ We provide a systematic talent nurturing program for all our CS staff and assist them in becoming internationally-certified experts so that they can build on their expertise in their detailed job function and level-specific CS operations. As of 2016, 95% of our CS staff was granted with the CS Career Path certificate, which is our own training and certification system, and more than 50% of them obtained the ISO 9001 and other relevant internationally-recognized quality expert certifications.
- **Broadened Quality Training for Employees** \_ Since 2017, we have made it mandatory to include quality training in our regular curriculum such as basic introductory course and leadership course as a way to promote a stronger quality mindset among our employees. We also added advanced quality courses to the job training curriculum for our staff at development, procurement, manufacturing departments whose work is closely related to product quality and reinforced the quality aspects of the current CS staff training curriculum.

## Customer Service

### Service Operation Goal

Our customer service not only aims to correctly recognize customer requirements but also takes swift and accurate actions, but go an extra mile to care

for the emotional aspect of our service and deliver a greater customer value. Through constant innovation and improvement of our service operational system, we add on to the agility and precision of our repair service and offer truly impressive customer experience. Furthermore, the entire product service processes are aligned through our system to manage our service status in real time.

## Customer Service Channel

Samsung's customer service is provided through global common channels and locally-optimized channels to assist its customers in accessing expedient and convenient after-sales service. Notably, Samsung's regional subsidiaries have received a lot of positive response with their friendly and accessible customer service for people with disabilities and other diverse customer groups. To ensure that such wide-ranging, globally accessible services meet and hopefully exceed the set quality criteria, we perform on-site inspections on compliance with our service standards while providing staff training.

- **Galaxy Consultant** – We are expanding our smartphone-specific consultant service so that our retail stores can provide simple repair services. These consultants, called Galaxy Consultants, are capable of handling such simple procedures as OS upgrades, account setting, data transfers, application installations/usage consultations, conducting demonstrations, and teaching customers how to use the Galaxy smartphones.
- **Samsung Members Application** – Samsung Members application enables our customers to deal with issues that occur in product use on their own through FAQ, inquiry, and self problem-solving features. To strengthen its role as the service hub, we plan to add more features, from making repair appointments and searching nearby service centers to checking on the progress of repair services in real time and chatting with consultants in real time while extending its scope from smartphones to our entire product line-up in 2017.

### Samsung's Service Channel

#### Service requests and product inquiries



- Call center: Access customers' products through calls, e-mails or network to offer remote counseling, Make Live Chat available on the website
- Website's customer support menu: Self-diagnosis guidance, use guidance, etc.
- Store visit: Galaxy Consultant
- Samsung Members application

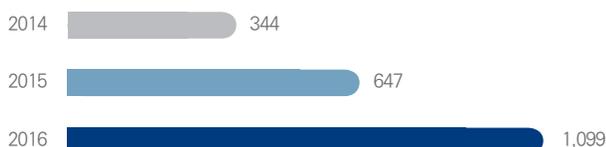
#### Product repair



- Customers visit service centers
- Staff visit customers for repair, product pick-ups for repair, etc.

### No. of Global Galaxy Consultants

(Unit: No. of Persons)





### Sign Language Service

In September 2015, Samsung Electronics Poland installed booths and tablets at Samsung brand stores and service centers across the nation so that sign language interpreters, through video connections, could assist the hearing-impaired in accessing customer services more conveniently. Such a caring service for the physically-challenged who often face hardships in using customer services was warmly welcomed by the nation: Samsung was honored with a plaque of appreciation from the Polish Association of the Deaf and major Polish TV stations allocated airtime to this heart-felt story.



### Female Engineers to the Home of Female Customers

Our Lady Service evolved from the discomfort that many women in the Middle East had trouble with communicating with and letting male repair service engineers into their homes. To address this, we created the 'Lady Service'. When a female customer submits a request for a home visit for repair services, we send female engineers to her home. In this way, our Lady Service can repair products and provide female service workers to communicate with her. The two-month pilot project initiated in Qatar from March 2016 demonstrated high customer satisfaction, and our Lady Service has broadened its scope to Dubai of UAE and Amman in Jordan.



## Service Quality Management

• **Operation of Service Standards** \_ We develop guides that define the standards of service and call centers as well as processes while sharing them with all global subsidiaries through our company-wide work standard system with an aim to provide standardized services. Each of our regional subsidiaries uses our global guides to localize their manuals in consideration of local market specificities including offering training accordingly and shares such manuals through our in-house 'knowledge portal' system.

| Service Standards                       | Details  |
|---|--|
| Service Standards<br>Operational Manual | <ul style="list-style-type: none"> <li>Operational manual for respective service processes</li> <li>- Customer contact center, technical counseling, acceptance of service requests, technical training, repair, outcome report, customer satisfaction call, expense settlement, claim management, etc.</li> </ul> |
| In-Store Service Guide                  | <ul style="list-style-type: none"> <li>Add service functions within the store</li> <li>- In-store service definitions, service functions, layouts, etc.</li> </ul>   |
| Technical Guide                         | <ul style="list-style-type: none"> <li>Technical guide for product repair</li> </ul>   |

• **Service Quality Inspection** \_ We conduct regular evaluations on our service centers for their adoption of service standards, technological capabilities, equipment repair, infrastructure, resource management, and financial stability. Depending on their size and incentives, service centers set improvement targets, and incentives, such as commission increase or awards for top-performers, are offered according to their levels of achievement.

• **Service Technical Training** \_ Our service center managers and repair engineers are provided with training programs on how to repair new products and handle customer concerns. We provide either remote video or collective training depending on the country and product characteristics, and our accessible in-house system allows employees to learn from training videos and technical materials anytime. Every December, our CS Strategy Workshop is hosted under the supervision of the Head Office and joined by service expatriates from respective subsidiaries with an aim to review past year's achievements and set our service strategy for the following year. In North America, China, Europe and other regions, our Regional Offices also host their own workshop to develop differentiated region-specific service strategy.

## Customer Communication

• **Integrated Global VOC Management System** \_ We gather VOC (Voice of Customers) data on product purchases, repairs, and use guidance through our call center and our website as a way to handle complaints and use our integrated global VOC management system to analyze customer needs and share them across the company to improve our products and services.

• **Customer Service Satisfaction Survey** \_ We conduct periodical customer satisfaction surveys on customers who have experienced our service. Survey outcomes are shared with relevant departments to improve service areas where customer satisfaction was relatively low or found to be less competitive. Such endeavors attribute to the constant increase in satisfaction with our services since 1994 when these surveys were first initiated.

## 2016 Achievements in Customer Satisfaction



U.S.

Consumer Report magazine

Customer Satisfaction

↑ st

Target Product &Service

19 products



U.K.

Which magazine

Customer Satisfaction

↑ st

Target Product &Service

8 products



Germany

TEST magazine

Customer Satisfaction

↑ st

Target Product &Service

9 products



France

Que Choisir magazine

Customer Satisfaction

↑ st

Target Product &Service

6 products



Poland

Three organizations, including  
 Jakosci Obslugi

Consumer Satisfaction Awards

Grand Prize

Target Product &Service

Electronics industry category



Greece

EIEP\*

Responding to VOC/customer

↑ st

Target Product &Service

Call center

\* The Greek Institute of Customer Service



Middle East (Dubai)

Insight Middle East and Asia\*

Best Industry Call Center

↑ st

Target Product &Service

Call center sector

\* Professional service organization  
 dedicated to customer interaction in  
 the Middle East



Korea

Korea Management Association  
 Consulting (KMAC)

KCSI<sup>1)</sup>

↑ st

Target Product &Service

TV, refrigerator, washing machine,  
 air conditioner, kimchi refrigerator,  
 smartphone, PC, multiplier

KSQI<sup>2)</sup>

↑ st

Target Product &Service

Call center Indoor & Outdoor  
 Service (mobile phone, home  
 appliances)

Korean Standards Association (KSA)

KS-QEI<sup>3)</sup>

↑ st

Target Product &Service

TV, refrigerator, washer dryer combo,  
 air conditioner, kimchi refrigerator,  
 smartphone, tablet, PC, laser printer

KS-SQI<sup>4)</sup>

↑ st

Target Product &Service

Home appliances, PC,  
 smartphone service

KS-CQI<sup>5)</sup>

↑ st

Target Product &Service

Call center

Korea Productivity Center (KPC)

NCSI<sup>6)</sup>

↑ st

Target Product &Service

TV, washer, smartphone, PC

1) KCSI: Korean Customer Satisfaction Index  
 2) KSQI: Korean Service Quality Index  
 3) KS-QEI: Korean Standard Quality Excellence Index  
 4) KS-SQI: Korean Standard Service Quality Index  
 5) KS-CQI: Korean Standard Contact Service Quality Index  
 6) NCSI: National Customer Satisfaction Index

# Product Innovation

## OUR VISION FOR VALUE

Samsung pursue creative management to inspire innovation in technology, products, and solutions. We deeply understand that the generation of economic benefits matters only when it delivers value for society and the environment and thus we are fully committed to delivering innovative products that improve the world with the belief that the global community and the planet constitute our ultimate stakeholders.

### TRENDS & CHALLENGES

**Innovation in Cutting-Edge Technology** \_ Rapidly-evolving information and communication technology is serving as an enabler for connection and convergence technologies that help build a complex network among people, objects, and business. The commercialization of 5G technology, the advancement of machine learning-based artificial intelligence, and the wider adoption of cloud and big data are further accelerating our transition into a new industrial era, dubbed the 4th industrial revolution. This urges businesses to develop their competitive edge and secure their leadership in the upcoming super-connected society, not only in manufacturing and systems, but also in such services and content sectors as robotics, the IoT, virtual reality, and augmented reality.

**Open Innovation** \_ Developing innovative products and services demands that we create synergy between our own resources – knowledge and experience accumulated internally – and third-party resources that we can access through openness and cooperation. As a corporate business entity, we build an ecosystem of product innovation through partnerships with external parties that span from collaboration with business partners and the collection of creative ideas through crowd sourcing, to technology transfer and open source initiatives.

**Innovation that Contributes to Meeting Social Needs** \_ Through the UN Sustainable Development Goals, the international community involves businesses to take a step forward in addressing the social and environmental challenges that we face today. We need to guarantee access to technology and service for vulnerable populations, support their economic independence and address inequalities (UN SDGs 1, 4, 8, and 10) while responding to depleting natural resources and preserving the environment by seeking sustainable consumption and production (UN SDGs 7 and 12). This implies that businesses may go beyond the pursuit of innovation for innovation's own sake – becoming the 'industry's first' and setting new records – and rather focus on technological development and innovation that helps solve global social and environmental issues. In doing so, business has the capacity to contribute to both a safer and a more convenient environment and society.

### OUR COMMITMENT

At Samsung, our innovation has never been confined merely to the pursuit of top-notch technology; rather, it has been driven by the philosophy that innovation should always accompany sustainable development of the entire society. With our design strategy 'Making It Meaningful,' we strive to deliver products that are truly necessary for both Samsung and the society's wide-ranging stakeholders. We tirelessly develop innovative products that offer solutions to today's social and environmental challenges through openness, cooperation, and continuous R&D on new technology. We believe that our efforts will help disseminate collective positive impacts and reduce our environmental footprint throughout the whole product lifecycle.

### WHAT WE ACHIEVED IN 2016-2017

- **[Technology Innovation]** Developed future-proof products through open innovation – collaboration with and M&A of global companies in diverse industries.
- **[Social Innovation]** Nurtured that product development endeavors and in-house start-ups that improve equal access for all customers to products and services could commercialize their ideas outside the boundary of Samsung in order to share innovative outcomes across society.
- **[Environmental Innovation]** 86% of products exceeded the level of Good Eco-Products (as defined by our in-house eco-product rating system); Reduced 188 million tons in accumulated GHG emissions in the product use phase; Reached 2.64 million tons in the accumulated global collection of waste electronics through Samsung Re+ program.

### FUTURE PLANS

- 1. Creating a Product Innovation Ecosystem** \_ We aim to fully implement ideas from both inside and outside Samsung and deploy external resources in diverse ways so that we adopt new technology and develop innovative products accordingly.
- 2. Meeting Social Needs** \_ We develop product features and services that improve access to the digital inclusion by the vulnerable so as to create social value and contribute to the achievement of the UN SDGs.
- 3. Eco-Management 2020** \_ We set an aggressive goal to reach 90% of eco products developed, reducing 250 million tons in accumulated GHG emissions in the product use phase, and reaching 3.8 million tons in the accumulated collection of waste electronics by 2020.

## Management Approach

We are fully dedicated to building our innovation capacity and new growth drivers in order to share benefits generated through the developed technology and products. Internally, our 'Creativity & Innovation Center' is operating the an innovation unit 'C-Lab (Creative Lab)' and online platform for discussion and idea gathering 'MOSAIC' to enable the culture of innovation to take deep root. Externally, our 'Open Innovation' units – Samsung Next, Samsung Strategy & Innovation Center (SSIC) – are constantly exploring varied ideas and business opportunities. Our 'Accessibility Council' is attended by product planning and development staff from respective business divisions as well as staff in design, compliance, and corporate citizenship so that we can discuss improving the accessibility of our products and services and design wide-ranging programs for the vulnerable to be operated by separate functional units that have advanced capacity in their respective fields. In terms of products environment side, 'Global CS Center' is responsible for promoting the environmental innovation of our products and operating the semi-annual 'Eco Council' meetings attended by all R&D departments which assist setting goals and strategies to develop energy-efficient and environmentally-friendly products.

### Our Approach to Product Innovation

#### Technology Innovation



- Internally: Create an innovation-oriented culture (C-Lab, MOSAIC)
- Externally: Pursue open innovation (Strategic collaboration, M&A)



#### Social Innovation



- Guarantee access to products and services
- Develop products for the vulnerable
- Share innovative technology with society

#### Environmental Innovation



- Develop environmentally-friendly products
- Develop highly energy-efficiency products
- Improve efficiency in using resources for product manufacturing
- Manage any hazardous substances that products may contain

## Samsung's Innovation in 2016

- Jan.**
  - Unveiled the Quantum Dot TV (2016 model)
  - Unveiled the 2 in 1 Tablet 'TabPro S'
  - Became the world's first to mass-produce the '4GB HBM2 DRAM'
  - Launched the 'Wind-Free™ Q9500 Air Conditioner'
  - Launched the 'Chef Collection' refrigerator (fixed temperature freezing-enabled)
- Feb.**
  - Unveiled the flagship smartphone model 'Galaxy S7/S7 Edge'
  - Unveiled the 360-degree camera 'Gear 360'
  - Demonstrated the 5G technology with the U.S. telecom operator Verizon (mmWave indoor coverage, mobility)
  - Announced commercial availability of the SAMSUNG ARTIK platform
  - Became the world's first to mass-produce the '256GB UFS Memory'
- Mar.**
  - Became the world's first to launch the 15.36TB server SSD
- Apr.**
  - Became the world's first to mass-produce the '10-nanometer class 8Gb DDR4 DRAM'
- May**
  - Became the world's first to mass-produce the '512GB BGA NVMe SSD'
- Jun.**
  - Unveiled the GPS-enabled fitness band 'Gear Fit2'
- Jul.**
  - Unveiled the world's first '256GB UFS Card'
- Aug.**
  - Unveiled the smart watch 'Gear S3'
  - Signed the contract to acquire the U.S. high-end home appliances maker 'Dacor'
- Sep.**
  - Launched the India's first nationwide 4G LTE service
  - Unveiled the world's highest-performing M.2 NVMe SSD '960 PRO 2TB'
- Oct.**
  - Launched the premium digital X-ray device 'GM85' (40% reduction in weight)
  - Became the industry's first to initiate mass-production of SoC products with 10-nanometer FinFET technology
  - Became the world's first to launch the '8GB LPDDR4 mobile DRAM'
  - Became the industry's first to mass-produce the 14-nanometer FinFET wearable AP
  - Unveiled the expanded SAMSUNG ARTIK IoT platform with new modules and reinforced IoT development solution
- Nov.**
  - Extended collaboration with Qualcomm to manufacture Qualcomm's latest premium mobile AP



## Building Innovation-driven Culture

Our pride in developing innovative technology and products goes back to the very day Samsung was established, and our history has ever remained driven by our deep-rooted corporate culture of innovation. We sincerely welcome any idea our employees bring to the table from their work, life or social interactions, help assist the development of such ideas, and do our utmost to provide a creative work environment.

- **C-Lab (Creative Lab)** \_ Introduced at the end of 2012, this in-house venture incubation program allows our employees to put their ideas into practice. When an idea is selected by C-Lab, the employee who proposed the idea is pulled from their respective department so that they may focus on the commercialization of their idea for one year. Since 2015, this program has translated outstanding ideas into spin-off business opportunities as a way to create a start-up ecosystem. Our plan is to ensure that at least 1% of our domestic R&D staff gets an opportunity to experience the C-Lab program by 2020.
- **MOSAIC** \_ MOSAIC serves as our in-house platform where employees can freely suggest, discuss, and advance diverse issues and business ideas. Enabled by the latest information technology (e.g. intelligent recommendation), MOSAIC ensures that accumulated content is used efficiently and appropriately. The ideas developed through MOSAIC are successfully translated into substantial outcomes, spanning from patent application and task suggestion, to improved efficiency in business processing and the work environment.

## Open Innovation

Our pursuit of innovation comes in diverse formats – strategic partnership and merger & acquisition – so that we can respond to quickly evolving market conditions, generate synergy from product innovation, and commercialize innovative outcomes. Notably in 2016, we acquired companies with specialized expertise in such rapidly evolving technologies as data management and artificial intelligence. This allowed us to offer differentiated Smartphone services and secure our own technological capability to cater to the increasing needs for the IoT and cloud service, thereby building an ecosystem conducive to the development of innovative products.

### Our M&A in 2016

| Target              | Business Description   |
|---------------------|--|
| Joyent              | U.S.-based cloud service provider                                |
| AdGear Technologies | Canadian start-up in the smart TV digital commercial segment     |
| Dacor               | U.S.-based high-end home appliances maker                        |
| VIV Labs Inc.       | U.S.-based artificial intelligence platform development start-up |
| Harman              | U.S.-based auto electronics and audio maker                      |
| NewNet Canada       | Next-generation texting technology developer                     |

\* BYD: Equity investments in the Chinese maker of components for electric vehicles and smartphones



### Case Study – Strategic Collaboration

At the Mobile World Congress 2017, Samsung and Peugeot unveiled the ‘instinct’, an autonomous driving concept car with Samsung’s IoT platform ‘ARTIK Cloud’ onboard. As part of the Instinct’s DNA, our ARTIK Cloud is capable of anticipating various driving preferences and fine-tuning them before one even gets behind the wheel – driving mode, seat position, interior lighting, and audio/interface configurations. Furthermore, our new tablet model ‘Galaxy Book’ is powered by the Microsoft operating system, and our ‘Serif TV’, which seamlessly blends with home interiors, was developed in partnership with the world-renowned French furniture designer Ronan & Erwan Bouroullec. As such, our collaboration and partnership goes beyond our IT industry peers and extends out to the automobile, fashion, finance, and entertainment industries.



### Case Study – Merger & Acquisition

We acquired Harman, a leading U.S. auto electronics maker, and this represents the largest-ever M&A investment made by Korean business. By accessing Harman’s innovative technology and expertise in the auto electronics industry together with our expertise in 5G, OLED, artificial intelligence, and voice recognition, we will deliver innovative and differentiated service in the automotive electronics industry. We also acquired Dacor, a high-end home appliances maker and developed our premium built-in home electronics product line ‘Modernist Collection’.

## Social Innovation

### Accessibility

In helping to address social issues, we strive to find the best way taking advantages of our characteristics and capabilities that we, as an ICT company, have. We believe that one such way is to provide equal access to ICT for vulnerable populations – people with disabilities, people from low-income households and disaster affected areas – that we offer to all our customers and to enable them to use our products and services conveniently. That is why we abide by our ‘4C Principles for Accessibility Experience Design’ in developing products. We also have created and disseminated the ‘Accessibility UX (User Experience) Design Guide’ and ‘Accessibility UX Design Checklist’ to ensure that our designers and developers consider and integrate factors of accessibility into the real-world product design process.

Our 4C Principles for Accessibility Experience Design



As a response to the 21<sup>st</sup> Century Communications and Video Accessibility Act of the U.S. (CVAA) and other regulations concerning accessibility for challenged individuals, our Compliance Team established an accessibility process to verify whether we comply with relevant regulations throughout our entire product development process while taking a more stringent preventive action for compliance purposes. We take accessibility requirements into account, from the product planning phase, and perform validity testing on such requirements prior to product launching. Furthermore, we designated a dedicated organization to be responsible for tracking country-specific accessibility regulations and reviewing our regulatory compliance.



Services Developed for the People with Disabilities

**Disaster Safety Communications Network Technology** \_ In 2017, we became the world’s first to successfully demonstrate uninterrupted video communication technology that remains steady even in disaster situations. We used the Mission Critical Push To Talk (MCPTT) technology, an international standard that supports individual/group/emergency calls through the disaster safety communications network (PS-LTE: Public Safety-LTE), to demonstrate high-quality video communication among multiple speakers. By establishing an integrated communications system and allowing for a quick sharing of information, it is expected to contribute to disaster rescue operations.

**Re!umino**\_Re!umino is the name of the Gear VR-enabled visual aid solution: it assists people with visual impairments in enjoying a clearer and brighter view of the world by processing the images shown through a VR device. Meaning ‘give back light’ in Latin, the

idea of Re!umino first originated from the fact that 86% of the visually-impaired people can still sense light. Chosen as an outstanding idea under our C-Lab program, Re!umino made its debut at the Mobile World Congress 2017. Re!umino helps improve the symptoms of wide-ranging visual impairments – ultra low vision caused by corneal/vitreous clouding, field defect disorder, and refraction disorder – and it improves the vision of those with under 0.1 vision to a 0.8-0.9 vision level. In the future, we plan to expand the scope of our research to provide a more natural and seamless user experience (similar to that of simply wearing glasses), without the need for VR devices.



Dissemination of Innovative Technology

C-Lab program provides our employees with an opportunity to focus on translating their creative ideas into reality and to establish a start-up and disseminate our technological capabilities throughout society. The ideas and technologies developed through the product innovation processes pave the way to build more proactive solutions to social issues. In 2016, 11 C-Lab projects spun off as start-ups (25 start-ups created since August 2015).

Support for Independent Start-Ups That Evolved from C-Lab Projects

| Spin-off Business | Description   |
|-------------------|---|
| WELT              | Smart belt that helps manage obesity and overeating   |
| MANGOSLAB         | Small-sized smart printer that enables users to print their ideas or memos in a sticky note format          |
| Likely            | Smart photo management/sharing service  |
| EzInno Lab        | Intelligent service that recommends the optimal power use plans in the U.S. or Japan                        |
| AIMT              | Vacuum insulation materials with the world’s highest insulation efficiency                                  |
| COOLJAMM Company  | App that makes music composition easier just by humming   |
| Jaikin            | New type of social network service that allows up to 25 people to scribble or paint on the posting uploaded |
| RocketView        | Smartphone-based solution to easily operate IoT devices   |
| analogue+         | Communication device that ensures the safety of helmet users  |
| LINKFLOW          | Wearable 360-degree camera in neck band shape   |
| Kidsoft           | Smart watch for infants that helps develop the right habits   |

## Environmental Innovation

### Green Management

To fulfill our environmental responsibility as a company, we at Samsung officially announced the Environmental Declaration and the Green Management in 1992 and 1996 respectively, followed by the establishment of a new green management value system. Since implementing our mid-/long-term roadmap Eco-Management 2020 (EM2020) in 2014, we have endeavored to create environmental value through diverse environmental innovation initiatives.

#### Green Management Value System

##### Philosophy

• **Contribute to the prosperity of human life and the conservation of the environment by conducting business activities that respect humanity and nature**

##### Vision

• **Providing Green Experience, Creating Sustainable Future**  
 • **Provide customers with a new green experience and lead a sustainable future in a global society through innovative green products and technologies**

##### Slogan



- Embody Samsung's commitment to fulfilling corporate social responsibility and advancing sustainability management by placing first priority on the preservation of Earth in all its business interactions
- The circular logo shape represents both the notion of the beginning and planet earth, while the blue and green embody fertile earth and the permanence of water

#### EM2020 KPIs

Accumulated GHG emissions reduction in the product use phase between 2009 and 2020

Reach **250** million tons

Reduce intensity-based GHG emissions at worksites

**70%** by 2020 (Compared to 2008)

### Green Product Policy

Eco-design process takes into account the eco-friendliness of our products, from the development phase and is aligned with our quality certification program. We also operate our own hazardous substance management system to identify whether the components and raw materials that we purchase contain any such substances.

- **Eco-Design Process and Eco-Rating** \_ Since 2005, we have developed and been operating our own eco-design process, upgraded by the integration of country-specific eco-labeling evaluation criteria in 2014. It aims to grade our product development projects into three categories in accordance with their eco-friendliness. As of the end of 2016, we reached 86% in the ratio of such projects rated Good Eco-Product or above. Also we plan to revise our in-house evaluation criteria to meet the level of eco-labeling certification criteria of external accreditation bodies and to use such criteria in calculating our ratio of green product development from 2017 onwards. Our goal is to ensure that 90% of our new product development projects satisfy eco-labeling criteria by 2020.
- **Environmental Chemicals Integrated Management System (e-CIMS)** \_ We review our suppliers based on ISO 14001 certification status and their use of hazardous substances in producing components in order to ensure that our products are completely free from any harmful substances.
- **Eco-Partner Certification** \_ We assess our suppliers for their environmental impact on components, raw materials and production processes, and work solely with certified suppliers.

#### Eco-Design Process

##### Eco-Design



##### Evaluation Criteria



Energy efficiency



Resource efficiency



Degree of potential environmental harm

##### Product Development Process



## Products Highlights in 2016

### Smartphone

(Galaxy S7 edge)

- High-efficiency charger (charging efficiency 86%, standby power 0.02W)
- Ultra power-saving mode
- Charger PCM<sup>1)</sup> 20%, ear-phone case PCM<sup>1)</sup> 60%



### LED TV

(SUHD UE65KS9000)

- Cadmium-free quantum dot technology
- Graded A+ in EU Energy Label
- Energy-saving mode applied
- Screw-less design (higher productivity and recyclability)



### Monitor

(LS27E65UDS)

- Annual power consumption down by 36% (against the model LS27C65UDS)
- Eco-saving function
- 30% Use of recycled plastic
- 20% Use of sugar cane for the accessory bag
- Intertek Greenleaf-certified



### Refrigerator

(RT21M6215SG)

- US ENERGY STAR-certified
- Twin cooling+ technology
- Flex temperature alteration (freezing – cold storage)
- Environmentally-friendly refrigerant (R600a)
- Honored with the 2017 Emerging Technology Award granted by the U.S. EPA



### Washer

(WF50K7500A)

- ENERGY STAR Most Efficient of U.S.
- Super Speed (30-minute washing)
- DD inverter motor equipped
- Add a garment function designed to reduce water consumption (no need to drain the filled water)



### Air Conditioner

(Wind-Free™, AF18K9970WFK)

- World's first wind-free air conditioner (save power costs by up to 85% against the wind mode)
- Ultra power saving inverter applied
- High-efficiency and low-noise outdoor fan
- Power consumption target management program
- Automatic cleaning/drying



### Notebook

(NP900X3L)

- High-efficiency charger (charging efficiency 89%, standby power 0.08W)
- Lightweight design (Weight 850g)
- EPEAT Silver-certified
- Uni-body design, easier to recycle



### SSD

(15.36TB SAS SSD, 3D V-NAND-based, 2.5" Type)

- TCO<sup>2)</sup> saving effect improved by 800% (Compared to 15K/10K HDD)
- World's first 15.36TB (ultra high-capacity) developed
- Bulk capacity distribution system technology applied (Highest performance/reliability secured)
- Zero noise/vibration, ultra power saving



### Memory

(10-nanometer 8GB LPDDR4/4X, 16Gb DRAM-based)

- Power consumption efficiency doubled (Compared to : 20-nanometer 4GB DRAM)
- Power consumption reduced by 30% (designed to reduce I/O power consumption)
- Mobile DRAM speed increased by 1.3 times (4.2Gbps) (World's first to adopt the LPDDR4X technology)



1) Post Consumer Material, 2) Total Cost of Ownership

We make sure that our products are certified by third-parties complying with their eco-friendly criteria as a way to expand green products. Our products are eco-certified by a total of 11 governments including Korea, the U.S., and Europe as well as such standards organizations as UL (Underwriters Laboratory) of the U.S. and the Canadian Standards Association (CSA). As of the end of 2016, a total of 2,054 models obtained these eco-label certifications on an accumulated basis. Furthermore, our mobile phones, TVs, washers, cleaning appliances, and other diverse products are carbon-labeled by third-party accreditation bodies to identify their carbon emissions throughout the life cycle and to use such data in improving their environmental footprint.

Governments and organizations across the globe operate diverse environmentally-friendly award programs to raise consumer awareness regarding products renowned for their eco-friendliness and to encourage businesses to practice green management. Our commitment to green management has been widely recognized through the following awards granted to our green products – energy-efficient products and easily-recyclable products – as well as our green management initiatives undertaken in respective countries to voluntarily collect and recycle waste products and offer environmental education programs.



### Natural Stone Powder Used for Packaging Materials, Honored at the Green Packaging Awards

We develop green packaging materials to reduce our environmental impact. In December 2016, we were honored with the Excellence Award at the 6th Green Packaging Awards organized by the Korea Environment Packaging Promotion Institute for our adoption of plastic materials containing natural stone powder for mobile phone accessory packaging. While mobile phone accessory packaging materials had been made out of polypropylene (PP), we partially replaced this with natural stone powder to ultimately reduce our consumption of petroleum-based resources by nearly 40%. This environmentally-friendly technology is expected to allow us to reduce our consumption of petroleum-based resources by approximately 500 tons per year, as well as our emission of CO<sub>2</sub> by nearly 15% compared to the baseline.

### Global Eco-labels and Carbon Labeling Certification

| Global Eco-labels Certification |  |  |  |   |  | Carbon Labeling  |   |   |                                   |
|---------------------------------|--|--|--|---|--|--|---|---|-----------------------------------|
| <b>Asia</b>                     |  | <br>Korea | <br>China   | <br>Taiwan | <b>North America</b>   |  | <br>Korean Carbon Labeling<br>(carbon emissions<br>+ low-carbon products<br>+ carbon-neutral products) |   |                                   |
|                                 |  |  | <br>U.S.    | <br>UL     | <br>CSA             | <br>U.K. Carbon Trust |   |   |                                   |
| <b>Europe</b>                   |  | <br>EU    | <br>Germany | <br>Sweden | <br>Northern Europe |  | <br>Austria  | <br>Russia | <b>Central/<br/>Latin America</b> |

### Environmental Awards Granted in 2016

| Category | Country     | Name of Award                            | Organizer  | Time  | Description   |
|----------|-------------|--|--|---|---|
| Company  | U.S.        | ENERGY STAR Award                        | U.S. Environmental Protection Agency                   | Feb.  | <ul style="list-style-type: none"> <li>Sustained Excellence Award in the Product Brand Owner sector for four consecutive years</li> <li>Partner of the Year Award in the Communications sector for three consecutive years</li> </ul> |
|          |             | Green Power Partnership                  | U.S. Environmental Protection Agency                   | Jul.  | <ul style="list-style-type: none"> <li>Ranked 9th in renewable energy consumption in the technology and communications sector</li> </ul>  |
| Product  | Korea       | Green Product of the Year                | Green Purchasing Network (GPN)                         | Jun.  | <ul style="list-style-type: none"> <li>Notebook 9 metal chosen as the Green Product of the Year (lightweight, lower stand-by power)</li> </ul>  |
|          |             | Green Packaging Contest                  | Korea Environment Packaging Promotion Institute (KEPI) | Nov.  | <ul style="list-style-type: none"> <li>Excellence Award granted to the packaging materials made of natural stone powder (lower resource consumption and carbon emissions)</li> </ul>  |
|          | U.S.        | Design for recycling Award               | Institute of Scrap Recycling Industries (ISRI)         | Feb.  | <ul style="list-style-type: none"> <li>FHD curved TV awarded (highly recyclable design, polyketone material applied)</li> </ul>   |
|          |             | CES 2017 Innovation Awards               | Consumer Technology Association (CTA)                  | Oct.  | <ul style="list-style-type: none"> <li>SUHD TV awarded in the Eco-Design and Sustainable Technologies sector (Cd-free quantum dot technology, screwless design)</li> </ul>  |
|          |             | SMM Electronics Challenge Champion Award | U.S. Environmental Protection Agency                   | Nov.  | <ul style="list-style-type: none"> <li>Cd-free quantum dot technology awarded in the Cutting Edge sector (first-ever application for TVs, better quality against OLED)</li> </ul>   |
| Russia   | ENES Awards | Federal Energy Agency                    | Nov.   | <ul style="list-style-type: none"> <li>AddWash Washing Machine awarded (AddWash, ecobubble technology)</li> </ul> |   |

## Resource Efficiency

We as a strong supporter of the Individual Producer Responsibility principle operate our global program, 'Samsung Re+ (replus)' for e-waste take-back and recycling. For further details on our resource recycling management system revolving around the Re+ program, please refer to page 47 of this report. We have also defined and adopted the 'Samsung Requirements for WEEE (Waste Electrical and Electronics Equipment) Managing' to promote recycling in the e-waste collection process and to minimize our environmental footprint as well as the safety & health issues that could affect our employees.

Between 2009 and 2016, we collected 2.64 million tons of e-waste on an accumulated basis, and we are planning to increase this number to 3.8 million by 2020. To facilitate recycling, we also use the plastics recovered from used electronics to manufacture new products. In 2016, we used 30,849 tons of recycled plastic, or 5% of our total plastic consumption, in producing monitors, printers, refrigerators, cleaners and ear-phone cases.

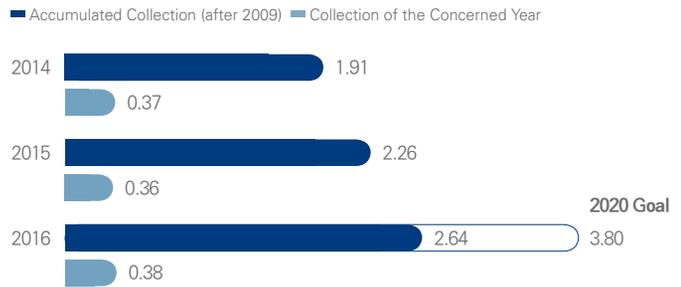
### Our Commitment to Resource Efficiency, Samsung Re+



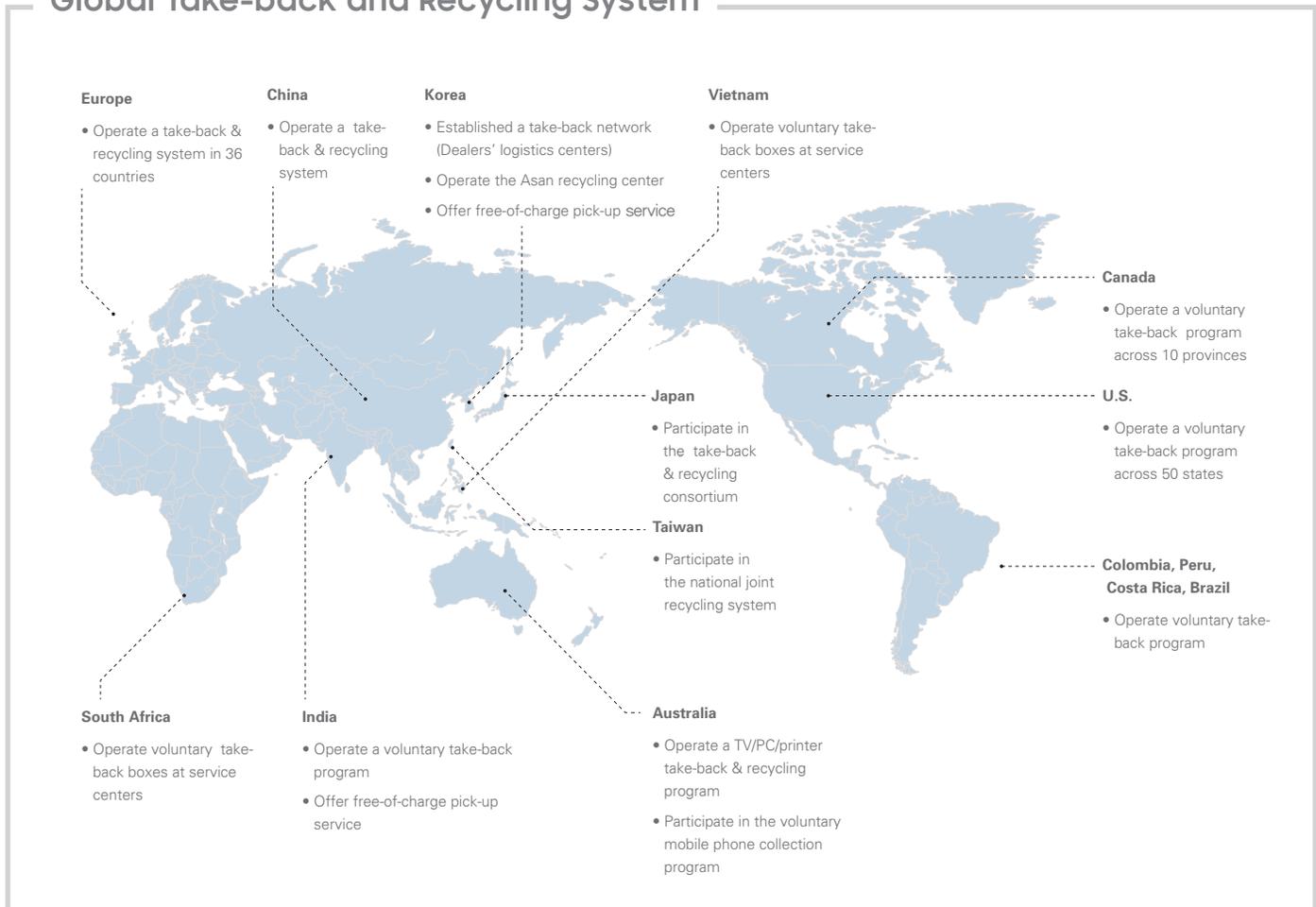
This represents our leading resource efficiency initiative undertaken under the slogan 'Samsung recycling program, Re+ makes 'PLUS' to the environment'.

### Global e-waste Take-back

(Unit: Mton)



## Global Take-back and Recycling System

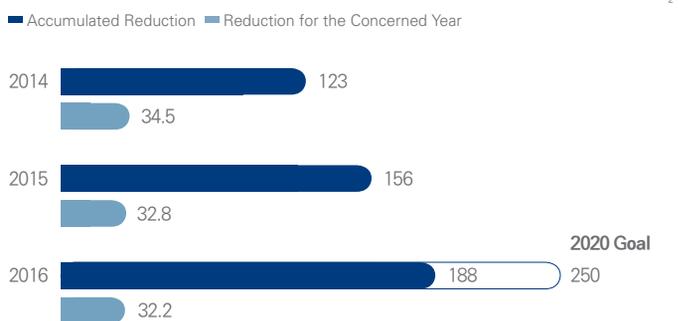


## Product Energy Efficiency

Our company-wide Eco Council meets twice a year and gather staff who work in the environment field to share trends on environmental regulations and green technology development. We also perform R&D on energy-saving technology to develop high energy-efficient products. In 2016, based on this cooperation structure we adopted diverse energy-saving technologies – highly efficient insulation for refrigerators and inverter compressors for air conditioners – and this resulted in a 49% reduction in their annual energy consumption against the year 2008\*. Furthermore, we defined indirect GHG emissions caused by the use of our products and their power consumption as ‘emissions from the product use phase’. The emission data was selected as one of our key performance indicators under our mid-/long-term green management roadmap EM2020, and we are keeping a close watch on this. In 2016, we reduced our GHG emissions by 188 million tons compared to the 2008 business-as-usual scenario.

\* Based on the eight products launched in 2016

### GHG Emissions Reduction in the Product Use Phase



## Hazardous Substance Management

We developed our ‘Standards for Control of Substances used in products’ in line with such increasingly stringent international environmental regulations as the EU RoHS (guidelines to restrict the use of harmful substances in electric/electronic products) and the EU REACH (European Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals) and ensure that every component and raw material used in our products are subject to thorough inspection and management. Since 2005, we have developed our Environmental Analysis Lab to analyze harmful substances and volatile organic compounds. The lab has been certified by the Korea Laboratory Accreditation Scheme (KOLAS) and obtained the official testing lab license from the German Bundesanstalt für Materialforschung und-prüfung (BAM). The sum of these endeavors improved our credibility in analyzing chemical substances and established our own controlled substance monitoring process.

- 2003 • Established the Standards for Control of Substances used in products
- 2005 • Developed a Technical-Tree to improve on the use of BFRs<sup>1)</sup> (supply chain improvement)  
• Banned the use of BFRs for packaging materials
- 2006 • Set plans to reduce the use of BFRs and PVC<sup>2)</sup>
- 2008 • Released mobile phones completely free of BFRs and PVC<sup>2)</sup> (some models)  
• Banned the use of PFOS<sup>3)</sup> and antimonides
- 2010 • Released new mobile phone/camera/MP3 models completely from of BFRs/PVC  
• Banned the use of cobalt chloride
- 2011 • Released mobile phones completely free of beryllium compounds
- 2012 • Banned the use of chlorinated flame retardants in mobile phones and MP3s  
• Released PVC-Free products (some components of Notebook, TV, Monitor, and home theater)
- 2013 • Released Phthalate/Antimony-Free products (some components of Notebook, TV, Monitor, and home theater)
- 2015 • Banned the use of HBCD<sup>4)</sup> and nonylphenol
- 2016 • Banned the use of four types of phthalates (DEHP<sup>5)</sup>, BBP<sup>6)</sup>, DBP<sup>7)</sup>, DIBP<sup>8)</sup>) for new components and will broaden this application to all components by 2018

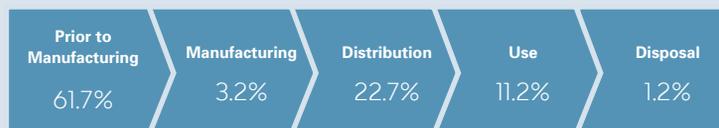
1) BFRs: Brominated Flame Retardants 2) PVC: Poly Vinyl Chloride 3) PFOS: Perfluorooctanesulfonate  
 4) HBCD: Hexabromocyclododecane 5) DEHP: Bis(2-ethylhexyl) phthalate 6) BBP: Butyl benzyl phthalate  
 7) DBP: Dibutyl phthalate 8) DIBP: Diisobutyl phthalate



### Conducting LCA on Tab S2

We perform Life Cycle Assessments (LCA) to identify the potential environmental impact of our products throughout their entire life cycle. In 2016, we analyzed our mobile phones and tablets for their environmental impact in each phase of the product life cycle and have been using the outcomes in minimizing their GHG emissions in the manufacturing phase. The following are the LCA results of the Tab S2 in the materials production, product assembly, distribution, use and disposal phases, and we are determined to use these data to consistently reduce the environmental footprint of our products.

### Global Warming Impact Assessment Outcomes for the Tab S2



# Eco-Friendly and Safe Workplace

## OUR VISION FOR VALUE

At Samsung, green management forms a vital part of our management principles, and we strive to contribute to the betterment of humanity and preservation of the environment by conducting business in a way that respects both people and nature. It is under the Green Management vision of 'Providing a Green Experience, Creating a Sustainable Future,' and the 'PlanetFirst' slogans that we advance green management to minimize our environmental footprint across all our production sites throughout the entire product life cycle, from the procurement of raw materials, development, and production to distribution, use, and disposal.

### TRENDS & CHALLENGES

**A New Climate Change Regime** \_ In line with the Paris Agreement adopted in December 2015, stakeholders expect businesses to undertake ambitious efforts in keeping a global temperature rise well below two degrees Celsius. This not only prompts us to set a strategy to reduce GHG emissions based on scientific evidence and to respond to natural disasters and other climate change risks but also paves the way to create business opportunities in order to enhance our corporate value.

**Sustainability of Natural Resources** \_ The United Nations defined the goals of reducing air/soil/water pollution, minimizing the use of chemicals and adequately disposing of such substances, improving energy efficiency, and preserving bio-diversity and ecosystems in order to ensure the sustainable use of natural resources and the development of human society (UN SDGs 3, 6, 7, 12, and 15). By shifting to a circular economy, businesses can contribute to reaching UN SDGs by minimizing any negative impact they may have on people's health and the environment and creating environmental value every step of the way – from products and services to their consumption and disposal.

**Safety Culture** \_ A safe workplace is created not only by building safety facilities and management systems but also by enhancing a safety-driven culture. Effective training & campaigns, in addition to scenario-based regular emergency drills can help raise employee awareness of safety. From long term perspective, building such a safety-driven culture can assist businesses in improving employee productivity and morale internally and in creating their brand image as a safe workplace externally.

### OUR COMMITMENT

Samsung undertakes environmental preservation initiatives that span across all our domestic/overseas worksites, suppliers, and local communities. We also abide by our 'Environmental Health & Safety (EHS) policies' in addressing environmental issues that are closely related to our business operations. In developing and manufacturing our products and services, we always put the safety of our customers and employees and the protection of our environment first. We vow to consistently strive to create a pleasant workplace and prevent safety accidents.

### WHAT WE ACHIEVED IN 2016-2017

- **[Climate Change]** Analyzed risks and opportunities from the aspects of climate change mitigation and adaptation; Set corresponding strategies and targets; Undertook pilot projects that align climate change adaptation and corporate citizenship; Fully undertook GHG emissions reduction projects by worksite
- **[Environmental Resource Management]** Used the water resource management methodology adopted by the Food and Agriculture Organization (FAO) and World Council For Sustainable Development (WBCSD) to review and address the water resource risks of worksites
- **[Biodiversity]** Cooperated with local communities to identify the impact on aquatic ecosystems in the vicinity of our worksites and the habitats of endangered species while making necessary improvements
- **[Workplace Safety]** Ensured the integrated management of workplace health & safety through the Safety Culture Office and developed eco-friendly coolants to be used at each supplier

### FUTURE PLANS

- 1. Reach the mid-/long-term EHS management goals** \_ We will ceaselessly endeavor to reach the mid-term Eco-Management 2020 (EM2020) goals (four key indicators of certification of EHS management systems, reduction in GHG emissions, reduction of water resource consumption, and recycling of waste) and will analyze key EHS indicators to define broader long-term EM2030 goals (GHG, energy, water resources, waste, pollutants, health & safety, etc.).
- 2. Enhance our safety culture level** \_ By advancing systemic EHS management and evaluating our level of safety-driven culture on the basis of the OHSAS 18001, we aim to reach Grade A\* in safety culture by 2020.

\* Samsung Institute of Safety & Environment, Safety Culture Assessment Guideline

## Management Approach

### Environment & Safety Policy

Our EHS management complies with our in-house Environment, Health & Safety policies, environment & safety management systems (ISO 14001, OHSAS 18001), and energy management systems (ISO 50001 and country-specific standards). We ensure that these management systems remain certified through annual follow-up reviews and tri-annual recertification reviews. In 2016, we identified 2,077 tasks as a result of the in-house EHS management reviews and made improvements on these tasks.

In accordance with our mid-/long-term green management roadmap Eco-Management 2020 (EM2020), we defined four key performance indicators in the areas of certification of EHS management systems, GHG emissions, water resources, and waste. We closely monitor our progress in achieving these mid-term goals by 2020. Furthermore, we are currently setting our long-term 2030 goals by adding pollutants, health & safety, and other indicators in addition to the current indicators.

#### Our Goals and Achievements by KPI

| Indicator  | Achievement |      |      | Goal |      | Achievement <sup>4)</sup> |
|--|-------------|------|------|------|------|---------------------------|
|  | 2014        | 2015 | 2016 | 2016 | 2020 |                           |
| Certification ratio of EHS management systems <sup>1)</sup> (%)                  | 100         | 100  | 100  | 100  | 100  | ●                         |
| Intensity-based GHG emissions <sup>2)</sup> (tCO <sub>2</sub> e/KRW 100 million) | 2.72        | 2.64 | 3.04 | 2.50 | 1.55 | ○                         |
| Intensity-based water consumption <sup>2)</sup> (ton/KRW 100 million)            | 41          | 53   | 60   | 55   | 50   | ○                         |
| Recycling of waste <sup>3)</sup> (%)   | 92          | 93   | 95   | 93   | 95   | ●                         |

| Indicator  | Target by 2020   | 2017 Forecast                                 |
|--|--|---|
| Certification ratio of EHS management systems <sup>1)</sup> (%)                  | Maintain the rate of EHS management system certification at 100% | Maintain the certification 100%               |
| Intensity-based GHG emissions <sup>2)</sup> (tCO <sub>2</sub> e/KRW 100 million) | Reduce 70% of GHG emission intensity by 2020 (compared to 2008)  | Absolute emissions 13,416 KtCO <sub>2</sub> e |
| Intensity-based water consumption <sup>2)</sup> (ton/KRW 100 million)            | Achieve water use intensity by 50 tons/KRW 100 million by 2020   | Water resource consumption 127 Mton           |
| Recycling of waste <sup>3)</sup> (%)   | Achieve 95%  | Reach 93.5%                                   |

1) Ratio of obtaining ISO 14001, OHSAS 18001 certifications at 36 global production sites

2) Calculation: Total CO<sub>2</sub>e (Scope 1, 2) emissions or total water consumption at global worksites ÷ consolidated global sales + price index  
- Consolidated global sales: Excluding display sales  
- Price index: Producer price index as disclosed by the Bank of Korea for the concerned year (Base: 2005 = 1)

3) Calculation: Amount of recycled waste ÷ total amount of waste generated x 100

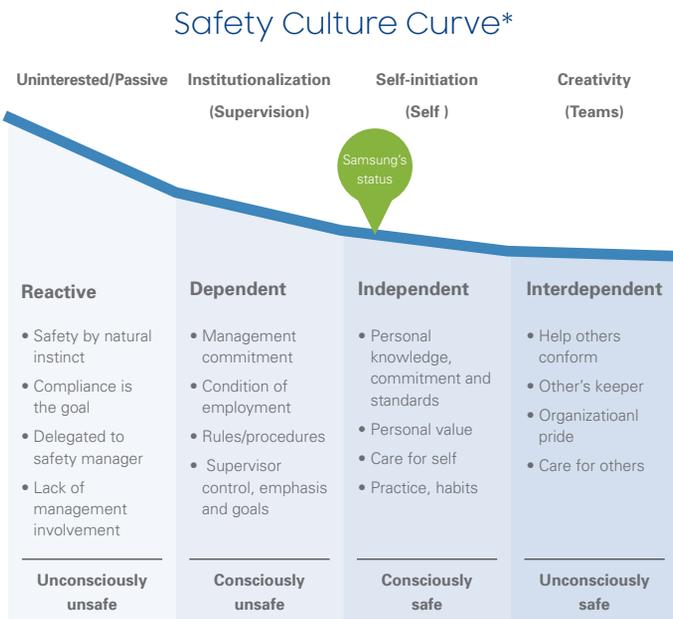
4) 2016 Target Achievement, ●: Achieved, ○: Not achieved

## Safety Culture Strategy

To establish a global - safety-driven culture by 2020, we set mid-/long-term strategies and include safety management performance in the executive performance target while evaluating our level of safety culture and offering employee training.

We identify potential risks and perform risk assessments based on the EHS management system (OHSAS 18001) at all our production sites in order to undertake improvement initiatives. We also evaluate all our worksites for their level of safety culture. In 2016, our domestic worksites were rated 'Self-Initiation Phase', which was an improvement by one phase level from 2015.

### Criteria to evaluate the maturity of a safety culture



## EHS Management Approach

Our Global EHS Center and Global CS Center, under the direct leadership of the CEO, are responsible for EHS management and product environmental impact respectively. We also operate the Safety Culture Office to build a company-wide safety culture and host regular meetings attended by relevant departments and supervised by top management. Our Global Environment and Health & Safety System (G-EHS) also allow us to ensure an integrated EHS operation and management and allow for the periodical calculation of key management indicators.

In 2016, we spent a total of KRW 933.4 billion in investing and operating EHS facilities, and our annual EHS expenditure is constantly rising as we replace exiting facilities with highly efficient ones and expand our worksites.

We apply criteria that are more stringent in our environmental management, and the threshold of our environmental management criteria is 20% or lower on average compared to that of domestic/overseas environmental regulations. Furthermore, we monitor newly introduced and revised regulations to reflect them in our in-house management standards and analyze their risks. There

### Company-wide EHS Meetings

| Meeting                          | Description   | Supervisor                    | Meeting Schedule |
|----------------------------------|---|-------------------------------|------------------|
| Environment & Safety Committee   | Deliberate on company-wide environmental strategy and discuss worksite-related pending issues             | CFO                           | Three times/year |
| Eco Council                      | Set development goals and implementation strategies for highly energy-efficient and eco-friendly products | Head of the Global CS Center  | Twice/year       |
| IM/CE Division Synergy Committee | Discuss workplace EHS issues, best practices, and healthcare  | Head of the Global EHS Center | Three times/year |
| DS Division EHS Committee        | Consult on key EHS issues   | CEO                           | Six times/year   |
| Company-wide EHS Manager Council | Consult on building a safety culture, regulatory compliance, and chemicals management                     | Head of the Global EHS Center | Six times/year   |
| Company-wide GHG Council         | Select implementation tasks to respond to climate change and manage their progress                        | Head of the Global EHS Center | Four times/year  |

has been no violation of environmental regulations at any of our production sites over the past three years.

We proactively respond to any requests made by internal/external stakeholders in relation to environmental impact issues. Our domestic semiconductor production site hosts monthly Communication Council meetings with residents in Yongin and Hwaseong where it is based to gather feedback, while our Polish worksite developed a real-time process to handle EHS requests from employees and in-house suppliers and is expanding this process to other sites.

In 2016, our GHG emissions, consumption of energy/water resources, generation of air/water pollutants, and discharge of wastewater all increased due to the establishment of new production sites, introduction of large-scale facilities, and increases in production and product sales. Since we are clearly aware of the negative environmental impact from such activities, we strive to create a positive impact on our environment. We improve on our facilities and systems to reduce the total amount of pollutants generated, increase the use of renewable energy, launch corporate citizenship projects to adapt to climate change, manage our suppliers' environmental impact, and partner with local communities to protect the ecosystem in the vicinity of our worksites.

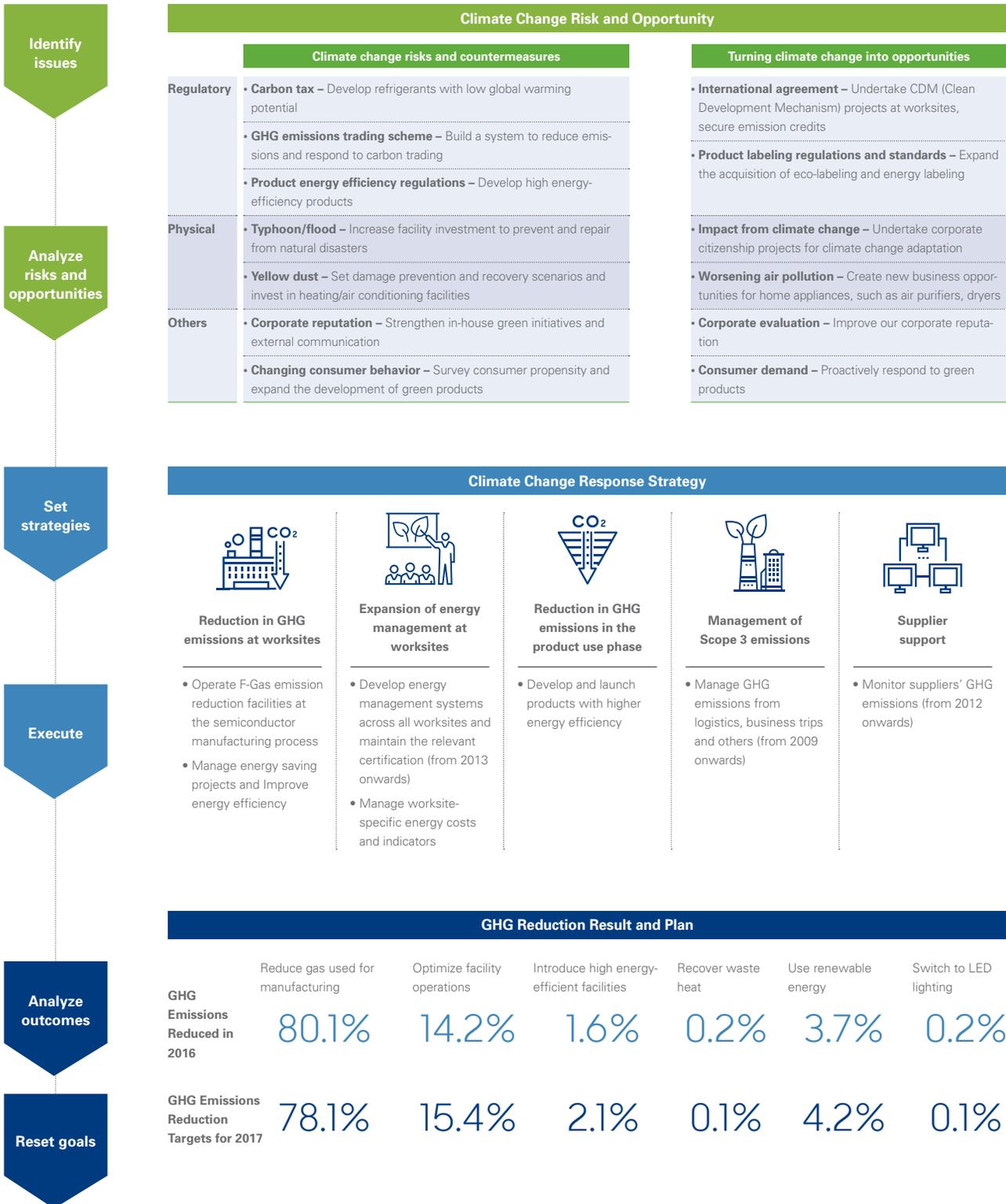
## Climate Change

### Climate Change Strategy

We established a comprehensive strategy spanning climate change mitigation and adaptation and operate its implementation process accordingly. We prioritize key climate change issues in accordance with their importance and impact to integrate them in our policy decision-making.

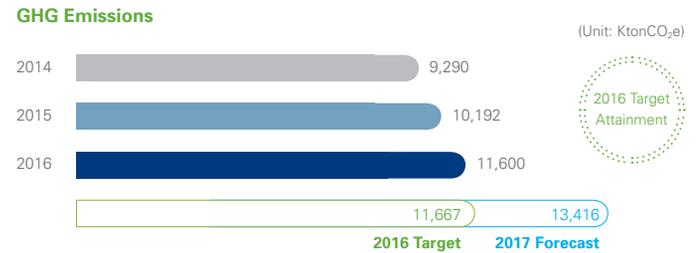
Our climate change management system has been rated Leadership A by the '2016 CDP (Carbon Disclosure Project) Climate Change', evaluation made specifically in the climate change sector. This placed us in the Global CDP Index for seven consecutive years, which publicly recognized our achievement in tackling climate change.

## Climate Change Response Process



- Climate Change Mitigation \_ GHG Emissions Reduction** \_ While the total amount of our GHG emissions is increasing as we expand our production sites and introduce new facilities each year, the GHG emission reduction projects undertaken by respective worksites (a total of 2,305 projects to install F-Gas reduction facilities, switch to highly efficient facilities and optimize facility operations) have enabled us to cut by a total of 2.2 MtonCO<sub>2</sub>e.
- Climate Change Mitigation \_ Adoption of Renewable Energy** \_ We made it mandatory for renewable energy facilities to reach a predetermined ratio of the total in constructing new buildings. We are also gradually shifting to renewable energy for worksite infrastructures such as street lighting, transportation, and cafeterias. In countries where green electric power or renewable energy certificate purchase is possible, we continue to increase our purchases and in 2016, we replaced a total of 181.77 GWh energy with renewable sources.
- Research on Climate Change Adaptation** \_ In 2015, we jointly conducted research on 'Corporate Social Responsibility Activities for Climate Change Adaptation' with the Graduate School of Environmental Studies at Seoul National University and have since been undertaking following three pilot projects.

## GHG Emissions Management

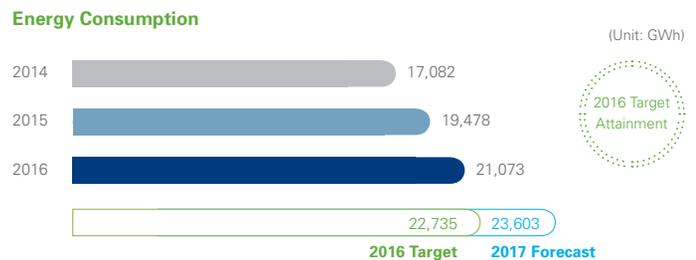


The G-EHS system allows us to verify targets and manage outcomes concerning our GHG emissions (Scope 1 and 2) across all our worksites on a monthly basis. In 2016, we set reduction targets for respective worksites and strengthened our execution of reduction projects, which ultimately enabled us to exceed the annual GHG emissions target by nearly 1%.

For Scope 3 emissions that represent emissions generated outside of the worksites, we trace the emissions generated through product logistics and business trips, as well as the emissions from our suppliers, to manage our environmental impact additionally generated in our business conduct.

Concerning GHG emissions generated from logistics, we launched 39 emission reduction projects in Korea – changing transport routes, improving loading efficiency, and increasing the efficiency of transport management – to reduce by a total of 2,583 tCO<sub>2</sub>e in 2016. For 2017, we set the goal of a 2% emission cut from the 2016 base year. Meanwhile, we introduced a video conferencing system to minimize business trips: a total of 153,738 video-based meetings were held in 2016, which reduced overseas business trips by 12% from 2015. To reduce GHG emissions generated by our suppliers, we identify and calculate the energy consumption (power, fuel, etc.) of all our suppliers on an annual basis and assist suppliers whose energy management system is substandard in conducting on-site consulting and identifying energy saving projects. In 2016, 62 such projects were identified at a total of 10 suppliers, which reduced approximately 4,920 tCO<sub>2</sub>e.

## Energy Management



The energy consumption at our worksites is constantly rising as we introduce new production facilities and increase our production volume each year. This prompted our worksites to identify energy-saving/conservation projects, set annual action plans and manage their monthly progress. In 2016, we exceeded our annual energy consumption target by 7%, i.e., consumed 93% of the target.



### Pilot Corporate Citizenship Projects for Climate Change Adaptation

**Support for drinking water facilities in countries most vulnerable to climate change**



Collaborating with Scientists and Engineers without Borders, we are installing semi-permanent drinking water facilities in 10 Vietnamese educational institutions that are exposed to climate change risks. This project was completed in May 2017, and we plan to expand such projects following outcome monitoring.

**Improvement of the residential environment for low-carbon climate change adaptation**



While we were engaged in housing renovation projects for the underprivileged in Korea as part of our corporate citizenship activities, we transformed such endeavors into constructing residential area with improved energy efficiency with the Environmental Energy Foundation. As a result of this pilot project undertaken on 10 households in 2016, the annual energy consumption was reduced by 57% per household and reduced a total of 8.6 tonCO<sub>2</sub>e. Since 2017, we have switched all our housing-related social-giving projects in Korea into construction projects aimed to increase energy efficiency and expand them further.

**Development of climate change adaptation courses for Samsung Smart Schools**

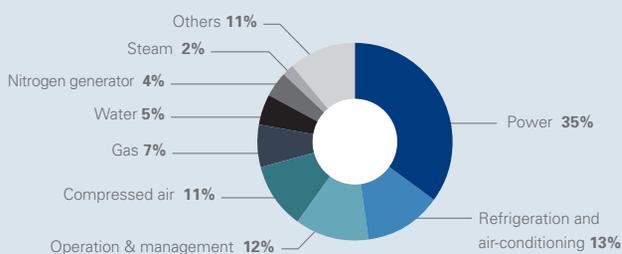


To increase awareness regarding climate change throughout the entire society, we are developing educational content specifically designed for climate change issues for instructors, teachers and students in cooperation with the Korea Environmental Education Center. In 2017, we plan to use the educational materials and tools developed to launch pilot educational projects for elementary schools in Korea.



### Overseas Worksite Initiatives to Reduce Energy, Water Consumption and GHG Emissions

We set 24 operational standards and processes to assist our overseas production sites in reducing their energy consumption: these standards and processes were used to define standardized energy-saving projects and to improve on vulnerable areas by worksite. In 2016, a total of 1,580 energy and water saving projects were identified across all our overseas worksites, and 1,523 projects (96% of the total) were completed. This led to energy savings worth 1,520 GWh in total, which translates into KRW 58.54 billion (10%) in reduced energy costs.



#### Savings Made in 2016 (KRW billion)      2017 Saving Plans (KRW billion)

| Power | Utilities | Power | Fuel | Water |
|-------|-----------|-------|------|-------|
| 34.9  | 23.64     | 39.7  | 4.2  | 2.1   |

tons/KRW 100 million in intensity-based water consumption, a goal set under our EM2020 vision.

In monitoring our water resource risks at our global production sites and setting response strategies, we adopt the water resource management methodology suggested by the Food and Agricultural Organization (FAO), World Business Council For Sustainable Development (WBCSD), and the World Resource Institute (WRI). As a result of such risk analysis, five countries (where 12 subsidiaries are located) were identified as water-stressed countries, and this propelled us to set risk handling strategies based on the CDP Water guidelines.

#### Our Water Intake by Region

(Unit: No. Kton)

| Water Withdrawal by Subsidiary | Subsidiaries | Withdrawal Amount | Discharge    | Note  |
|--------------------------------|--------------|-------------------|--------------|---|
| Total                          | 36           | 104,253           | 81,716       | -   |
| Water-Stressed* Subsidiary     | 12 (67%)     | 69,770 (67%)      | 55,302 (68%) | Korea (7), India (2), Poland (1), Egypt (1), South Africa (1) |

\* Identified by applying the water resource management methodology of FAO

#### Global Water Resource Risk Analysis and Strategy

| Country      | Type   | Strategy   |
|--------------|--|--|
| Korea        | Physical risk (floods)   | <ul style="list-style-type: none"> <li>Create wetlands and dikes in response to floods affecting streams in the vicinity of our worksites</li> <li>Purchase disaster insurance policies and regularly check flood control equipment</li> </ul>   |
| India        | Physical risk (water quality degradation)                      | <ul style="list-style-type: none"> <li>Increase the frequency of conducting in-house water quality analysis and the efficiency of water treatment facilities</li> </ul>  |
| Poland       | Reputational risk (wastewater leaks)                           | <ul style="list-style-type: none"> <li>Build an emergency response system and conduct regular drills in preparation for wastewater leaks</li> </ul>  |
| Egypt        | Physical risk (droughts)                                       | <ul style="list-style-type: none"> <li>Secure water tanks to store water sufficient for one day operation of production facilities on average</li> </ul>   |
| South Africa | Regulatory risk (discharge)                                    | <ul style="list-style-type: none"> <li>Sewage and wastewater from worksites move to the terminal treatment facility within the industrial complex for processing, and thus pose lower risks of environmental accidents (no in-house sewage/wastewater treatment facility under operation)</li> </ul> |
| Common       | Physical risk (water quality degradation)                      | <ul style="list-style-type: none"> <li>Secure water quality through the pre-intake water treatment process</li> </ul>  |
|              | Physical risk (water outages)                                  | <ul style="list-style-type: none"> <li>Install dual water intake facilities and water collecting facilities to prevent production delays</li> </ul>  |
|              | Regulatory risk (regulatory change in water use and discharge) | <ul style="list-style-type: none"> <li>Abide by the in-house criteria stricter than country-specific legal discharge criteria</li> </ul>   |
|              | Regulatory risk (enactment of efficiency standards)            | <ul style="list-style-type: none"> <li>Conduct water efficiency reviews in building new facilities and make facility investment to improve the water efficiency of existing facilities</li> </ul>  |
|              | Regulatory risk (uncertainty over new regulations)             | <ul style="list-style-type: none"> <li>Continuously monitor global environmental regulations over new regulations</li> </ul>   |
|              | Reputational risk (lawsuits raised due to wastewater)          | <ul style="list-style-type: none"> <li>Continuously monitor effluent discharge</li> <li>Build an environmental management system early on for new manufacturers</li> </ul>   |

## Environmental Resource Management

### Water Resource Management

#### Water Resource Policy

##### Philosophy

**We recognize the importance of water resources in maintaining a sustainable society and conducting business, and fulfill our social responsibility to protect these valuable resources as a global company.**

##### Action Guidelines

1

We strive to minimize water resource risks in our business conduct.

2

We recognize the importance of water resources as part of our corporate culture.

3

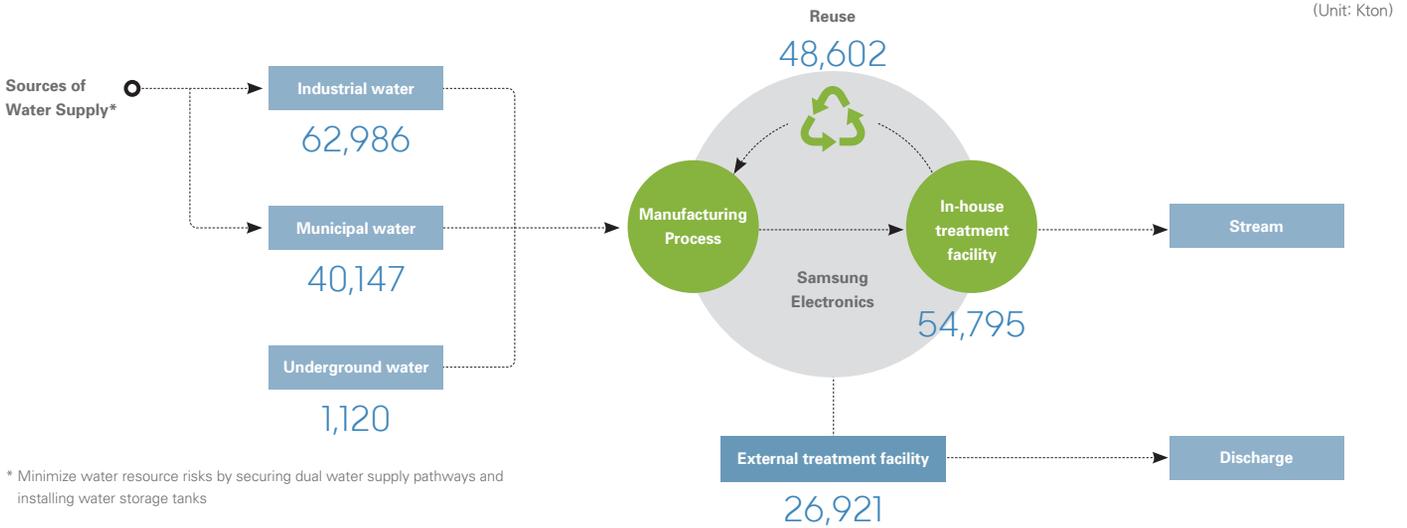
We fully cooperate in complying with public water resource policies.

4

We disclose our water resource policies and initiatives.

It is through our 3R initiatives for water resource management (Reduce, Re-use, Recycle) and monitoring of effluent discharge that we strive to reach 50

Flow of Water Resources



Our commitment to maximizing the use of water resources spans both daily endeavors (replacing old valves with new ones, improving the control of cooling tower drain valves) – and structural improvements (improving the manufacturing process and building a recycling system). The sum of these efforts enabled us to reuse 48,602 tons of water in 2016, up 5.2% from the previous year.

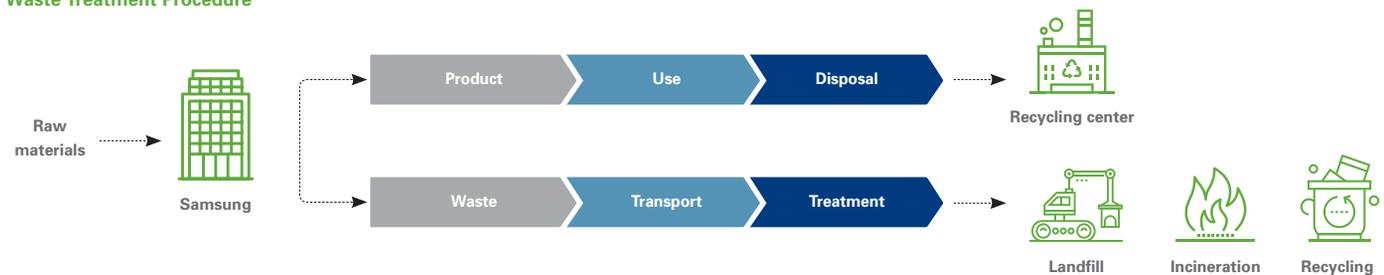
- **Reduce the Amount of Incoming Water and Wastewater Discharge through the 3R Initiatives** \_ Standardizing and automating our water consumption in the manufacturing process enable us to cut our daily water use by an average of 63,000 tons by reusing water among different processes and reusing wastewater as process water.
- **Improve the Reuse of Water through the Water Showring System (WSS)** \_ The WSS aims to eliminate external air pollutants from air-conditioning units. The water generated from the WSS goes to the wastewater treatment facility and is then reused as process water, which helps conserve an average of 1,776 tons of water each day.
- **Update the Scrubber Drain Method** \_ We updated the management standards of alkaline exhaust to adopt electric conductivity management among the water quality management standards adopted for air pollution control

facilities, which allows us to reduce an average of 480 tons of water each day. Our 1<sup>st</sup>-tier suppliers are subject to annual inspections on their water consumption and sewage/wastewater treatment facility operations. In 2015, our suppliers consumed 134,733 tons of water by 544 suppliers.

Waste Management

We monitor and manage the amount of waste generated and recycled at respective worksites on a monthly basis with a goal of reaching 95% in recycling waste under our EM2020 vision. For those worksites failing to meet their target, management plans are developed to minimize their waste generation while increasing their waste recycling in order to meet our annual target. In 2016, the amount of waste generated was 1,078,309 tons, up nearly 15% from 937,341 tons in 2015 as we established new worksites and increased our production volume. Yet, the recycling volume also rose by 17% from the previous year through identifying competent recycling service providers. Overall, our recycling ratio reached 95%, and our incineration and landfill rates dropped by 10% from 2015.

Waste Treatment Procedure



### Waste Management Strategy

| Procedure           | Management Plan  |
|---------------------|--|
| Product Development | <ul style="list-style-type: none"> <li>Operate the Eco-design evaluation process</li> <li>Evaluate eco-friendliness in the development phase (resource efficiency, environmental hazards, energy efficiency)</li> </ul>  |
| Waste Discharge     | <ul style="list-style-type: none"> <li>Set targets in waste recycling ratio</li> <li>Take stronger actions to reduce environmental hazards (develop and switch into low-toxic substances, neutralize toxic substances, etc.)</li> </ul>  |
| Waste Transport     | <ul style="list-style-type: none"> <li>Comply with conventions on the border control of hazardous waste</li> <li>Monitor the movement routes of waste-carrying vehicles</li> </ul>   |
| Waste Treatment     | <ul style="list-style-type: none"> <li>Check the waste processing service providers' compliance level through regular visits</li> <li>Perform annual environmental assessments on processing service providers (operational competency, environmental management, etc.)</li> </ul> |

## Pollutant Management

To reduce our discharge of air pollutants, we switched to low-NOx burner boilers, installed optimal pollution control facilities in building new production lines and improved the efficiency of such control facilities. Our water pollutant treatment facilities are operated under optimal conditions, which enabled us to remove 97.6% of the water pollutants at our Korean worksites (only 2,998 Kg were discharged out of the total incoming pollutants of 122,420 Kg).

We fully comply with the Montreal Protocol, and thus we ban the use of CFC (chlorofluorocarbon)-based materials whose ozone depletion potential is high and instead use HCFC (hydro chlorofluorocarbon)-based substances whose ozone depletion potential is relatively as low as refrigerants for freezers and chillers at worksites. Our plan is to replace all substances used at worksites with non-ozone-depleting substances by 2019.

## Biodiversity

### Biodiversity Conservation Policy

#### Our Belief

**We recognize benefit and impact from ecosystems and biodiversity, minimize any negative impact on biodiversity, and fully undertake ecosystem preservation initiatives.**

#### Action Plans

1

All our employees recognize the preservation of biodiversity as a critical value of our green management.

2

We assess and analyze our influence on ecosystems and biodiversity along the life cycle of our products and strive to minimize any negative impacts.

3

We place top priority on the areas whose value of biodiversity is high across all our worksites in domestic and global sites and undertake biodiversity preservation initiatives that cater to local needs.

4

We constantly communicate with employees, local communities, NGOs, and stakeholders to contribute to the preservation of biodiversity in local communities.

Five of our domestic sites in Korea (Suwon, Hwaseong, Giheung, Gumi, Onyang) regularly commission external testing organizations to measure water

quality indicators (COD, BOD, pH levels) in their nearby streams as a way to manage their ecological footprint while identifying endangered species in the vicinity of their worksites and striving to protect their habitats. Furthermore, they collaborate with local NGOs, employees' families, and local students to preserve the ecosystems of streams.

### Ecological Impact Analysis on Nearby Streams

| Stream                     | Ecological Status   |
|----------------------------|---|
| Wonchenri Stream, Hwaseong | <ul style="list-style-type: none"> <li><b>Measured by:</b> Kyunghee University, Korea</li> <li><b>Water temperature:</b> No ecological impact was observed as the temperature of effluent is similar to that of the stream due to the operation of a water temperature reduction facility during the winter season</li> <li><b>Fish:</b> 954 individuals from 15 species were confirmed (minnow 69.8%, crucian carp 9.9%)</li> <li><b>Ecosystem:</b> Benthic invertebrates were confirmed (insects 60% / non-insects 40%) → Dominant species: Leech (60.9%)</li> <li><b>Ecotoxicity:</b> No impact on the stream was observed as a result of measuring effluent</li> </ul>  |
| Osan Stream, Giheung       | <ul style="list-style-type: none"> <li><b>Measured by:</b> Korea Ecology &amp; Environment Institute (Korean Federation for Environmental Movement Osan)</li> <li><b>Water temperature:</b> No ecological impact was observed as the temperature of effluent is similar to that of the stream due to the operation of a water temperature reduction facility during the winter season</li> <li><b>Fish:</b> 2,068 individuals from 25 species were confirmed (crucian carp 70%, carp 19%)</li> <li><b>Ecosystem:</b> Benthic invertebrates were confirmed (insects 68.4% / non-insects 31.6%) → Dominant species: Caddisfly (<i>Cheumatopsyche brevilineata</i> lwata) (39.7%)</li> <li><b>Ecotoxicity:</b> No impact on the stream was observed as a result of measuring effluent</li> </ul> |

### Endangered Species by Region across Domestic Worksites

(Unit: Species)

| Habitat   | Suwon<br>Digital City | Yongin<br>Nano City<br>Giheung Campus | Hwaseong<br>Nano City<br>Hwaseong Campus | Gumi<br>Smart City | Gwangju<br>Green City | Asan<br>Nano City<br>Onyang Campus |
|-----------|-----------------------|---------------------------------------|--|--------------------|-----------------------|------------------------------------|
| Mammal    | 1                     | -                                     | 1  | 2                  | 5                     | 1                                  |
| Bird      | 6                     | -                                     | 26                                       | 7                  | 6                     | 19                                 |
| Fish      | -                     | -                                     | -  | 1                  | 1                     | -                                  |
| Amphibian | 2                     | 2                                     | 3  | -                  | -                     | 3                                  |
| Insect    | -                     | 1                                     | 1  | -                  | -                     | -                                  |
| Plant     | 1                     | -                                     | 2  | 3                  | 1                     | -                                  |
| Others    | -                     | -                                     | -  | -                  | -                     | 2                                  |

• **Preservation of white-naped cranes** \_ In 2013, our Gumi site became the first in Korea to sign the biodiversity preservation partnership with central/local governments and universities. Moreover, with the support from the Daegu Regional Environmental Office and Gumi City, the site brought in two pairs of white-naped cranes from the Netherlands (Natural Monument No. 203) and endeavored to assist their reproduction. Following three years of support to restore the ecosystem in the Haepyeong Wetlands, a habitat for migratory birds, the Bird Ecological Environment Research Institute succeeded with the assisted reproduction of the white-naped cranes on April 21<sup>st</sup>, 2016.

- **Preservation of coastal sand dunes** \_ Our Onyang site has been working with the Geum River Basin Environmental Office to clean up the sea, eliminate ecosystem-disturbing plants, protect the Sohwang sand dune in Boryeong, and create a silvergrass habitat in Asan as a way to help preserve coastal sand dunes – a habitat for such endangered species as Chinese egrets and Mongolian racerunners.
- **Eradication of foreign fish species/plants** \_ Our Giheung and Hwaseong sites collaborate with local communities each year to eliminate foreign fish species/plants near the Osan and Woncheonri Streams, feed wild animals and launch environmental protection campaigns as part of their ecosystem preservation initiatives. In 2016, such activities were undertaken on a total of eight occasions.

## Workplace Health & Safety

### Building a Safe Work Environment

#### Accident Prevention and Response Process



| 1. Identify risk factors  | 2. Set countermeasures  | 3. Make improvements  | 4. Monitor  |
|---|---|---|---|
| <ul style="list-style-type: none"> <li>• Old facilities</li> <li>• Non-compliance with safety regulations</li> <li>• Lack of proper on-site management</li> </ul> | <ul style="list-style-type: none"> <li>• Estimate the life span of facilities</li> <li>• Set measures to comply with safety regulations</li> <li>• Reexamine on-site management system</li> </ul> | <ul style="list-style-type: none"> <li>• Monitor facilities</li> <li>• Offer safety training</li> <li>• Perform on-site audits</li> </ul> | <ul style="list-style-type: none"> <li>• Evaluate performance</li> <li>• Rules &amp; processes</li> </ul> |

#### Accident Response Process



| 1. Accidents occurrence   | 2. Emergency response  | 3. Accident investigation   | 4. Recovery action  | 5. Reoccurrence prevention  |
|---|--|---|---|---|
| <ul style="list-style-type: none"> <li>• Brief the situation</li> <li>• Identify the type and risk level of the accident</li> </ul> | <ul style="list-style-type: none"> <li>• Organize an emergency management committee</li> <li>• Take emergency evacuation/first aid action</li> </ul> | <ul style="list-style-type: none"> <li>• Analyze the cause of the accident through investigation</li> <li>• Take action to prevent secondary accidents</li> </ul> | <ul style="list-style-type: none"> <li>• Set and implement recovery plans</li> <li>• Execute business continuity plans</li> </ul> | <ul style="list-style-type: none"> <li>• Set plans to prevent reoccurrence</li> <li>• Review the effectiveness of the accident response system</li> </ul> |

- **Conduct emergency drills in preparation for safety accidents** \_ By conducting regular drills under diverse emergency scenarios by accident type, we verify the effectiveness of our emergency response system. Such drills span evaluations in the case of fire, earthquake, chemical leaks, and hands-on firefighting preparedness. In 2016, emergency drills were undertaken on 537 occasions, and each of our employees attended an average of 1.15 drills.
- **Environment & Safety Innovation Day** \_ In 2016, we celebrated Environment & Safety Innovation Day for three days from October 19<sup>th</sup> to 21<sup>st</sup> of 2016 at our Seoul R&D Campus under the supervision of the CFO. Nearly

1,200 Samsung employees, more than 300 employees from 163 suppliers, and advisory professors attended this event.

- **Strengthen employee EHS capacity** \_ We provide differentiated and specialized training curriculum in relation to workplace EHS. In 2016, our average per capita training hours amounted to 13 hours.

#### Environment & Safety Innovation Day Programs

| Category                           | Description   |
|------------------------------------|---|
| Innovation Practice Exhibition     | Select best practices from the on-site improvements made by Korean and overseas production subsidiaries and suppliers over the past year and exhibit them with actual innovation outcomes |
| Excellent Worksite Benchmarking    | Provide diverse safety experience opportunities each year to allow employees to benchmark their areas of interest and adopt best practices in their own sites                             |
| Special Lectures on Safety Culture | Invite lecturers from companies with advanced EHS management to introduce their best practices in overcoming EHS risks and to highlight the importance of safety culture                  |
| Presentation of Best Practices     | Host an annual open competition to collect worksite best practices and present the finalists so that employees can learn from them  |

#### EHS Education for Employees

| Target                                 | Description   | 2016 Achievement  |
|--|---|---|
| All employees                          | Introductory courses, legally-mandated standard courses, safety leadership courses for executives | 3,682,408 hours of training were offered in total, completed by 635,039 employees |
| EHS staff                              | In-house examiner courses, professional licensing courses (master craftsmen, engineers, etc.)     | 29,657 hours of training were offered in total, completed by 1,077 employees      |
| Employees at overseas production sites | Global EHS Conference, key leader courses, sewage/wastewater treatment specialist courses, etc.   | 5,130 hours of training were offered in total, completed by 147 employees         |

## Employee Health Management

#### Employee Health Management System



- Provide health check-ups
- Operate in-house fitness facilities: Fitness gyms, musculoskeletal fitness centers
- Health care programs: Anti-smoking/moderate drinking campaigns, taking the stairs campaign, healthy meals
- Monitor infectious diseases and explain prevention rules
- Operate in-house health clinics: Vaccination against influenza, hepatitis, and others
- Health care for employees taking business trips: Manage the list of countries where travel is restricted or prohibited, and offer household medicines

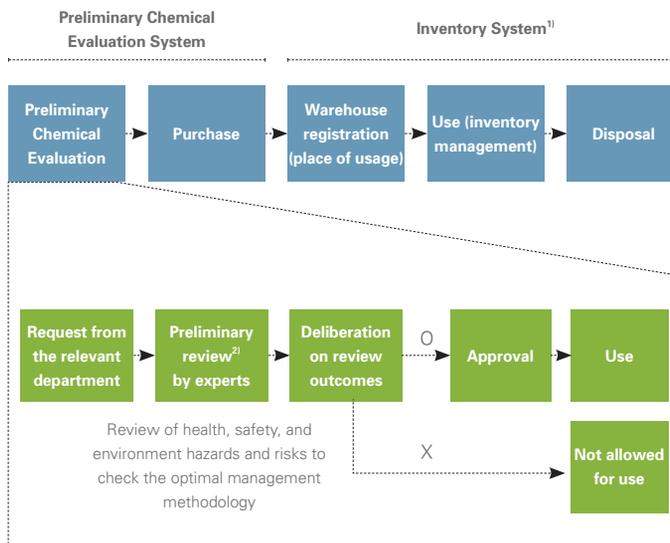
- **Design ergonomically-enabled manufacturing sites** \_ We established a process for newly-built or relocated plants to obtain ergonomic certifications before initiating their operation as a way to protect our employees from musculoskeletal diseases. Furthermore, all manufacturing sites in the CE and IM Business divisions are subject to annual rating assessments to identify and improve on processes that pose musculoskeletal risks. In 2016, 23 target production sites were ergonomically certified. Such endeavors lead to our Malaysian subsidiary earning the Golden Prize at the Ergonomics Cup hosted under the supervision of the Malaysian government in September 2016.
- **Create a pleasant work environment** \_ We collaborate with external professionals to improve our workplace ventilation and facility structure and to install dust-proof walls in order to eliminate odors, noise, and dust from our manufacturing process. As a result, our odor level declined by 5ppm on the Total Volatile Organic Compound (TVOC) basis, and the noise level dropped by 3.4dB.
- **Provide health promotion programs** \_ We encourage our employees to walk and take the stairs as part of our health promotion campaigns which can be easily fit into anyone's daily life. The parks and main walkways within our worksites are NFC-tagged and aligned with applications that allow users to check on their exercise data in order to encourage employees to exercise, and we are considering whether to gradually expand such initiatives into our overseas worksites. Our in-house cafeterias provide low-salt meals and other healthy alternatives to help our employees maintain healthy dietary habits.

## Workplace Chemicals Management

To ensure the safety of the chemical substances we use, we developed chemical handling safety measures following expert diagnosis and are taking such measures accordingly. We also provide regular training to employees who handle chemicals and inspect chemical storage and handling facilities as part of our chemical management practices. Prior to introducing new chemicals, we ensure that the use of regulated substances (benzene, n-hexane) is prohibited through the preliminary chemical evaluation system, and a total of 6,446 such evaluations were made in 2016. In addition, we developed an integrated monitoring system that governs environmental facilities, chemical-handling facilities and disaster control facilities in order to systematically manage chemicals.

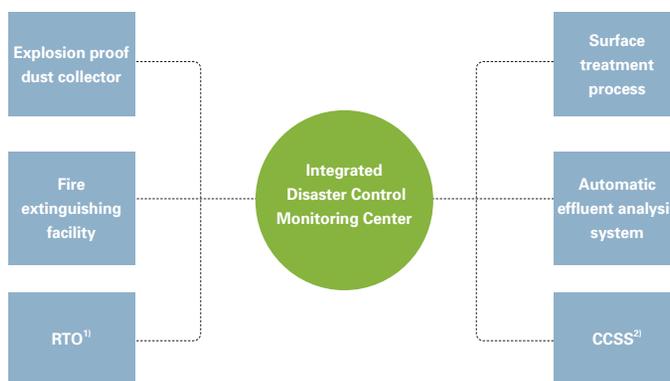
We reduced our chemicals consumption by approximately 2% by adopting a three-phase management approach - developing substitute materials, reducing the concentration of chemicals used, and discontinuing their use - and by modifying our manufacturing processes, reusing chemicals and improving our use methods. The fact that all our global worksites have been freed from any hazardous chemical spills over the past three years can be attributed to these endeavors.

### Process of Managing Chemicals



1) Inventory system: Chemicals are given barcodes and managed through the computer system at the Materials Research Complex  
2) Preliminary review: Performed based on Material Safety Data Sheet (MSDS), chemical warranty letters, and letters of confirmation (LOC)

### Integrated Chemicals Monitoring System



1) Regenerated Thermal Oxidation  
2) Central Chemical Supply System

## Developing Eco-friendly Coolants

As the use of harmful chemicals is emerging as a social issue, we assist our 1<sup>st</sup>-tier suppliers, in addition to our own worksites in developing substitutes and reviewing and improving their usage in order to reduce their consumption of such chemicals. Following our on-site inspection of suppliers who handle methanol, we chose ethanol as a safer substitute, which poses relatively low risk in handling. Furthermore, we assisted our suppliers to improve their work environment while offering safety training. We also developed eco-friendly coolants to improve productivity losses that may occur due to the inconvenience in wearing protective gear, and all our suppliers in domestic and global sites were using these green coolants as of 2016.



# Sustainable Supply Chain

## OUR VISION FOR VALUE

At Samsung, we pursue co-prosperity with local communities, nations, and the whole of human society in line with our business philosophy to fulfill our role as a global corporate citizen. In particular, we recognize that our suppliers as strategic business partners with whom we form mutually-beneficial, trust-based relationships. Driven by our supply chain vision 'We Buy Value, We Pay Trust', we assist our suppliers in securing a stronger competitive edge through our support and cooperation with an aim to build a sound and healthy corporate ecosystem and sustainable supply chain.

### TRENDS & CHALLENGES

**Human Rights and Working Environments along the Global Supply Chain** \_ As a global corporate citizen, today's corporations are expected to take on increasingly broader responsibilities as they exert economic, social, and environmental impacts along the supply chain as well as on their customers and employees. We reinforce the principles that any and all forms of child labor and forced labor be eliminated, all workers be entitled to a safe work environment, and the growth of microenterprises, the growth of small and medium enterprises be promoted (UN SDGs 8). As demonstrated in the U.K.'s Modern Slavery Act, governments across the globe are introducing regulations that demand business take responsibility for managing labor and human rights issues along their supply chain.

**Responsible Sourcing of Minerals** \_ The global community continues to keep a watchful eye on the negative impact of mineral mining on society and the environment such as potential human rights violation and environmental destruction. In 2016, Amnesty International shed light on the issue of children working in cobalt mines in the Democratic Republic of Congo and demanded corporate intervention to address this issue. Investors are also urging companies to make their supply chain more transparent. The U.S. Stock Exchange made it mandatory for companies to disclose information on the use of conflict minerals. The EU has adopted a Regulation laying down supply chain due diligence obligations for importers of tin, tantalum, tungsten, and gold - which sometimes finance armed conflict or are mined using forced labor in conflict-affected and high risk areas.

### OUR COMMITMENT

We review our suppliers and help them with making necessary improvements to ensure that all our suppliers comply with the 'Samsung Supplier Code of Conduct' and operate in accordance with local regulations and international standards. We assess the work environment of our suppliers as a way to manage risks in consideration of the environment, human rights, and other sustainability aspects. Furthermore, we continuously support our suppliers to build mutual competitive edge and growth. We strive to ban the use of unethically-mined minerals and take actions to that end.

### WHAT WE ACHIEVED IN 2016-2017

- **[Sustainable Competitive Edge of Suppliers]** 70% of the suppliers rated excellent in the annual comprehensive evaluation; Expanded partner collaboration programs targeting overseas suppliers
- **[Responsible Management of the Supplier Work Environment]** Reached 95% in on-site audit compliance rates among priority suppliers
- **[Transparency in Mineral Management]** 100% participation of the suppliers in Conflict Free Smelter Program (CFSP) along the supply chain

### FUTURE PLANS

- 1. Supply Chain Competitiveness Improvement** \_ We will focus on competitive suppliers to constantly strengthen the sustainability of our supply chain through comprehensive risk management and wide-ranging partner collaboration programs.
- 2. Supplier Work Environment Management** \_ We will conduct more stringent audits on labor and human rights, health & safety, environmental protection, ethics management, and business systems while expanding our support to make improvements so as to build a sound work environment within our entire supply chain.
- 3. Management of Issue Mineral** \_ We will partner with local governments, smelters, companies, NGOs, and many other stakeholders and join relevant initiatives to spearhead the resolution of issues concerning cobalt, and 3TG (tantalum, tin, tungsten, gold).

## Management Approach

It is based on our philosophy of fairness, openness, and partner collaboration that we operate our supply chain with approximately 2,500 suppliers around the globe.

### Supply Chain Management Strategy



• **Economic** \_ We secure an all-encompassing competitive edge in cost, delivery, quality, technology, and human resources in order to maximize synergy, speed, and efficiency with our suppliers and to create a corporate ecosystem that enables sustainable growth.



• **Social** \_ We request that international standards and regulations be abided by in the areas of human rights management, work environment, ethics, and conflict mineral issues with an aim to build an open and transparent management accountability system observed by all stakeholders along the supply chain.



• **Environmental** \_ We work solely with Eco Partner-certified suppliers and assess, and manage the environmental impact that may occur in manufacturing components and raw materials and production processes of our suppliers.

#### Five Criteria of Supply Chain Management

##### 1. Cost Competitiveness



- Conduct reasonable cost analysis in line with item-specific characteristics based on the G-SRM<sup>1)</sup>
- Continue to identify competitive suppliers through our global procurement bases and the Open Sourcing System

##### 2. On time Delivery



- Use the G-SRM to secure visibility along the supply chain and operate an interactive information sharing system
- Reinforce on time delivery capability by optimizing the global in-bound logistics of materials

##### 3. Supplier Competitiveness



- Operate suppliers in consideration of ESG<sup>2)</sup> factors that guarantee sustainability, in addition to business competitiveness (new registration, contracting, comprehensive evaluation, etc.)
- Build mid-/long-term partnerships with key suppliers through win-win cooperation programs

##### 4. Response to Risk



- Conduct system-based supply chain risks monitoring and operate a comprehensive management system
- Focus on the management of sustainability risks: responsible management of suppliers' work environment and transparency of conflict minerals

##### 5. Human Resources Capacity



- Nurture global procurement experts and leaders by strengthening professional procurement capabilities
- Use the training facility dedicated to educating supplier employees to provide free-of-charge training programs

1) Integrated procurement system, Global Supplier Relationship Management

2) Environment, Society, Governance

At Samsung, our entire procurement operations are governed by the G-SRM system on the basis of our Procurement and Supplier Codes of Conduct, and we have a dedicated organization to manage our supply chain from every possible angle.

- **Establish the Global Procurement Code of Conduct** \_ This Code of Conduct consists of standards & principles, work ethics, and business practices that our procurement staff should abide by, and nearly 3,000 global procurement staff were trained (both online and offline) on the Code.
- **Supplier Code of Conduct** \_ To promote the responsible management of suppliers' work environment, we established our Supplier Code of Conduct in 2013 on the basis of the EICC Code of Conduct by including even its most recent changes, and this has been widely shared among our suppliers since then. From 2015 onwards, we have distributed the 'Supplier Code of Conduct Guide' to suppliers to help them comply with the conduct.
- **G-SRM, an Integrated Procurement System** \_ Our G-SRM system is used to perform multi-dimensional analysis of the all procured components (detailed cost, cost efficiency, region-specific supplier procurement status). Included in the application of this system are the interactive sharing of information, supplier evaluations & registration management, risk management, the integrated management of supplier compliance management, and work environments, and the sharing of the Code of Conduct and the self-initiated evaluation checklist.
- **Dedicated organization** \_ In 2012, we created a dedicated organization responsible for managing suppliers' work environments to examine and support our suppliers. From 2013 onwards, we have operated a training center solely responsible for supplier training as well as a consulting center that is dedicated to offering on-site support for supplier innovation initiatives.

## Supply Chain Risk Management System

We classify risk factors that may occur along the supply chain into external supplier factors and internal procurement process factors, in addition to natural disaster risks related to business continuity. We ensure that vulnerabilities related to supply chain risks are constantly monitored and managed through our G-SRM system and our on-site inspections. Specifically, supplier risks are managed by performing new suppliers' registration evaluation and incumbent suppliers' annual comprehensive evaluation.

### Supply Chain Risk Management

| Category                            | Management Plans  |   |
|-------------------------------------|-------------------|---|
| Supplier Risk (External)            | Item              | Financial status, labor and human rights, environment & safety, conflict minerals, hazardous substances, etc.   |
|                                     | Purpose           | Detect risks only on that may occur from the economic, social, and environmental aspects and take timely measures   |
|                                     | Monitoring Method | <ul style="list-style-type: none"> <li>• Financial : Monitor credit ratings and relevant changes through external credit rating agencies</li> <li>• Compliance/Environment : Adopt a three-stage process of self-assessment, on-site audits and third-party audits</li> </ul> |
| Procurement Process Risk (Internal) | Item              | Items related to compliance with domestic/overseas regulations as well as procurement processes/principles  |
|                                     | Purpose           | Prevent corruption and/or regulatory violations in relation to procurement operations   |
|                                     | Monitoring Method | <ul style="list-style-type: none"> <li>• Fundamentally control abnormal business processes within the system</li> <li>• Preemptively detect risk indicators in accordance with scenarios and perform on-site audits</li> </ul>  |

Since 2016, we have established and operated an emergency response process against threats of natural disasters posed to our business continuity, such as earthquakes, volcanoes, typhoons, and floods. We rapidly detect natural disasters in alignment with the systems operated by major global disaster information providers, analyze disaster impacts through supplier location information available on our G-SRM system and notify our staff in charge via e-mails or text messages on the status of disasters, along with the list of our suppliers regarding their products within the influence of such disasters. In 2016, nearly 20 earthquakes and typhoons impacted our supply chain. However, we were able to promptly detect and respond to them, resulting in only minimal business loss caused by supply materials disconnection.

## Securing Suppliers' Sustainable Competitive Edge

### Registration of New Suppliers

We evaluate new suppliers upon selection based on five criteria: procurement & quality, environment & safety, labor and human rights, Eco-Partner, and financial status. Only those, who score 80 points or higher in all five criteria, can be registered as our suppliers. In the environment & safety, labor and human rights, and Eco-Partner domains, we use EICC's checklist to perform intensive reviews. To identify the actual condition of candidate suppliers, our in-house evaluators dedicated to each domain make on-site visits and evaluate suppliers based on the checklist while their financial status (credit rating) is reviewed with the help of professional external agencies.

- **Environment & Safety** \_ Our suppliers should satisfy the criteria set in 22 articles spanning occupational safety, fire prevention facilities, occupational health, hazardous substance handling, and environmental facilities. Specifically, full compliance is required in the eight mandatory items that include fire prevention facilities and the handling of hazardous and waste substances, sewage and wastewater.
- **Labor and Human Rights** \_ Mandatory on-site audits are performed on 20 clauses including voluntary work, compliance with work hour regulations, and ban on discrimination. Particularly, ban on child labor, guarantee of minimum wages, and ban on inhumane treatment contain mandatory requirements.
- **Eco-Partner** \_ The Eco-Partner certification reviews such items as the product environment policy, education & training, and hazardous materials in components, and we only work with Eco-Partner-certified suppliers.

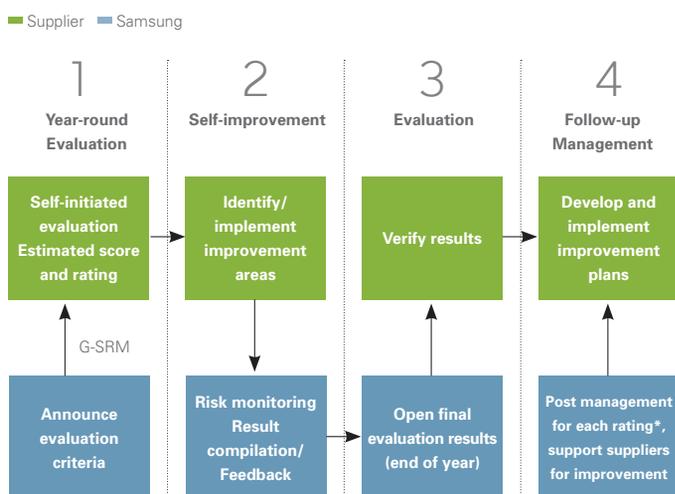
Our standard supplier contract signed with 1<sup>st</sup>-tier suppliers stipulate our Environmental Standards, international human rights standards and labor practices, compliance with our Supplier Code of Conduct and other ESG-related details in order to manage the quality of products from suppliers and their social and environmental impact.

The IPC (International Procurement Center), our procurement base located in strategically-important areas across the globe, enables us to monitor technological trends in relevant regions and identify new suppliers. Our Open Sourcing System allows suppliers who wish to do business with us to present their business ideas through the procurement portal site ([www.secbuy.com](http://www.secbuy.com)) of the G-SRM system. In 2016, a total of 520 suggestions were reviewed, out of which 58 suggestions were chosen for product application.

## Comprehensive Supplier Evaluation

We perform annual comprehensive supplier evaluations to assess the competitive edge of suppliers and to control sustainability risks.

### Comprehensive Evaluation Process



\* Post management for each rating: 1) Excellent: Give precedence in allocating volume for the following year 2) Underperforming: Request improvement measures 3) Low rating (for 2 consecutive years): Discontinue business relationships

### Comprehensive Evaluation Items

| Category                 | Item                 |  |
|--------------------------|----------------------|--|
| Business Competitiveness | Technology           | Eight items, including the ownership of technology patents and R&D investment              |
|                          | Quality              | Five items, including failure rates and the ISO 9000 certification                         |
|                          | Responsiveness       | Six items, including engagement in our policies and the use of conflict minerals           |
|                          | Delivery             | Six items, including on time delivery and RTP* response rates                              |
|                          | Cost                 | Five items, including increases in transaction value and competitive edge in terms of cost |
| Sustainability Risk      | Environment & Safety | Five items, including workplace safety and international certification                     |
|                          | Finance              | Three items, including credit rating and debt ratio  |
|                          | Law                  | Five items, including labor/human rights in the workplace and anti-corruption              |

\* Return to Purchasing order

In 2016, 83% of our suppliers, excluding those registered fewer than two years ago, were subject to comprehensive supplier evaluations, and among them, 70% of suppliers were rated as high performers. While high performers are granted incentives, including the preferential allocation of volume for the following year and an opportunity to join support programs, low-performers are required to take improvement measures and are subject to decreased allocation of volume and limitations in making additional transactions.

• **Finance** \_ High-risk suppliers rated 'poor' or 'less than poor' according to the

Dun & Bradstreet (D&B) credit rating criteria are subject to continual reviews of their quarterly financial data to manage and prevent business risks from occurring.

• **Law (Social)** \_ On-site audits are performed to intensively manage suppliers' compliance with defined mandatory requirements based on the EICC. Suppliers whose compliance score is lower than 90 points are classified as high-risk suppliers and are given full support for their improvement activities. We maintain zero tolerance towards the employment of child workers and suppliers involved in grave regulatory violations (e.g. corruption) are subject to penalties including a downward adjustment of their comprehensive evaluation grade.

• **Environment & Safety** \_ High-risk suppliers whose environment & safety evaluation score is 10 points or below out of a total of 100 points are subject to separate management to constantly monitor necessary improvements.

### 2016 Results by Sustainability Evaluation Item

| Category                     | Finance          | Law         | Environment & Safety |
|------------------------------|------------------|-------------|----------------------|
| Average Score                | Grade 3 or above | 88.6 points | 88.5 points          |
| Ratio of High-Risk Suppliers | 2.2%             | 2.1%        | 0.4%                 |

a. Return to Purchasing order

## Critical Suppliers

We define critical suppliers as those who are engaged in large-scale business transactions, highly relevant in terms of business and highly dependent on us. Selected based on our annual procurement amounts and comprehensive evaluation outcomes, these critical suppliers are subject to intensive management: they take precedence in accessing new business opportunities, receive support in using our partner collaboration programs, and are eligible for other incentives. Furthermore, we take a mid-/long-term perspective in building business partnerships with these critical suppliers. In 2016, our critical suppliers accounted for nearly 30% of the total number of suppliers, and our procurement from such suppliers stood at approximately 94% of the total spend of direct materials.

## Management of 2<sup>nd</sup>-tier Suppliers

We have included 2<sup>nd</sup>-tier suppliers based in Korea as well as 1<sup>st</sup>-tier suppliers in the scope of our management in order to strengthen our competitive edge along the entire supply chain.

• **Contracts between 1<sup>st</sup>-tier and 2<sup>nd</sup>-tier Suppliers** \_ We demand a level of compliance that corresponds to our standard contract form when our 1<sup>st</sup>-tier suppliers sign contracts with 2<sup>nd</sup>-tier suppliers.

• **Payments** \_ To help the financial condition of 2<sup>nd</sup>-tier suppliers, we ensure that our 1<sup>st</sup>-tier suppliers increase their ratio of cash payments to 2<sup>nd</sup>-tier suppliers and that such payments are made within 60 days.

• **Environment & Safety** \_ We hold 1<sup>st</sup>-tier suppliers accountable for building and supporting a safe work environment at 2<sup>nd</sup>-tier and/or lower-tier suppliers and reflect the outcomes in evaluating their performance. For items highly likely to suffer environment & safety issues (e.g. chemical substances), we

developed and distributed guides for safe handling and use while defining and sharing criteria for 1<sup>st</sup>-tier suppliers to examine the environment & safety performance of 2<sup>nd</sup>-tier/lower-tier suppliers.

- **Promotion of Fair Trade Policy** \_ Furthermore, we support wide-ranging programs to promote fair trade between 1<sup>st</sup>-tier and 2<sup>nd</sup>-tier suppliers. With the help of ‘Hyeopseonghoe’, a council made up of our 1<sup>st</sup>-tier suppliers and the ‘Council of Trustees’ (consisting of 2<sup>nd</sup>-tier suppliers), we are able to establish a culture of mutual growth.

To help improve the work environment of 2<sup>nd</sup>-tier suppliers, we stipulate in the standard contract form signed with global 1<sup>st</sup>-tier suppliers that they are responsible for managing the work environment of lower-tier suppliers as a way to monitor whether 1<sup>st</sup>-tier suppliers check on their 2<sup>nd</sup>-tier suppliers and to ascertain their level of management. Furthermore, we require our suppliers to join the responsible business conduct initiatives as suggested in our Supplier Code of Conduct and fulfill their responsibility for supporting and supervising 2<sup>nd</sup>-tier suppliers.

## Partner Collaboration Programs

To live by our business philosophy that ‘Samsung Electronics’ competitive edge comes from the competitive edge of its suppliers’, we further push the boundary of our win-win management initiatives to include both domestic and overseas suppliers. We provide a wide array of programs to support with funding, education, and innovation to ensure that our suppliers become globally competitive.

We assist our 1<sup>st</sup>-tier and 2<sup>nd</sup>-tier suppliers in voicing their grievances through our direct phone line (+82-80-200-3300), via e-mail (ssvoc@samsung.com), through an online whistle-blowing system on the partner collaboration Portal (www.secbuy.com), with on-site supplier consultations, and through various workshops.

### Partner Collaboration Programs for Our Suppliers

- Funding Support**
  - Support suppliers in extending loans (Mutual Growth Fund, Mutual Growth Guarantee Program, Funding Program with the Korea Exim bank, etc.)



- Support 2<sup>nd</sup>-tier suppliers with receiving payments (Win-Win Payment System)

- Employee Capacity-Building**
  - Assist young job seekers in receiving job training and on-site training at our suppliers



- Offer tailor-made support in recruiting employees and nurturing future executives

- Support for Innovation Initiatives**
  - Offer tailor-made on-site consulting for our suppliers’ innovation initiatives<sup>1)</sup> (technology, cost, manufacturing, process)

- Share benefits when reaching the goal jointly set by Samsung and suppliers (benefit sharing programs)
- Provide consulting and funding to 2<sup>nd</sup>-tier suppliers and SMEs who don’t even have any business ties to us (Industry Innovation Campaign<sup>2)</sup>)



- Enable suppliers and SMEs who don’t have any business ties to us to make their manufacturing sites smart (Smart Factory support<sup>2)</sup>)
- Share Samsung’s patents to help SMEs strengthen their technological competitiveness (patent sharing)

1) Tailor-made on-site consulting for suppliers’ innovation initiatives are offered primarily on the shop floor and are also provided to overseas suppliers.

2) These programs are implemented by the Korean Ministry of Trade, Industry, and Energy.



### Support for 1<sup>st</sup>-tier Suppliers’ Innovation Initiatives

Improve testing productivity by

Reduce customers’ defect experience by

160%

83%

Since 2016, we have extended the scope of our innovation initiatives for domestic suppliers to include overseas suppliers. **SI FLEX**, a Vietnam-based supplier of Flexible PCBs (FPCB) used for camera modules, called for help at our consulting center to address its difficulties in improving productivity and quality. We responded by supporting with our manufacturing and quality experts to the company to offer their management expertise, including analyses of manufacturing process, and helped the company in modifying its production process to perform automated final visual inspections of the FPCBs that it produces. Our consulting service assisted the company in increasing its testing productivity by 160% while reducing the defects experienced by customers by 83%.

**Gold Sun**, a local Vietnamese business, is our supplier of mobile phone boxes and manuals, and its overall manufacturing competitive edge was behind our Korean domestic suppliers. We assisted the company in changing the layout of its facilities and doing a consulting of production plan management, which improved its quantitative production rate by 94% and reduced its inventory level by 65%.

### Support for 2<sup>nd</sup>-tier Suppliers’ Innovation Initiatives

Improve productivity by

Increase sales by

23%

150%

In conjunction with the Ministry of Trade, Industry and Energy, we support the innovation initiatives undertaken by our domestic 2<sup>nd</sup>-tier suppliers as well as suppliers we do not have any business relationship with. **HEADLINE** is our supplier of gasket pads that we equip our clothes dryers with. Given the characteristics of the sewing process, a large portion of the manufacturing cost lies in labor costs, and its ratio is increasingly rising. It was against this backdrop that the company applied for Industry Innovation program with a belief that its own capacity would be insufficient in pursuing innovation. Under the guidance of consultants, the company developed automation equipment to integrate the previously separated cutting and connecting processes into a single line. This improved its productivity by 23% and made KRW 9 million available for installing high-performance metal detectors to address process delays and saved KRW 24 million in losses caused by defects per year. Since participating in the Industry Innovation program facilitated its innovation initiatives and helped generate tangible outcomes, the company continued to join the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> programs. In doing so, HEADLINE is able to integrate innovation into the fabric of its corporate culture. Furthermore, its sales rose 1.5 times from KRW 2.5 billion in 2014 to KRW 3.7 billion in 2016, and its production doubled from 2.1 million units in 2014 to 4.2 million in 2016.



### SMART FACTORY

Support for the introduction and establishment of the Smart Factory (No. of factories)

479

Smart Factory Academy (No. of students)

1,015

In 2016, we supported 479 SMEs in Korea in introducing and establishing Smart Factories. We were able to achieve this with the KRW 21 billion fund jointly created by the Ministry of Trade, the Industry and Energy and North Gyeongsang Province, as well as through the transfer of expertise on the part of our professional mentors (our suppliers made up 9% of the total, and unrelated SMEs comprised 91%). Two outstanding best practices are the following:

**YONWOO**, a premium cosmetic container maker, was able to develop a Manufacturing Execution System (MES) aligned with its company-wide information system to improve its work productivity by 23% and plant utilization by 8%.

**DS GLOBAL**, a mobile photocopier company, was also able to develop its own MES that uses barcode to collect and compile data on materials logistics, process failures, and production performance in real time, which ultimately increased its productivity by 26% and reduced its defect ratio by 36%. Furthermore, the adoption of the smart factory initiative allowed us to sign a new contract with Hewlett Packard, raising its sales by KRW 27.7 billion and hiring 77 new employees.

Meanwhile, we opened the Smart Factory Academy in the North Gyeongsang Province with an aim to help SMEs become self-reliant and maintain operations following the establishment of smart factories. Through this initiative, we provided 1,015 CEOs and employees with smart factory education (including executive courses tailor-made for SMEs), smart factory leadership courses, and MES courses.

## Responsible Management of Our Supplier Work Environment

We apply the same requirement level in assessing the risks of all our suppliers (labor and human rights, health & safety, and environment risks) as we do in our own workplaces.

### Responsible Work Environment Management Process

- 1 **Self-assessment**
  - Annual self-assessments are made, using the checklist (40 items) based on the EICC criteria (of all 1<sup>st</sup>-tier suppliers)
  - Self-assessment outcomes are approved by the supplier CEOs before they are submitted to Samsung
  - On-site verifications are performed on 20% of the suppliers to secure the credibility of self-assessments
- 2 **On-site Audits**
  - We select 'Priority suppliers' in consideration of their geopolitical location, transaction volume, past track records of issues, and self-assessment outcomes, etc. We then conduct on-site audits to identify improvement tasks
  - On-site audits are performed by an organization that is an independent auditor separate from the procurement organization, and the auditing is led by EICC auditors
  - In addition to regular on-site audits, we perform 'surprise' and special audits by risk item, including the employment of interns and student workers during vacation periods
  - In 2016, we conducted on-site audits on 362 suppliers, and reached 95% of the target set in conducting such audits
- 3 **Third-party Audits**
  - An EICC-certified third-party external audit firm randomly selects suppliers and performs initial audits based on the EICC criteria (190 suppliers on an accumulated basis since 2013)
  - All improvement tasks identified as a result of audit outcomes are implemented within three months and closure audits are conducted to verify the implementation result of improvement tasks (92 suppliers on an accumulated basis since 2013)

## Third-Party Audit Outcomes

Third-party audits are performed after conducting suppliers' self-assessments and on-site audits to secure the reliability of the improvement measures undertaken. Through a sustained commitment to improvement, compliance rates in key third-party audit items are improving over the past three years.

### Compliance Rate by Audit Item

(Unit: %)

|                      | 2014 | 2015 | 2016 |
|----------------------|------|------|------|
| Total                | 91   | 95   | 95   |
| Labor & Human Rights | 92   | 92   | 90   |
| Health & Safety      | 88   | 95   | 96   |
| Environment          | 90   | 97   | 97   |
| Ethics               | 97   | 100  | 100  |
| Management System    | 92   | 99   | 100  |

The third-party audit outcomes demonstrated that compliance with working hours and the guarantee of holidays was quite lower than it was in the past. This was attributed to the launching of new models in 2016, which resulted in frequent changes in suppliers' manufacturing processes and unexpected overtime work that occurred in increasing their mass-production capacity. We ensure that concerned suppliers hire more staff, expand their facilities, improve their processes, and practice the predictive management of overtime work so that they are able to comply with work hour criteria. Furthermore, we monitor the weekly overtime work of all workers at those suppliers who require monthly overtime work management, and continuously provide customized assistance to help meet the work hour criteria of individual employees.

**Working Hour Management<sup>1)</sup>**

(Unit: hours, %)

|  | 2014 | 2015 | 2016 |
|--|------|------|------|
| Workweek <sup>2)</sup> average compliance                      | 94   | 89   | 83   |
| Average weekly work hours                                      | 48   | 48   | 53   |
| Maximum average weekly work hours                              | 50 ↓ | 52 ↓ | 57 ↓ |
| Average work hours of those who work 40 hours or more per week | 51   | 52   | 55   |
| Compliance with the guarantee of one-day off per week          | 96   | 95   | 94   |

1) Based on global suppliers

2) A workweek should not be more than 60 hours per week (EICC criteria).

**Key Improvements in Work Environment**

- **Labor & Human Rights** \_ To prevent the employment of underage workers, we train our managers and the HR officers of our suppliers on our recruitment process so that identity checks and face-to-face interviews are mandated for all applicants during the recruitment process. In China, we supported the introduction of a facial recognition system in 2014 to prevent the employment of underage workers through identity theft. We also observe samples of our work hour data so that our suppliers abide by work hour regulations and the guarantee off-work days. We also analyze the data on our suppliers' production capacity and production volume to generate data on estimated overtime work as a way to preemptively manage work hours. Our suppliers are subject to on-site audits to analyze their extra work management system and the details of individual employee pay slips in an aim to prevent unfair wage payments or any makeshift practices.
- **Health & Safety** \_ When we audit our suppliers, we ensure that they secure emergency exits, install heat/smoke detectors, conduct evacuation drills, and develop procedures to systematically prevent and respond to emergencies. Those whose work process involves the use of chemicals should be provided with an appropriate protective gear to wear, and our supplier support system monitors how our suppliers use health check-up services so that all employees of 'priority suppliers' receive legally mandated health check-ups. We also review whether physically demanding work is properly controlled, dangerous equipment is safely managed, and insulation devices are regularly inspected, while demanding that safety devices be installed for any risk factors that could threaten the safety of workers. Our annual 'Suppliers' Day at the environment & safety Innovation Conference' is celebrated to share the innovative EHS practices of suppliers and award top-performing suppliers.
- **Environment** \_ We make it mandatory for our suppliers to operate protection programs for workers who handle hazardous substances – labeling

storage containers, installing a second container against chemical leaks, providing a Material Safety Data Sheet (MSDS) at the workplace – and regularly sending our 'workplace environment & safety experts' to provide consulting. If improvements are identified in workplace management of wastewater and waste, the concerned suppliers are trained on our relevant policies, and we work with these suppliers in making necessary process improvements.

- **Business Ethics** \_ We demand that suppliers establish whistle-blower protection and grievance policies and anonymity protection procedures while monitoring their compliance through employee interviews and the review of relevant documents.
- **Management System** \_ If the management system of our suppliers is found substandard in identifying, assessing and/or controlling sustainability management risks, we assist them in building the necessary processes, improve their management expertise, and secure the needed financial resources. In addition, we provide the relevant working-level employees of suppliers with work environment training (offered in local languages), at respective worksites with an aim to support suitable training in line with country-specific regulatory standards.

**Supplier Environment & Safety Management**

We created an independent organization in 2014 in charge of supporting the environment & safety management of our suppliers so as to assist our key suppliers in domestic and global sites in improving their environment & safety through transferring our expertise and educational programs.

- **Work Environment Improvement** \_ In 2016, we assisted 30 metal processing suppliers (13 in Korea, 17 abroad) in building a safe work environment. For outstanding suppliers in respective industries, we nurture them as our EHS Best Partners and increase the number of these EHS Best Partner candidates each year to eliminate the environment & safety risks of all our suppliers across the globe.
- **Education** \_ We provide environment & safety education to different levels of supplier employees – CEOs, executives in charge of environment & safety, and working-level staff – more than once a year. This free-of-charge education consists of topics such as understanding environment & safety, key regulatory revisions, and in-depth details by area.
- **Sharing and Dissemination** \_ We host regular meetings joined by our suppliers' heads of the environment & safety department to share their pending issues and disseminate best practices among them.

**Grievance Handling Channels and Management Accountability Training**

To gather reports on the violation of any work environment standards or the infringement of human rights that could possibly occur with our suppliers, we have been operating our hotline system since 2013. Submitted through landline phones, e-mails or mobile options, all reports are reviewed by our responsible department to directly verify the facts of any suppliers in question. Informants are notified of our countermeasures within one week, followed by the review of whether improvements were made. The year 2016 witnessed the increase in the number of reports considering the distribution of individual protective gear, provision of health check-ups, and coverage of the occupational injury insurance in the safety, health, and environmental areas. For all the reports found valid, comprehensive improvement measures have been taken.

### Type of Hotline Reports

(Unit: No. of Reports, %)

|                                | 2015 | 2016 |
|--------------------------------|------|------|
| Total No. of reports           | 127  | 74   |
| Complaints related to managers | 52.8 | 41.9 |
| Wages                          | 26.0 | 20.3 |
| Health & safety, environment   | 3.9  | 16.2 |
| Benefits                       | 11.0 | 13.5 |
| Work hours                     | 5.5  | 2.7  |
| Others                         | 0.8  | 5.4  |

Furthermore, we provide capacity-building training on the responsible management of the work environment for priority suppliers. Online training courses are based on the local cultural specificities and country-specific regulations and are available in multiple local languages. In 2016, these courses were completed by 7,818 employees, including all relevant staff at our worksites, supplier staff, and environment & safety managers and officers.

## Transparency in Mineral Management

### Conflict Minerals

At Samsung, we ban the use of any minerals unethically mined in the Democratic Republic of Congo or in any of the other nine adjoining conflict-affected areas and we operate OECD Due Diligence Guidance based Trade Compliance System (TCS) within our G-SRM system. Using the Conflict Minerals Reporting Template (CMRT), a TCS-based conflict minerals inspection form, we analyze the entire suppliers' conflict mineral usage, share real-time conflict mineral relevant information with our suppliers, and prevent them from using materials containing such minerals.

In addition, we joined the 'CFSI(Conflict-Free Sourcing Initiative)' jointly established by EICC and GeSI to work hand-in-hand with other global peers in responding to the issue of conflict minerals across the supply chain.

Samsung also requests its all suppliers to participate in the CFSP so that smelters and refiners get a third party certification. This resulted in the participation of all smelters we do business with in the CFSP certification (completed or in progress, as of the end of December of 2016).

### Conflict Minerals Due Diligence Process

- 1 **Raise suppliers' awareness**
  - Receive the consent to ban the use of conflict minerals from all 1<sup>st</sup> tier
  - Distribute the conflict minerals management guide and support working-level training
  - Request lower-tier suppliers to expand their policy to ban the use of conflict minerals
- 2 **Inspect the use of conflict minerals along the supply chain**
  - Monitor data on all 1<sup>st</sup> tier's use of conflict minerals as well as smelters' use of such minerals along the supply chain (Use the CMRT)
- 3 **Conduct reasonable due diligence and verification on inspection outcomes**
  - Conduct on-site inspections on the data submitted by suppliers
  - Identify and share best practices in suppliers' management of conflict minerals
- 4 **Verify and assess risk factors within the supply chain**
  - Categorize suppliers into four rating groups based on inspection outcomes (based on the credibility of submitted data and the management level of conflict minerals)
- 5 **Develop risk improvement plans and report relevant data**
  - Restrict transactions with suppliers who work with non-CFSP-certified smelters
  - Recommend smelters along the supply chain to become CFSP-certified

### Conflict Minerals-related CFSP Certification of Smelters along the Supply Chain

| Mineral  | Total | CFSP Certification Completed | CFSP Certification in Progress |
|----------|-------|------------------------------|--------------------------------|
| Tantalum | 46    | 46                           | -                              |
| Tin      | 75    | 64                           | 11                             |
| Tungsten | 38    | 38                           | -                              |
| Gold     | 95    | 88                           | 7                              |
| Total    | 254   | 236                          | 18                             |

### Issue Minerals

Minerals at issue are defined as minerals that give rise to potential human rights violations or environmental destruction during the mining process, in addition to conflict minerals in the DRC and neighboring countries. A global NGO, 'Friends of the Earth', alerted that tin mining on Bangka and Belitung islands in Indonesia is destroying the local marine ecosystem and exerting a negative impact on the local agriculture and fishing industries in the surrounding areas.

As a member of the Indonesian Tin Working Group (TWG) since 2013, we have been exploring solutions to this issue in cooperation with industry peers. In 2017, we plan to work with IDH, an NGO widely-known in this field, as well as local NGOs to offer health and safety training in relation to tin mining to small businesses in Bangka as part of our corporate citizenship initiative.

Furthermore, we have been reviewing the status of our use of cobalt in response to the issue of underage workers in cobalt mines in the Democratic Republic of Congo.



# GROWING SUSTAINABILITY POLICY FROM OUR CORE BUSINESS PRINCIPLES

# OUR CORE VALUES

This section highlights our company's core values that are also the baseline of our sustainability.

# People First

## OUR VISION FOR VALUE

Our management philosophy originates from our people. Since our establishment, we have always believed that 'business is defined as its people (People First)' and thus have provided a creative and self-initiated work environment that encourages outstanding people to reach their highest potential.

As a global corporate citizen, we are also aware that one of our most important and fundamental responsibilities lies in respecting and protecting the human rights of all employees. And we are committed to abiding by the agreements and recommendations made by international organizations in the human rights field.

### TRENDS & CHALLENGES

- **Economic Downturn and Youth Employment** \_ The increasing youth unemployment caused by the slower-than-expected recovery of the global economy is a daunting challenge that countries across the globe are presently facing. The International Labor Organization (ILO), under the UN forecast that youth unemployment among those aged 15 and 24 would amount to 13.1% in 2017, set a new record while the UN SDGs also pursued the increase of decent jobs to ensure sustainable economic growth (UN SDGs 8). As such, human resource management is a critical issue not only in building a company's competitive edge and creating jobs, but also in fulfilling our social responsibility as a global corporate citizen.
- **Support for Growth and Realization of Potential** \_ Businesses today face growing expectations from society and stakeholders to help their employees (both current and retired) pursue individual growth and build capacity. Businesses should fulfill such expectations by providing individual career management and career consulting services and by creating working conditions and an organizational culture conducive to gathering creative and diverse ideas from employees. For businesses with global a presence, there is a need to increase the recruitment of local staff in order to embrace diversity and a lifestyle and to facilitate internal/external communication.
- **Growing Importance of Labor and Human Rights** \_ Human rights protection in the field of labor conditions, race or gender discrimination, living conditions of local populations and privacy infringement is of utmost importance to Samsung. Among the 169 targets of the UN SDGs, 92% of them are related to human rights. Notably, the introduction of regulations that urges businesses to be responsible for human rights management and the growing demand from civil society that businesses should provide fair work environments/employment opportunities. Also, diversity issues have gained importance in business management.

### OUR COMMITMENT

We encourage the autonomy and creativity of our employees and recognize their diversity, while constantly striving to provide performance-based compensation to assist them in reaching their full potential. We respect the diversity of our employees and thus ban any discrimination on the grounds of nationality, race, gender, education, age, and religion etc.. We also fully abide by the laws and regulations of countries and local communities where we are based as well as international standards. We do not tolerate forced/child labor and wage exploitation under any circumstance..

### WHAT WE ACHIEVED IN 2016-2017

- **[Human Rights]** Established corporate policies to protect the rights of vulnerable workers; Identified and manage work environment risks; Operated systems to respect the diversity of employees and building a conducive organizational culture
- **[Career Development]** Switched into a job function-based HR system; Reinforced life cycle-based career development programs
- **[Organizational culture]** Top Management's declaration to eliminate authoritarianism; Monitored employee satisfaction

### FUTURE PLANS

1. **To be a Company that Attracts Top-Notch Talent** \_ One of the qualitative goals of our Vision 2020 is to become a 'company that top-notch talent wants to work for'. To reach this goal, we aim to build a creative organizational culture through innovative HR practices and to monitor our performance in human resources management through employee satisfaction surveys.
2. **Workplace Labor/Human Rights Management** \_ We will constantly make reviews and improvements so as to maintain a safe and sound work environment in global scale.
3. **Respect for Diversity** \_ Gender equality and respect for diversity will further take their deep root in our corporate culture to encourage talented individuals with diverse backgrounds to fully unleash their potential and evolve into global leaders.

## Management Approach

We develop wide-ranging policies under the principle of talent management to fulfill our corporate responsibility in respecting, protecting and remedying human rights. We also respect the spirit and intention of the 'UN Universal Declaration of Human Rights' and the 'UN Guiding Principles on Business and Human Rights' while fully complying with the EICC's Code of Conduct.

### Code of Conduct



To fulfill our responsibility as a global corporate citizen, we established the Global Code of Conduct in line with the five management principles announced in 2005, and this guides our employees in taking action and making value judgements throughout their entire business conduct.

### Business Conduct Guidelines



These Business Conduct Guidelines were established in 2015 so we can take more concrete action in advancing these guidelines and present a set of standards that our employees should abide by in undertaking wide-ranging business initiatives, including our human rights management guidelines.

### Policy to Promote the Rights of Vulnerable Workers



To protect the rights of vulnerable workers, we developed the Child Labor Prohibition Policy, the Guidelines for Migrant Workers and the Guidelines for Apprenticeship Training with these populations in mind for our human rights protection initiative. For further details on this policy and guidelines, you can refer to page 46 of this report.

Since 2016, we have integrated our HR systems both in domestic and global sites and have switched into a job function-based HR system as a way to realize our Global One HR vision. Other innovative HR practices are under operation mainly in adopting multiple career development phases, introducing a horizontal job title system, and reinforcing performance-based compensation. For further details, please refer to page 45 of this report.

We perform annual Expertise Development Process (EDP) job competency assessments on all our employees, and they can identify their own level of competency (expertise and skills) and use assessment outcomes to set their individual annual development plans.

HR Development System

STaR Session



1) R&D, marketing, sales, service, distribution, procurement, manufacturing, management

2) Samsung Advanced Institute of Technology(SAIT) (R&D), Samsung Marketing Academy (sales/marketing), Global CS Center (service), Partner Collaboration Center (procurement), Design Management Center (design)

## Human Rights

### Labor and Human Rights Policy

It was back in 2013 that we created a dedicated organization for the work environment management of our overseas worksites, which led to the introduction of a monitoring system applicable to respective sites. In 2014, we developed a risk analysis system to understand broad range of factors that could possibly affect the management of human rights at our worksites and identify high-risk sites. Furthermore, the legal compliance of our domestic sites is reviewed to identify their work environment management level and to make any necessary improvements.

Each year, we conduct 'Samsung Expert Diagnoses' on our worksites whose managerial performance is found to be substandard or at high risk in the labor and human rights field on the basis of the data registered at our worksite monitoring system and risk analysis system. In 2016, 11 high-risk worksites – four in the Americas, two in South East/West Asia and others – conducted such diagnoses, and a total of 227 improvement tasks were identified. Out of these worksites, three of them fully completed their improvement tasks, and 211 tasks have been completed within all these worksites (93%).

To supplement these expert diagnoses, special quarterly diagnoses are performed under the supervision of respective business divisions while third-party reviews are made at the request of our customers and on other occasions. Special diagnoses aim to review risk factors in specific areas – work hour management, protection of vulnerable employees, improved usage proficiency with the monitoring system, and the improvement of organizational culture

### Risk Monitoring

- 1 **Worksite Monitoring System**
  - Conduct monthly assessments on compliance management and improvement implementations
  - Conduct assessments on 55 items in 7 areas in 12 languages (English, Chinese, Vietnamese, Spanish, etc.)

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- 2 **Worksite Risk Analysis System**
  - Perform quarterly risk assessments
  - Analyze a total of 57 indicators: 32 internal management indicators (work environment, labor conditions, HR operation, relevant systems, etc.) and 25 external/internal environmental indicators in countries where we operate

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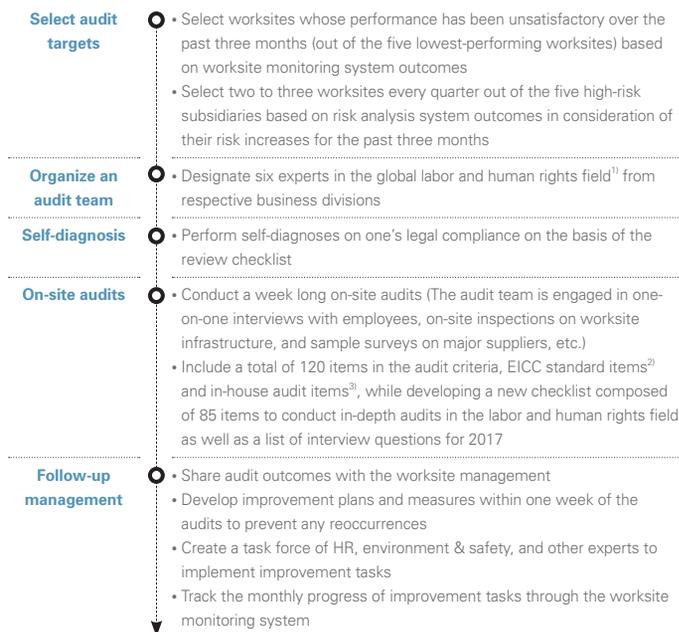
- 3 **Employee Communication**
  - Operate in-house grievance-handling channels
  - Host regular discussions and interviews under the supervision of executives, managers and employee representative bodies

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- 4 **Networking with External Stakeholders**
  - Use our network with governments, NGOs, and academia to identify diverse risk factors and issues that may occur at our global worksites

– while offering intensive consulting services on necessary improvements. In 2016, a total of nine worksites in Americas, Europe, and South East/West Asia underwent such special diagnoses to enhance their managerial capacity. In conducting third-party reviews, EICC criteria, and other industry standards are adopted to objectively analyze risks and take efficient improvement measures. In 2016, these external third-party reviews have been performed on a total of 6 worksites in domestic and global sites on 7 occasions.

### Samsung Expert Diagnosis Process



1) EICC Auditors who completed 'EICC Labor & Ethics Lead Auditor Training' and other global labor and human rights experts  
 2) 51 items in the fields of labor/human rights, health & safety, environment, business ethics, etc.  
 3) 53 items in communication, organizational operation, the employee representative body, the emergency response system, and labor/human rights training, etc.

We also provide a range of training programs to help employees build their capacity through our partnership with specialized organizations. Furthermore, we independently developed training programs that cater to local needs in consideration of the cultural characteristics of overseas worksites as a way to enhance employee awareness regarding labor and human rights and are providing such training throughout the company as a mandatory training course.

It is in line with our 'Global Grievance Resolution Guideline' developed in 2015 that we operate four types of grievance-handling channels in consideration of worksite-specific characteristics – the hotline, online channels, offline channels and employee committees (276 channels at 25 worksites as of Mar. 2017)

Since 2016, we have used our worksite monitoring system to track down the type of grievances reported, their progress status, and handling outcomes while managing such performance indicators as meeting handling deadlines, handling ratios, employee satisfaction and awareness by grievance type and channel. Notably, our worksites, which hire migrant workers, are obliged to introduce their grievance-handling channels in the mother language of these workers to improve their accessibility. In 2016, we received a total of 9,278 grievance reports, out of which 9,265 or 99.8% were completely resolved.

In consideration of the 'Effectiveness criteria of non-judicial grievance mechanisms' as stipulated in the Clause 31 of the UN Guiding Principles on Business and Human Rights, we are constantly working to ensure that accurate information is provided on grievance handling processes and outcomes. Individuals who raise grievances do not face any unfair disadvantage; discrimination is prohibited in handling grievances, and we work to protect the substantial and procedural rights of our employees.

### Labor and Human Rights Promotion Training

#### Health Promotion Training for Female Employees



- Target:** Female workers in production positions at our Vietnamese subsidiary
- Partnership:** BSR (Business for Social Responsibility)'s 'Health Enables Returns(HERhealth)' project, Life Center (local health education provider)
- Description:** Healthy dietary habits, disease prevention (HIV/AIDS, hepatitis, tuberculosis, etc.)
- Achievement:** 90 in-house trainers were nurtured, and dissemination training was offered to 4,050 people (Jul. 2015 – Sep. 2016)
- 2017 plan:** Provide personal hygiene and family planning training to nearly 2,000 single female employees, develop a mobile app on 'female health education' to benefit more trainees (2<sup>nd</sup> half of 2017)

#### Basic Financial Literacy Training for Employees



- Target:** Employees in production positions at our Indian, Brazilian, and Mexican subsidiaries
- Partnership:** BSR's 'HERfinance' project, Sanchayan (local Indian NGO), Positive Planet (Brazilian NGO), Yo quiero Yo puedo (Mexican NGO)
- Description:** Basic-level financial planning and information (savings, interest rates, loans, etc.)
- Achievement:** 45/2,137 in India, 63/1,956 in Brazil, and 64/1,050 in Mexico (No. of in-house trainers/trainees, 2015-2016)
- 2017 plan:** Train 2,000 employees in India, update the training program

#### EICC e-Learning Academy



- Target:** Employees in charge of HR and supplier management at our production subsidiaries
- Partnership:** EICC's online training program
- Description:** 62 courses designed to improve employee awareness on labor and human rights, including an understanding of the supply chain, EICC's Code of Conduct, EICC's self-diagnostics, improvement of the work environment, forced labor, etc.
- Achievement:** Training in progress with 207 employees (102 employees in Chinese, 95 employees in English, and 10 employees in Korean)
- 2017 plan:** Extend the scope of this training to include the HR officers of major suppliers

#### Independent Mandatory Training Programs by Global Worksite



- Target:** All employees at our overseas production subsidiaries
- Description:** 15 courses in a total of six domains, including the vision of our human rights management, our policy to adhere to employee human rights standards (ban on forced labor, discrimination, workplace harassment, etc.), respect for diversity, strengthened internal communication, mental fitness management, in-house grievance handling channels, etc.
- Achievement:** Capacity-building training was offered to 112 in-house trainers, approximately 171,000 employees\* were trained on average for over three hours
- 2017 plan:** Reach 80% or higher in the percentage of employees who complete such training, include our policy to respect human rights and in-house grievance-handling channels as part of the compulsory introduction training for new recruits

\* This includes redundancies

Global Grievance Handling Standard Procedures



Data on Grievance Submission (2016)

| (Unit: No. of Grievances)    |                   | (Unit: No. of Grievances)   |                   |
|------------------------------|-------------------|-----------------------------|-------------------|
| Grievance Channel            | No. of Grievances | Type of Grievance           | No. of Grievances |
| Hot Line                     | 2,214             | Work environment            | 3,213             |
| Online                       | 1,378             | Labor conditions            | 1,951             |
| Offline                      | 3,496             | Personal relationships      | 1,309             |
| Employee Representative Body | 2,190             | Health & safety             | 1,199             |
| Total                        | 9,278             | Change in business practice | 271               |
|                              |                   | Organizational change       | 161               |
|                              |                   | Discrimination              | 77                |
|                              |                   | Harassment                  | 48                |
|                              |                   | Others                      | 1,049             |
|                              |                   | Total                       | 9,278             |

Our Work Councils are under operation at 46 worksites in domestic and global sites in compliance with their country-specific regulations and individual characteristics. Employees can vote for their representatives under the principles of direct and secret votes, and employee representatives hold discussions or interviews with shop floor employees once a week or more. In 2016, 1,671 discussions were held and joined by a total of 20,950 employees. Our Work Councils at respective worksites host regular meetings to consult on such wide-ranging agenda items as wages, labor conditions, welfare, and other diverse items related to the promotion of employee rights. The consultation outcomes are then disclosed throughout the company through the bulletin and other channels. In 2016, a total of 2,101 agenda items were brought to the table globally, out of which 1,921 items or 91% were handled.

Work Council by Region (As of the end of Dec. 2016)

| (Unit: No. of Councils and Persons)          |                      |                                 |                            |
|--|----------------------|---------------------------------|----------------------------|
| Category                                     | No. of Work Councils | No. of Employee Representatives | No. of Members (Employees) |
| Korea  | 6                    | 162                             | 88,238                     |
| China  | 15                   | 164                             | 32,143                     |
| Southeast/Southwest Asia and Others          | 14                   | 288                             | 122,549                    |
| Europe, North America, Central/Latin America | 11                   | 117                             | 21,939                     |
| Total  | 46                   | 731                             | 264,868*                   |

\* 86% of total employees

Work Council Agenda in work sites (2016)

| (Unit: No. of Items, %) |        |           |   |
|-------------------------|--------|-----------|---|
| Category                | Agenda | Ratio (%) | Note  |
| Wage & benefits         | 411    | 20        | Adjust increases and welfare & benefits   |
| Institution & system    | 212    | 10        | Improve the HR framework including its systems/processes                              |
| Organizational culture  | 209    | 10        | Organizational revitalization, awareness improvement, campaigns, etc.                 |
| Work hours              | 59     | 3         | Adjust overtime/extra work, taking over colleague's job duties and compensatory leave |
| Infrastructure          | 734    | 35        | Cafeteria, bus, dormitory, fitness center, parking lot, etc.                          |
| Environment & Safety    | 194    | 9         | Workplace safety, health check-ups, prevention of musculoskeletal diseases            |
| Others                  | 282    | 13        | -   |
| Total                   | 2,101  | 100       |   |

## Diversity and Inclusion

Our Diversity Policy includes female employees, physically/mentally-challenged employees and diverse culture, and tailor-made D&I (Diversity & Inclusion) initiatives are undertaken to cater to the specific needs of respective subsidiaries in consideration of country-specific conditions and cultural particularities.

- **Care for Female Employees (Korea)** \_ We have two unique programs that help with women's career: extended childcare leave (up to two years in the CE & IM divisions), the expansion of in-house childcare facility including the construction of new facilities. Such systems and programs ensure that our female employees are able to safeguard their work-life balance and minimize their career discontinuation following childbirth.
- **Support for Challenged Individuals in Starting their Careers** \_ Ever since we began offering additional points for physically/mentally challenged individuals during the recruitment process (2005), we have taken step-by-step initiatives to assist these individuals in duly serving their role as members of our society through customized job training (2006) and open recruitment sessions for physically/mentally-challenged applicants (2011). Our 'Samsung Barrier Free (SBF)' program, an in-house certification program launched in 2011, ensures that we adopt criteria that are even more stringent than regulatory requirements in examining the accessibility of our buildings and facilities in accommodating these individuals, and improving our elevators, restrooms, low-floor buses, and other modifications at respective worksites.
- **In-House Club** \_ We support 2,108 in-house clubs (sports, leisure sports, culture/arts, talent sharing) joined by various employees of differing position types. These clubs have a total of 68,182 members and the scope of their activity goes beyond our corporate boundary to include regular exchanges with their local community as well as social-giving initiatives.

## Career Development

### Performance-based Compensation

- **Goal-based Performance Management** \_ We measure employee performance based on the established goal and use the outcomes as source data in compensating, promoting, and nurturing individuals and in selecting leaders. Such performance evaluations consist of achievement evaluations made from the work process, result perspective and competency evaluations made from the individual capacity and career management perspective. This follows the four steps of setting goals, conducting intermediate and year-round interviews, conducting evaluations, and performing interviews to discuss the results. To enhance the fairness of this process, we use a computerized system in performing evaluations, provide evaluation manual and regular evaluator trainings to enhance evaluator's capability.
- **Promotion** \_ Primarily in the R&D, sales & marketing, and other field-oriented areas that serve as the foundation for our future growth, we nurture tomorrow's leaders by selecting and promoting talented individuals who have made significant contributions to our corporate outcomes.
- **Annual Awards** \_ Each year, individuals and groups producing excellent business outcomes in the fields of development, sales & marketing, design, production, and innovation are honored at our Annual Awards. These awardees are granted prize money and preferential benefits in promotions. In 2016, 91 awards were given in a total of 11 sections.



### Diversity & Inclusion (D&I) Initiatives in the U.S. and Canada

Our U.S. and Canadian subsidiaries announced their three-year Diversity & Inclusion (D&I) plan in 2016 and shared their 4 key goals.

Specifically, they have been focused on D&I training since the beginning of 2017 and have committed to disseminating the concept of D&I and offering career development training for female employees. Their plan is to launch female ERGs at each of their organizational units and continuously strive to strengthen female leadership.

U.S. subsidiaries<sup>1)</sup> and Canadian subsidiary also operate such ERGs<sup>2)</sup> as WISE (Women in Samsung Electronics) and Women@SECA.



1) Participating subsidiaries in U.S.: Samsung Electronics America, Samsung Research America, Samsung Semiconductor Inc., Samsung Austin Semiconductor

2) ERG: Employee Resource Group

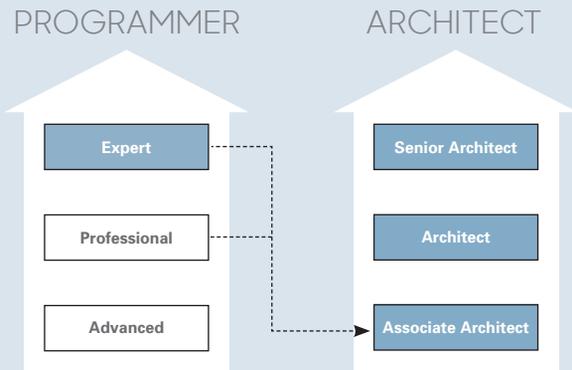
## Strengthened Job Expertise



### Certificate System Designed to Strengthen Human Capacity in Software

We have introduced a certification system designed to help employees strengthen their job expertise so as to motivate them to perform even better. Specifically, we have developed an independent promotion system to assist our employees in building their software capacity, which is the key to our future business competitive edge, and introduced a certification system for both architects responsible for designing structures and programmers who translate design outcomes into codes. All our software developers, both in domestic and global sites, are subject to software problem-solving capacity evaluations and will receive level-specific training based on their evaluation outcomes. Furthermore, we provide software architect training to encourage outstanding software employees to become leaders with top-notch software design capacity. In 2017, we strive to drive all software employees to be certified to get the level of 'Advanced' grade\*.

#### Software Capacity Building System

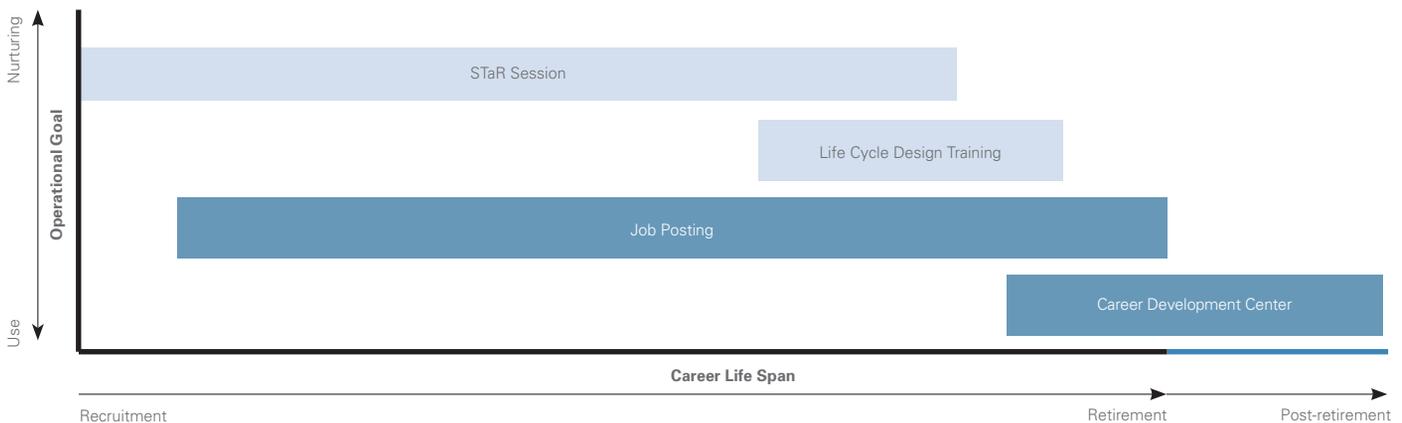


\* S/W Grade: Advanced -> Professional -> Expert

## Career Planning Program (Korea)

- **STaR Session (Samsung Talent Review Session)** \_ This comprehensive talent development process assists our employees in designing their career growth path with their supervisors and benefit from career enhancement programs. In accordance with their career development phase, employees can apply for a wide array of human resources development programs – MBAs, career training, and job skill training. This talent promotion program is aligned with our Expertise Development Process (EDP) which is designed with all our employees in mind.
- **Job Posting** \_ We provide our employees an opportunity to move to different job positions within Samsung through our always-on Job Posting program as staffing needs arise. This program follows a systematic in-house process: creating a job posting announcement, receiving applications, paper screening, and interviewing. A total of 2,312 employees were able to move to their desired positions through the Job Posting program over the past three years.
- **Life Planning Training** \_ This program allows all our employees to design their future in preparation for an extended retirement age and aging society, and consists of three age-specific phases that start with 45, 50, and 55 years old respectively. Each year, this program offers an opportunity to eligible employees for self-reflection and to ponder upon their future to eliminate anxiety about their future and focus on work. This represents another way that we fulfill our corporate social responsibility.
- **Career Consulting Center** \_ Our Career Consulting Center enables retirees, as well as current employees, to start anew and prepare for their future careers. Opened back in 2001, the center mainly supports career change training and consulting, career consulting for current employees, and external job matching. Approximately 6,400 employees received assistance over the duration of its operation, and 5,508 of these successfully landed in a new job.

### Tailor-Made Career Life Cycle Program



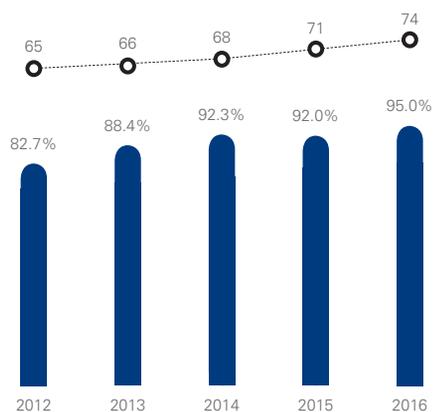
## Organizational Culture

### Establishing the Right Conditions for Self-Motivated Work Engagement

- **Work Smart Initiative** \_ Included in our innovative work process initiatives are: flexible work hours that enable employees to set their own work schedules according to personal circumstances, remote working (mobile offices that allow employees to work via their smartphone), and works-at-home options that help employees work without fixed working space limit. We also host in-house competitions to recognize best practices adopted by employees to change existing work processes into more efficient ones that produce better outcomes.
- **Samsung Culture Index** \_ Since 2012, we have done extensive survey on job-satisfaction including level of trust/fatigue for all the employees in global-scale. For those departments whose score was low as a result of such surveys, customized consulting is provided to improve their work environment. We noticed that employee satisfaction has been on the rise each year since the introduction of this index in 2012. The SCI survey consists of five categories of Work Smart, Think Hard, Build Trust, Leadership and Policy. Survey results show that our employees were most satisfied in the Think Hard and Build Trust categories where we use our collective intelligence system (MO-SAIC) for in-house idea competitions as well as the Great Work Place (GWP) initiative to earn employee trust.

#### SCI Results

■ Response Rate    ● Global Satisfaction Rate



### A Sound Organizational Culture

- **Health Management** \_ All across our domestic worksites, we have fitness facilities available for nearly 3,700 employees which provide expert counseling and workout subscriptions. Specifically, we assist our employees to benefit from expert coaching to prevent musculoskeletal diseases and improve their fitness levels.
- **Mental Wellness Management** \_ We operate 15 counseling centers and

eight mental wellness clinics in Korea as well as a total of 20 counseling centers at 13 overseas production subsidiaries. These counseling centers staffed by certified specialists, as well as our mental wellness clinics with their full-time psychiatrists, provide one-on-one counseling and therapy sessions on such diverse topics as marriage, children, career, relationships, grievances, and stress management. Each of the counseling centers is equipped with meditation rooms: strain relaxation, meditation, color therapy, pain relief, and other themed programs that are easily accessible to help our employees prevent and respond to stress.

- **Access to Culture** \_ Our Samsung Electronics Leadership Center opened on November 1<sup>st</sup> of 2014 with a 1,200-seat concert hall dedicated to classical music performances. Family members of our employees as well as nearly 200 local residents are invited to enjoy each performance delivered by renowned orchestras as well as Korean and international ensembles.

#### Our Counselling Center and Mental Wellness Clinic

| Category                         | No. of Counselling Centers | No. of Professional Counselors | No. of Mental Wellness Clinics | No. of Psychiatrists |
|----------------------------------|----------------------------|--------------------------------|--------------------------------|----------------------|
| Domestic Worksites <sup>1)</sup> | 15                         | 44                             | 8                              | 10                   |
| Overseas Worksites <sup>2)</sup> | 20                         | 24                             | -                              | -                    |

1) Suwon, Gumi, Gwangju, Seoul, Giheung, Hwaseong, Onyang, Pyeongtaek

2) China, Vietnam



Counselling Center (Life Coaching Center, Suwon, Korea)

# Compliance

## OUR VISION FOR VALUE

Complying with legal and ethical standards\* is our top priority in business conduct, and we are fully committed to eliminating any unlawful or corruption practices and building an ethical organizational culture.

### TRENDS & CHALLENGES

- **Compliance and Anti-Corruption** \_ The UN SDGs aims to promote just, peaceful, and effective institutions defined in UN SDGs 16 and to reduce corruption and bribery in all their forms. Notably, multinational companies with global presence need to ensure consistency in implementing globally-acceptable regulations in order to respond to any violations of anti-corruption/anti-trust regulations that occur in countries whose regulations are substandard. Thus, we need to respond to increasingly globalized business conditions and a diversified business structure by establishing an organizational culture driven by compliance and fair trade as a global company.
- **Diversifying Business Conditions** \_ We are increasingly exposed to diverse risks caused by unpredictable changes in the business environment. These changes include intellectual property rights (IPR) risks due to new technology developments, fierce competition in the global market, and an increasing share of developing countries in our supply chain.
- **Protection of Personal Information** \_ Personal information serves as a core element in fulfilling social functions in terms of e-commerce, customer management, and financial transactions. If the management approaches to database or network protection and personal information security are inappropriate, they may increase the risk of privacy breaches or the misuse of personal data. By developing and implementing a comprehensive personal information protection policy that governs our entire business, we, as a company, can prevent legal/reputational risks, safeguard the invaluable personal data of our customers and employees, and even protect their human rights and safety.

### OUR COMMITMENT

As our business is actively engaged in numerous countries around the globe, we recognize and analyze differences in laws, regulations, and practices in respective countries while conducting business in a lawful and ethical manner. We also develop and implement global personal data security policies to respect the privacy of our customers and employees and by protecting their personal data.

### WHAT WE ACHIEVED IN 2016-2017

- **[Compliance and Anti-Corruption]** Applied our Code of Conduct and Employee Business Conduct Guidelines to systematically manage compliance and ethical risks; Trained employees to raise their compliance awareness
- **[Personal Data Security]** Strengthened the operation and auditing of the data privacy protection management systems; Offered on/offline personal data security training in consideration of job-specific characteristics

### FUTURE PLANS

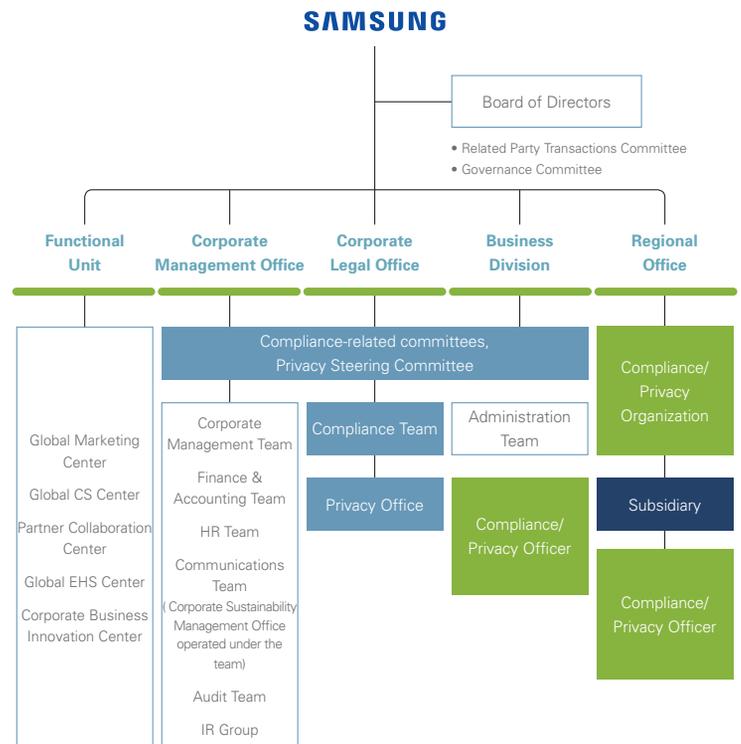
1. **Enhance Employee Awareness of Compliance Management** \_ We will continue to provide company-wide training, and conduct periodical surveys on employees' awareness of compliance management to monitor our status quo.
2. **Reinforce Compliance Monitoring** \_ We will ensure that our legal compliance in business conduct is monitored more intensively, and will pursue fundamental improvements once issues are identified.
3. **More Stringent Management of Overseas Offices** \_ We will build dedicated organizations in our key emerging markets to strengthen our internal control and management performance as a way to prevent any legal violations that may occur in our business conduct overseas.
4. **Increase Personal Data Protection** \_ We will design our training curriculum to include the latest issues and cases on personal data security as well as real-life scenarios while continuously reviewing our personal data management.

\* At Samsung, compliance management is defined as conducting business in accordance with the Code of Conduct in the areas of regulatory compliance, information protection, asset management, fair competition, anti-corruption, prevention of conflict of interest, etc.

## Management Approach

Our Corporate Legal Office, under the direct leadership of the CEO, operates the Compliance Team and Privacy Steering Committee in order to advance compliance management, and the Compliance-related committees and the Privacy Steering Committee assists our top management in their decision making process. Under these committees, each of our Business Divisions and Regional Offices, dedicated to Compliance and Privacy Organizations, are up and running to respond to operating compliance supervision and operating compliance programs for local subsidiaries and branches.

### Organization Chart related to Compliance



Our compliance organization consists of the company-wide Compliance Team and nearly 400 Compliance Officers who are responsible for compliance management of their own function units, business divisions, and overseas subsidiaries. Those Compliance Officers at functional units support the Compliance Team, monitor compliance-related regulations that are relevant to their operations, and respond to pending issues by area based on the guidance offered by the Compliance Team. We also assign Compliance Officers at our business divisions and overseas subsidiaries to address region-specific compliance issues.

## Management System by Compliance Management Area

| Category                      | Management System   | Mandate  | Responsible Unit                                |
|-------------------------------|---|--|---|
| Compliance                    | Compliance Program Management System (CPMS <sup>1)</sup> )          | Reporting of compliance violations, help desk, self-initiated reviews, posting of manuals and guides | Compliance Team, Global Privacy Office          |
| Anti-corruption               | Ethics Management System  | Posting of the Management Principles and Code of Conduct, reporting of corrupt practices             | Audit Team                                      |
| Personal Information Security | Privacy Legal Management System (PLMS <sup>2)</sup> )               | Personal data protection management of products and services   | Global Privacy Office                           |
| Intellectual Property Rights  | IT4U  | Ban on the illegal use of software   | IT Strategy Group                               |
| Labor Relations               | HR-Partner  | Compliance with labor standards, posting of HR regulations   | HR Team   |
|                               | Integrated absenteeism and tardiness record system (My Portal)      |  | HR Team   |
| Environment                   | Global Environment, Health and Safety System (G-EHS <sup>3)</sup> ) | Environment & Safety of workplaces and products  | Global EHS Center                               |
| Trade                         | Conflict Minerals Management System(TCS <sup>4)</sup> )             | Strategic resources, management of conflict minerals use   | Corporate Compliance Team                       |
| Others                        | Global Policy & Procedure Manuals (GPPM <sup>5)</sup> ) management  | Standardization of global business processes   | Administration Team                             |
|                               | Contract management system  |  | Global Legal Affairs Team, Corporate Legal Team |

- 1) Compliance Program Management System
- 2) Privacy Legal Management System
- 3) Global Environment, Health & Safety System
- 4) Trade Compliance System
- 5) Global Policy & Procedure Manuals

## Compliance

### Compliance Management System

Our compliance program aims to establish compliance-driven corporate culture, minimizing the business risks from various issues, such as cartel, IPR(Intellectual Property Right), etc. This program also promotes stronger corporate responsibility, in particular, in the area of human rights, health & safety, and environment. Key areas within the management scope are illustrated as follows.

#### key management areas



|            |                              |                      |                     |
|------------|------------------------------|----------------------|---------------------|
| Anti-trust | Intellectual property rights | Anti-corruption      | Consumer protection |
| Trade      | Labor relations              | Environment & Safety | Subcontracting      |

## Compliance Management Process

### Prevention



Offer employee training, provide area-specific guides, make system-based self-reviews, operate a help desk, sense and manage new and revised regulations

### Monitoring



Conduct regular/ad-hoc monitoring through dedicated organizations or staff

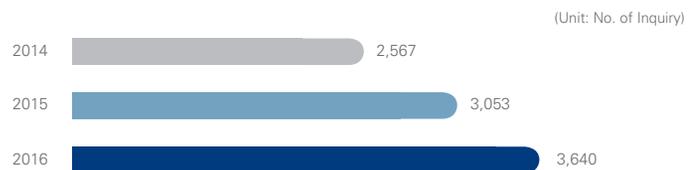
### Follow-up Management



Identify the root causes of issues through process/result analysis, make improvements, prevent the reoccurrence of the same issue (e.g. introduce actual cases as part of training)

The Compliance Program Management System (CPMS), an IT system developed to manage compliance-related risks, provides our area-specific policies, and the details of regional issue monitoring. Our help desk is in operation to assist employees in making one-on-one inquiries to experts whenever they have work-related questions or when they find our guidelines insufficient to determine illegality. The number of inquiries submitted to the help desk has consistently risen since April 2011 when we announced the Compliance Declaration. Our whistle-blowing system, designed under the CPMS for our employees, firmly guarantees the confidentiality of whistle-blowers.

### Help Desk Inquiry Status



## Risk Management Initiatives

### Compliance Training (Annually)

| Method  | Topic                              | Description  |
|---------|------------------------------------|--|
| Offline | Basics & change                    | Training on compliance basics and key issues, offered as part of the introductory training for new hires with/without previous experience as well as annual company-wide |
|         | Theme-based by work & job function | Advanced training on anti-corruption, trade secrets, and copy rights, offered in consideration of work characteristics   |
|         | Global Mobility                    | Basic compliance training for expatriates at the headquarters  |
|         | Advanced for executives            | Anti-corruption, key issues etc., offered as part of the Global Strategy Council meetings  |
| Online  | Advanced for employees             | e-learning on intellectual property rights and data privacy  |

In dealing with key issues in the area of human rights such as child labor, migrant worker, conflict mineral, privacy protection, we are fully operating the compliance system cross all the related teams to resolve the issues on employees as well as the entire supply chain. In addition, we conduct annual check-up of the compliance system of all the subsidiaries to enhance the system.

### Management System for Changes in the Legal Environment

| Category                                | Cycle        | Description   |
|---|--------------|---|
| Ansim Report                            | Twice a week | Analyze major regulatory enactments and revisions and send them to executives               |
| Ansim News Scrap                        | Daily        | Clip news articles on regulations and share them with relevant staff                        |
| Ansim Newsletter for subsidiaries       | Monthly      | Share sensing information and messages between the headquarters and respective subsidiaries |
| Global Policy & Relations System (GPRS) | Year-round   | Share key policy/regulatory enactment trends by country                                     |



### Our Activity to the Anti-Graft Act

No. of reviews of the anti-corruption inquiries submitted to the Help Desk

447

No. of domestic employees who completed offline training

2,800

No. of domestic employees who completed special online training

90,000

As Korea's Anti-Corruption and Bribery Prohibition Act ('Anti-Graft Act') took effect in September 2016, we were prompted to take a firmer anti-corruption position across the board.

In the second half of 2016, we provided our employees in Korea and global sites with guidelines and training specifically designed for the Anti-Graft Act. Lawyers under the Compliance Team offered offline training to nearly 2,800 domestic employees whose work is highly relevant to the act. Special online training is also regularly provided to all our employees (nearly 90,000 persons) in Korea as well as to 18,000 overseas expatriates. To minimize our risk of violating the Anti-Graft Act, we developed stringent in-house policies and ensure that all issues, regardless of their severity, are handled through our help desk. In 2016, we reviewed a total of 447 anti-corruption items through the help desk, which is a twelve-fold increase from the previous year.

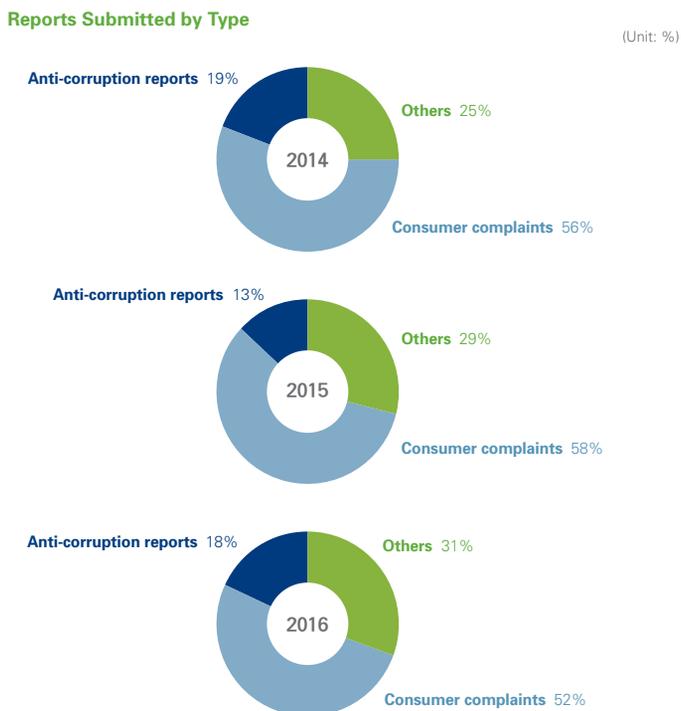
In addition, we use a multitude of employee PR channels, such as notice letter mailings and online/offline Anti-Graft Act brochure distributions, etc. – to brief them on anti-corruption issues and guide them through necessary precautions.

## Ethics Management

We disclose our Global Code of Conduct to our suppliers, customers, and other external stakeholders as well as to our employees through our ethics management website (www.sec-audit.com), and provide a channel to report on any violation. Furthermore, the ‘Employee Business Conduct Guidelines’ are translated and available in a total of 15 languages (including Korean) and uploaded on our in-house intranet. Relevant details are disseminated and shared among all our employees around the globe through collective, online, and audio/visual training offered at least annually if not more.

In 2016, we received a total of 628 reports through our global reporting channels: consumer complaints accounted for 52%, and corruption-related reports for 18% of the total. Corruption-related issues are subject to investigation and if indeed are truly found to be a case of corruption, disciplinary actions are taken according to the severity of the concerned issues.

Separate ‘Business Guidelines’ are provided to our business partners to establish transparent transaction practices.



## Privacy Policy

We officially announced our global standard data security policy and developed relevant policies that reflect region-specific regulatory conditions and local characteristics. As a result of such endeavors, our employees are provided with the ‘Global Personal Information Guide’ and ‘Personal Data Handling Consignment Guide’ to be used as management regulations. We operate our processes and systems in a way to incorporate relevant policies into our daily business conduct and continue to perform reviews and offer company-wide training.

• **Operation of Dedicated Organization** \_ The Global Privacy Office was created within the Corporate Legal Office under the direct leadership of the CEO, and lawyers in charge of data privacy were appointed in respective business divisions.

• **Strengthened Review of Privacy Policy Operation/Management Systems** \_ We perform regular reviews and make necessary improvements on our systems and services that are operated for our customers and employees for their managerial, technical, and physical protection system that governs the entire process of data collection-processing-disposal.

• **Strengthened Privacy Policy Training** \_ In addition to basic training that targets all employees, we constantly provide on/offline Privacy Policy training that takes into account department-specific job characteristics (planning, R&D, marketing, etc.)

• **Privacy Legal Management System (PLMS) Operation** \_ It is mandatory to fill out the data privacy risk checklist, which is used at each stage of our products and services, from planning and development to operation and discontinuation to take preventive measures and to ensure that reviews are performed by dedicated lawyers. The PLMS is aligned with the Product Life-cycle Management (PLM), our global R&D project management system.

### Role of Privacy Offices

| Unit                                    | Role  |
|---|---|
| Privacy Steering Committee              | <ul style="list-style-type: none"> <li>Decide on key policies and protection measures in relation to data privacy</li> <li>Share pending issues by product/business division and discuss countermeasures</li> </ul>   |
| Global Privacy Office                   | <ul style="list-style-type: none"> <li>Operate privacy strategies and policies, develop relevant processes</li> <li>Offer legal advice and support on privacy issues</li> <li>Prevent and audit the security issues of products and services</li> <li>Offer employee training and PR</li> </ul> |
| Privacy Offices in Business Division    | <ul style="list-style-type: none"> <li>Review and train on the privacy programs of business divisions</li> <li>When an issue arises, report promptly and take follow-up measures</li> </ul>   |
| Privacy Officer in Regional Head Office | <ul style="list-style-type: none"> <li>Review and train on the privacy programs of the concerned Regional Offices and subsidiaries</li> <li>When an issue arises, report promptly and take follow-up measures</li> </ul>  |

### PLMS Use of Product Development Projects

(Unit: No. of Projects)



## Tax Risk Management

We at Samsung, are committed to conducting all business related activities in compliance with the tax policy of the 'Law Observance & Transparent Tax Report and Payment' and the 'Contribution to the National Finance and Society through Tax Policy Improvement'. In addition, we thoroughly assess various elements related to taxation and put the highest priority on duly complying with tax-related obligations.

### Tax Management Policy

#### Law Observance & Transparent Tax Reporting and Payments

- 1 We comply with the laws and regulations of the countries we do business with and fulfill our responsibility for transparent tax reporting and payments. To this end, we maintain an open and transparent relationship with the tax authorities of each country and provide relevant factual evidence and supporting documents upon request.
- 2 As we conduct a variety of business activities in several countries, we recognize the differences in tax laws for each country, prevent tax risks, and analyze relevant regulations and practices in doing all transactions.
- 3 The employees in charge of tax management at each subsidiary are required to comply with laws and regulations in accordance with our tax policies and perform their tasks under the principle of maintaining a transparent relationship with the tax authorities.

## Tax Risk Assessment

We at Samsung are committed to preventing any tax related risk that could possibly occur during business, including the cases of transactions involving goods and services, mergers and acquisitions, corporate restructuring, international transactions, new business promotions, and transaction structure changes. Our tax division collaborates with external experts to assess tax risk, together with related divisions. In addition, related divisions look into the results, in conjunction with other factors for the final decision. When assessing business related tax risks, we focus on the following key aspects.

### Key Criteria to Assess Tax Risks related to Business Activities



Thorough analysis of specific factual grounds



Review of local and international tax regulations and practices



Scenarios of profits and costs depending on many plans as possible



Possibilities and existence of potential risks



Countermeasures to risks

## Tax Risk Management

We place top priority on compliance when managing various tax risks. We maintain a decision-making system based on thorough tax risk assessments and reviews so that we can effectively comply with regulations and practices in all our business transactions. We file all our income tax returns, meet all payment deadlines, and document qualifying evidence related to business transactions. We also maintain a transparent relationship with tax authorities and respond to any request on the part of such authorities in an expedient and accurate manner.

Concerning local transactions, we comply with related laws and maintain fair trade prices in transactions with third parties and persons having special relations. Likewise, for international transactions, we adhere to regulated prices by law and prevent risks.

## Contribution to Local Community Development

Our business and operations contribute to local communities around the world. In fact, we are considered a major tax payer and investor in many countries and make a significant contribution to job creation each year. Moreover, we play a critical role in vitalizing the local economy through the purchase of products and services from all over the world. In particular, we contribute to the local economy by fulfilling our responsibility in transparent tax payments. In addition to paying corporate taxes, we also indirectly contribute to the local economy by paying surtaxes and withholding tax.

# Corporate Citizenship

## OUR VISION FOR VALUE

As a global corporate citizen, we contribute to the benefit of all and create shared value on the basis of our technology and innovation. In doing so, we aspire to help each member of the global society reach their full potential and take the lead in creating fundamental solutions to the social issues we face.

### TRENDS & CHALLENGES

- **Change in Awareness of Social Contribution** \_ We witness increasing expectations on sustainable social contribution programs that help solve social issues while creating corporate value. This implies that businesses need to be directly engaged in addressing social issues through the alignment of Creating Shared Value (CSV) and the UN SDGs.
- **Equal Opportunity in Education and Employment** \_ The 2016 UN SDGs report revealed that 124 million children and teenagers were unable to receive education due to costs and accessibility issues as of 2013. Since high-quality education is the key to securing decent jobs and determining one's quality of life, the UN SDGs pursue education for all (UN SDGs 4). By ensuring improved access to education and providing employment training for the vulnerable, businesses can contribute to reaching the UN SDGs in general.
- **Women's Economic Independence** \_ The UN SDGs seek the economic independence of women to ensure gender equality (UN SDGs 5). All around the world, women's economic activity time is only a half of that of men, and this can be partly resolved by providing educational opportunities to female students. In particular, providing vocational training to women in developing countries whose national educational system is often not well established can provide an opportunity for businesses to secure a much-needed workforce and to pursue social development.
- **Technology Transfer, Dissemination, and Diffusion** \_ To ensure the entire global community could reach the sustainable development, partnership-based cooperation and the dissemination of appropriate technology from the developed nation are necessary (UN SDGs 17). Notably, Information and Communication Technology (ICT) is widely recognized as a means of securing a better quality of life by helping the vulnerable overcome the physical limitations of distance and the economic costs of implementation, and through the strengthening of connectivity (UN SDGs 1).

### OUR COMMITMENT

We are fully dedicated to serving our social responsibility towards sustainable social development and the betterment of human society. We take a proactive approach in our social-giving initiatives: we share our cutting-edge technology that constitutes our core competency to address diverse social issues (education, health, employment, and environment) and facilitates employees' talent-sharing.

### WHAT WE ACHIEVED IN 2016-2017

- **[Reaching One's Potential]** Increased educational accessibility and provide employment opportunities through Samsung Smart School and Samsung Tech Institute among our global strategic corporate citizenship programs.
- **[Sharing Innovative Technology]** Assisted the development of social issue solutions through the use of state-of-the-art ICT
- **[PlanetFirst]** Joined the Global Earth Hour initiative to conserve energy; Collected used mobile phones and use them for educational purposes; Operated green schools, etc.

### FUTURE PLANS

1. **Focus on Top Priority Issues** \_ We will broaden our environmental programs and educational accessibility improvement programs for women and vulnerable people as they address globally-important issues and allow us to effectively use our capabilities to create value.
2. **Strengthen External Cooperation/Partnership** \_ We plan to develop customized programs for local communities through cooperation with external/internal stakeholders – global research institutes and NGOs that deal with specific local conditions or specific social-giving areas – and to expand our partnership with outstanding institutions so as to generate collective impact.
3. **Performance Measurement Methods** \_ We will collaborate with academia and global research institutes to study the educational effectiveness of our corporate citizenship programs (Smart School) to develop a system to measure their substantial contributions (value and impact). Furthermore, we plan to improve the operational transparency of all our sponsorship and social contribution funds. Please refer to page 44 for further details.

## Management Approach

We place top priority on the educational and employment programs designed to promote individual growth, and we are developing solutions and programs to address social issues through the use of Information and Communications Technology (ICT). Furthermore, we continue to improve our programs, and also to promote employee talent-sharing and volunteerism (employee volunteer program, mentoring).

### Slogan

## Believe in Potential

### Core Values

#### Human-centric

We design a world where all individuals are respected and live out a better and more flourishing life through top-notch technology.

#### Innovative

We put our innovative technology and outstanding products into full use for our social-giving initiatives to assist everyone in moving forward to a more convenient and advanced world.

#### Fundamental

We move beyond superficial volunteer work and focus on fundamental solutions that enable people to stand on their own two feet by helping them unleash their full potential.

#### Proactive

We come before anyone else in paying attention to global social issues and in bringing the quickest and most efficient solutions to those in need.

## Reaching People's Potential

### Samsung Smart School

Our 'Samsung Smart School' supports engaging education whereby teachers and students communicate in real time to learn together through the use of digital devices. This program specifically assists students whose educational needs are severely underserved and provides them with easier access to the IT environment and equal opportunities in education. In 2016, we supported 857 Smart Schools in 72 countries cross the world (excluding Korea).

Our future plan is to build an online teacher community platform in the region to encourage teachers to benchmark each others' best practices as a way to strengthen teacher education. We will also expand the internet-based career training content that assists middle/high school students in swiftly understanding their aptitude and making the right career choice in Thailand.



### Culture exchange between Smart Schools in Portugal and Korea

Vidigueira Elementary School in the southern state of Alentejo, Portugal, and Dyanam Elementary School in Gunsan, Korea are working together to close the educational gap through our Smart School program. We have launched this program at seven schools located in the poorest regions of Portugal since 2014, and since then, student failure rates have dropped to 0% from 15% before the program's initiation. In 2016, video calls were made between Smart Schools in Portugal and Korea to promote cultural exchanges: Taekwondo demonstrations were made and students shared in Korea's traditional food and games, Portuguese folk songs and Korean children's songs. This was broadcast by the national Portuguese TV channel and Korea's network TV channels as a best practice in educational and cultural exchange.



### Samsung emPOWER Tomorrow, coding education for female students

Our North American Regional Head Office has been working with Discovery Education, an NGO dedicated for coding education since 2015 to provide 4th and 5th grade girls (aged 9-11) with computer programming and electric/electronic training. This three-month extra-curricular program offers a wide-range of hands-on experience to help girls develop interest in science, technology, and coding for six hours a week. In addition, we allow these students to meet our female scientists working at Samsung to explore their career options in the science and technology fields.



### Mobile Smart Schools in Colombia

Students living in the remote village of Tarapoto along the Amazon River in Colombia had to commute through highly dangerous routes to school. This prompted us to develop 'NOMAD', our first ever mobile Smart School program. The NOMAD package was designed in the form of huts used by nomad natives of Colombia to make it easy for teachers to carry around, and was made up of tablets and portable desks. Since June 2016 when the program was initiated until the end of that year, 5,100 students in 40 regions were educated through NOMAD, and its outstanding quality was recognized by the Colombian government and educational organizations. Presently, eight NOMAD schools are under operation in the country at the request of the government. In 2017, we plan to launch six additional Smart Schools in Colombia as well as nine more in El Salvador, Costa Rica, Nicaragua, Dominican Republic, Panama, and Chile.



### Smart Library support enabled by information technology

As part of our Smart Library 2.0 project, our Vietnamese subsidiary assisted the renovation of National Library of Vietnam in terms of repairing its old official residence and installing touch screen monitors, tablet PCs, and other cutting-edge devices, which ultimately resulted in the opening of the S. Hub Smart Library. Following the S. Hub opening in Ho Chi Minh in 2015 and the S. Hub Hanoi in 2016, this Smart Library initiative will continue to expand across the nation. In addition to Vietnam, we also provide Indonesian libraries with digital books and digital library application facilities while establishing the 'Dream Library' at a children's hospital located in the outskirts of Tel Aviv, Israel as part of our Smart Library program.



### Photovoltaic-powered internet schools that improve access to education in Africa

Since 2011, our African Regional Head Office has jointly operated solar-powered internet schools in Ghana, Kenya, and Ethiopia in cooperation with the Korea Education & Research Information Service (KERIS) under the Korean Ministry of Education. In 2016, this solar-powered internet school program was expanded to Uganda and other countries. While we provide tablet PCs, e-boards, and other devices required for these schools, KERIS trains local teachers on digital education and teaching. Today, 78 Smart Schools are under operation, including solar internet schools, in 10 African countries.



### Samsung Junior Software Cup to foster creative minds

In addition to the Junior Software Academy that offers software education to Korea's elementary/junior high/high school students, we host Samsung Junior Software Cup where teenagers can transform their ideas into tangible software applications with the help of our employees who act as their mentors. In 2016, this competition was attended by 6,125 students from 2,294 teams twice more than that of 2015. The honor of the Grand Prize went to the 'Swift;meal' application, a school meal solution aligned with individual students' allergy data as well as the 'Noise Keeper in Our Classroom' application that helps create a learning atmosphere by transforming noises in the classroom into images.

## Samsung Tech Institute

Our Samsung Tech Institute contributes to creating jobs by providing IT-related vocational training in cooperation with universities and local governments. The institutes offer differentiated courses by country-specific conditions: they are focused on nurturing software workforces in advanced countries and offering service engineer courses in developing countries. In 2016, 40 institutes opened in 27 countries in world-wide. Our Samsung Tech Institute program will collaborate with governments and their educational authorities to introduce educational certification programs while developing an online website that provides theoretical lectures for students to initiate their own learning.

- **Europe** \_ Our Bulgarian subsidiary operates mentoring program that connects Samsung Tech Institute students with relevant expert groups. A mentoring program launched with 'Listen Up', (a foundation that supports people with hearing impairments), enabled five Tech Institute students to develop the nation's first ever application that transforms voice into text in real time.
- **Central and Latin America** \_ Our Mexican subsidiary, in collaboration with the National Polytechnic Institute of Mexico, provides students aged 16 to 22 with four-month technical training as well as 20-hour online training at the Samsung Service Center.
- **Asia** \_ The 'Rumah Belajar Samsung' program launched by our Tech Institute in Indonesia aims to help students who have neither completed formal education nor received receive higher education. For teens and youth from 17 to 24, we offer training on electronics such as home appliances, computers, audio/video devices, and mobile phones as well as an opportunity to work at our service centers following such training. Thanks to this program, our Indonesian subsidiary was honored with the Best CSR Award 2016 granted by the Indonesian Ministry of Small & Medium Enterprise. In addition, our Tech Institutes established in China, Myanmar, Cambodia, and India educate high school students and undergraduates studying technology on how to develop mobile applications and repair electronic products while offering an opportunity to secure a position at our service centers.



### Vocational Training to Nurture Female Electronic Engineers in Ghana

Estimated ratio of female certified electronic maintenance technicians in Ghana in 2017

25%

We launched a program that offers technical vocational training for women through our partnership with the Korea International Cooperation Agency (KOICA) and the German aid organization, known as the German International Development Cooperation (GIZ). With the goal of nurturing ‘professional female electronics maintenance technicians’, we will open the Female Engineering Academy at four vocational training schools in Ghana and build electronic maintenance training centers to foster 120 female certified electronics maintenance technicians per year. In particular, the portion of practical training will be increased up to 50% or higher as a way to provide CBT (Competency-based Training) to improve its educational effectiveness, and our technical experts will support directly in the area of marketing practice and shop floor training in line with the market-oriented curriculum. Trainees will be provided with an internship opportunity at Samsung, and graduates will be assisted in starting their own business in service of electronics devices. This project is expected to increase the portion of certified female electronic maintenance technicians from 3% to 25% by 2017 in Ghana. Project was honored with an award by the Minister of Industry/Trade/Energy at ‘The 4<sup>th</sup> Governmental Prize for Korea’s Most Beloved Company Awards’ in November 2016.



## Sharing Innovative Technology Solve for Tomorrow

Our ‘Solve for Tomorrow’ program aims to help students develop creative problem-solving capabilities through the use of STEM (Science, Technology, Engineering and Math) as a way to collectively address social issues while discovering and implementing ideas that may contribute to local communities. In 2016, a total of 18 open competitions and contests were hosted in 18 countries – the U.S., Canada, six Central/Latin American countries (Brazil, Mexico, Argentina, Chile, Peru, and Colombia), China, and Singapore.

In the U.S., these competitions are hosted for students aged from 6<sup>th</sup> grade to 12<sup>th</sup> grade. In 2017, three winners were awarded: the detection system that alerts oncoming traffic that a wild animal is nearby, the pesticide-spraying drone that releases chemicals on target areas only to reduce their consumption, and the application that curates a network of local schools and restaurants that will donate free dinner that might otherwise have gone to waste in order to ensure that students don’t go hungry. Each of these winning schools was awarded brand-new products such as LET TVs, laptops and tables, valued at KRW 170 million (or USD 150,000). In addition, Samsung Electronics made donation of KRW 22 million (or USD 20,000) to local non-profit organization, which was selected by the winner schools.





### Samsung Tomorrow Solution

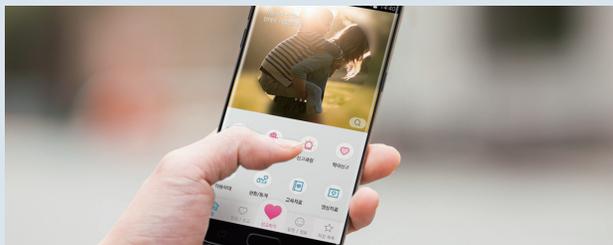
No. of competition participants

7,445 persons

In Korea, we host the annual open competition known as the Samsung Tomorrow Solution, which is open to anyone, and award winners under the section of "Impact" and "Ideas". Our employees serve as mentors in the development process to translate outstanding solutions into reality. The 2016 competition was attended by 7,445 individuals from 1,486 teams.

#### Save Our Children Call 112

This application was designed to help report child abuse and was awarded in the "Ideas" section in 2015 and in the Impact section in 2016. It provides data and checklists on childrearing, discipline, and corporal punishment and helps identify symptoms of child abuse, and allows for a text-reporting function, which is necessary when verbal reporting is not easily viable. When child abuse is reported through this app, police officers in the concerned jurisdiction and child abuse specialists are dispatched together.



#### Thermo-Graphic Camera for the Mass Market

The idea came from the real life difficulties that firefighters face when extinguishing fires, and was honored with the Grand Prize in the Idea section in 2016. Designed to secure visibility which is often reduced in case of fires and other disasters in order to help save lives, these thermo-graphic cameras for the mass market were chosen as a social contribution project by our C-Lab following its winning the prize, and are under development to perfect their features. Our plan is to have nationwide deployment of the equipment to the fire stations once the device development has been completed.



## Resolving Social Issues through Technology



#### Beat the Street campaign enabled by VR gaming

Nearly 80% of the teens in the Netherlands commute to school by bicycle everyday, and 18% of the teenage car accidents are reportedly caused by the use of smart phones while riding bikes. Our Dutch subsidiary, in collaboration with Cheil Worldwide, developed a Virtual Reality (VR) game that alerts teenagers with the danger of using smart phones while moving and launched a campaign that directly engages with these students. In 2017, this campaign will be expanded in a road show format cross the nation.



#### Start VR Project that offers VR-assisted psychological treatment

Our Australian subsidiary initiated a project using VR technology to mitigate the psychological stress of cancer patients in conjunction with the cancer center 'Chris O'Brien Lifehouse'. The Start VR project was based on the idea suggested by the medical field that virtual reality, through the use of the 'distraction therapy' concept, could help relieve the pain and anxiety that often accompany cancer treatment. Patients at the cancer center wore our Gear VR to experience virtual realities, such as a trip to vacation spots, skydiving, boat sailing and snorkeling, resulting in their reduced stress levels.



### Smart AAC communication solution to help people with speech disorders

Augmentative and Alternative Communication (AAC) devices help people who have difficulties in spoken or written languages when communicating with others. When users press icons or type in sentences through these devices, they are produced as voice outputs. In 2015, our researchers at C-Lab developed and released an AAC device with improved usability, through its cooperation with the Gyeonggi Assistive Technology Research & Assistive Center and the Community Chest of Korea. This Smart AAC solution has diversified its input methods including character, picture, and keyboard, reproduction navigation, and 13 different voice tones. We donate tablets with this embedded application along with auxiliary input devices, and this application has been downloadable free-of-charge in the Android Market since January 2017.



### DyTECTIVE application for dyslexia diagnoses

Our Spanish subsidiary developed a tablet application to diagnose dyslexia in cooperation with the dyslexia research institute 'Change Dyslexia'. This application was designed to help more than 600,000 Spanish students demonstrating symptoms of dyslexia: a simple test 15 minute or so test is enough to diagnose the risk level of dyslexia. The test consists of several simple challenges – hearing a sound and answering with its syllables, answering in words, distinguishing one word apart from others, and answering in the correct letters. Its accuracy is approximately 90%.



### Live Pages that supports readers in appreciating classical literature

Our Russian subsidiary developed an application that helps readers better appreciate Russian classical literature in its e-book format. It includes the relationships among characters in literature, historical backgrounds, and an event map relevant to the different pieces of literature. These are shown as pop-ups, and readers can play word games to learn old Russian and difficult words. Readers can further enjoy reading literature through this application. In 2017, its English version will be developed and released.



### Smart education support for refugee children

Our Samsung Discovery Lab is located within the Haya Cultural Center (HCC) established under the vision presented by Princess Haya in Jordan. In 2016, we offered digital device-enabled education to young students in the Za'atari refugee camp in Jordan through our partnership with the UN Refugee Agency, and the HCC.



Under the slogan 'Planet First', we undertake environmental protection initiatives in cooperation with the local communities where our worksites are based. In addition to our current campaigns, we plan to build partnerships with global environmental organizations to broaden the scope of our social-giving initiatives in the environmental arena.



### Joining the Global Earth Hour campaign to donate power

We joined the 'Global Earth Hour' campaign supervised by the World Wildlife Fund (WWF), and our Korean Head Office and 51 sales subsidiaries across the globe turned off the lights for one hour on March 21<sup>st</sup> in 2017. This resulted in 8,000 Kg in reduced carbon emissions. Combined with corporate citizenship funds, the power cost saved was used in order to donate 1,400 LED lanterns to the village of Tiom in Papua, Indonesia, which is suffering from power shortages, with an aim to eliminate power inequality across the world.



### Preservation of water resources and ecosystems on World Water Day

Our production sites across the globe annually commemorate World Water Day by preserving streams and marine ecosystems. Each of these sites clean up nearby streams in conjunction with local governments, local NGOs, and students while undertaking ecosystem preservation programs (releasing native fish and planting aquatic plants), along with water conservation campaigns and training. During the 2016 World Water Day celebration, employees at our Onyang site in Korea cleaned up nearby streams while employees at our Chinese subsidiary launched a water conservation campaign and planted 100 trees. Our Polish subsidiary invited students from its sister school to offer training about water resources.



### Trade in Your Best Return campaign to recycle end-of-life mobile phones

Our Chilean subsidiary undertook its Trade-in program, designed to collect used mobile phones from consumers who buy new ones, in line with social-giving causes. During the one-month campaign period, collected used mobile phones were donated to the Samsung Tech Institute and the 'Apps Club', a coding education institute for children, so that they could be used for application development education, and its trade-in activities surged by 175%. This campaign will continue to expand to more countries in the upcoming years.



### Green education for children

Since 2012, we have been operating our 'PlanetFirst Green School' in Korea. In 2016, we provided 25 training sessions to 698 elementary school students to teach them about "Global warming and renewable energy" and offer hands-on experience to make self-powered flashlights. Our Green School was certified as an 'environmental educational program' by the Korean Ministry of Environment, which recognized its accomplishments in September 2015.

Our U.S. subsidiary has been hosting the environmental protection contest titled 'Climate Superstars Challenge' in conjunction with the U.S. Environmental Protection Agency and Boys and Girls Club of America. 184 groups across the U.S. joined by children aged 11 to 13 attended the contest in 2016, and the Seminole Tribe group from Florida was honored with the Grand Prize following the seven-week competition of diverse environmental protection activities. The group was awarded with latest 'Energy Star'-certified IT products valued at KRW 28 million (US\$ 25,000).

# APPENDIX

# FINANCIAL STATEMENT

## INDEPENDENT AUDITOR'S REPORT

To the Board of Directors and Shareholders of  
Samsung Electronics Co., Ltd.

We have audited the accompanying consolidated financial statements of Samsung Electronics Co., Ltd. and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as at December 31, 2016 and 2015, and the consolidated statements of profit or loss, consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies and other explanatory information.

### MANAGEMENT'S RESPONSIBILITY FOR THE FINANCIAL STATEMENTS

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("Korean IFRS") and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

### AUDITOR'S RESPONSIBILITIES

Our responsibility is to express an opinion on the consolidated financial statements based on our audits. We conducted our audits in accordance with Korean Standards on Auditing. Those standards require that we comply with ethical requirements, and plan and perform the audit to obtain Reasonable Assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the Group's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### OPINION

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at December 31, 2016 and 2015, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with Korean IFRS.

### OTHER MATTERS

Auditing standards and their application in practice vary among countries. The procedures and practices used in the Republic of Korea to audit such financial statements may differ from those generally accepted and applied in other countries.

Seoul, Korea  
February 27, 2017

This report is effective as of February 27, 2017, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

## CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

(In millions of Korean won, in thousands of US dollars)

|  | December31,2016 (KRW) | December31,2015 (KRW) | December31,2016 (USD) | December31,2015 (USD) |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>Assets</b>  |                       |                       |                       |                       |
| <b>Current assets</b>  |                       |                       |                       |                       |
| Cash and cash equivalents  | 32,111,442            | 22,636,744            | 27,686,236            | 19,517,225            |
| Short-term financial instruments   | 52,432,411            | 44,228,800            | 45,206,818            | 38,133,728            |
| Short-term available-for-sale financial assets                                       | 3,638,460             | 4,627,530             | 3,137,052             | 3,989,820             |
| Trade receivables  | 24,279,211            | 25,168,026            | 20,933,347            | 21,699,677            |
| Non-tradereceivables   | 3,521,197             | 3,352,663             | 3,035,949             | 2,890,640             |
| Advances   | 1,439,938             | 1,706,003             | 1,241,503             | 1,470,903             |
| Prepaid expenses   | 3,502,083             | 3,170,632             | 3,019,469             | 2,733,694             |
| Inventories  | 18,353,503            | 18,811,794            | 15,824,248            | 16,219,383            |
| Other current assets   | 1,315,653             | 1,035,460             | 1,134,346             | 892,765               |
| Assets held-for-sale   | 835,806               | 77,073                | 720,625               | 66,452                |
| <b>Total current assets</b>  | <b>141,429,704</b>    | <b>124,814,725</b>    | <b>121,939,593</b>    | <b>107,614,287</b>    |
| <b>Non-current assets</b>  |                       |                       |                       |                       |
| Long-term available-for-sale financial assets  | 6,804,276             | 8,332,480             | 5,866,594             | 7,184,200             |
| Investment in associates and joint ventures  | 5,837,884             | 5,276,348             | 5,033,378             | 4,549,226             |
| Property, plant and equipment  | 91,473,041            | 86,477,110            | 78,867,346            | 74,559,893            |
| Intangible assets  | 5,344,020             | 5,396,311             | 4,607,573             | 4,652,657             |
| Long-term prepaid expenses   | 3,834,831             | 4,294,401             | 3,306,362             | 3,702,599             |
| Net defined benefit assets   | 557,091               |                       | 480,320               |                       |
| Deferred income tax assets   | 5,321,450             | 5,589,108             | 4,588,113             | 4,818,886             |
| Other non-current assets   | 1,572,027             | 1,999,038             | 1,355,388             | 1,723,555             |
| <b>Total asset</b>   | <b>262,174,324</b>    | <b>242,179,521</b>    | <b>26,044,667</b>     | <b>208,805,303</b>    |
| <b>Liabilities and Equity</b>  |                       |                       |                       |                       |
| <b>Current liabilities</b>   |                       |                       |                       |                       |
| Trade payables   | 6,485,039             | 6,187,291             | 5,591,350             | 5,334,634             |
| Short-term borrowings  | 12,746,789            | 11,155,425            | 10,990,183            | 9,618,121             |
| Other payables   | 11,525,910            | 8,864,378             | 9,937,550             | 7,642,798             |
| Advances received  | 1,358,878             | 1,343,432             | 1,171,614             | 1,158,297             |
| Withholdings   | 685,028               | 992,733               | 590,626               | 855,927               |
| Accrued expenses   | 12,527,300            | 11,628,739            | 10,800,941            | 10,026,208            |
| Income tax payable   | 2,837,353             | 3,401,625             | 2,446,344             | 2,932,855             |
| Current portion of long-term liabilities   | 1,232,817             | 221,548               | 1,062,925             | 191,017               |
| Provisions   | 4,597,417             | 6,420,603             | 3,963,857             | 5,535,794             |
| Other current liabilities  | 351,176               | 287,135               | 302,781               | 247,565               |
| Liabilities held-for-sale  | 356,388               |                       | 307,275               |                       |
| <b>Total current liabilities</b>   | <b>54,704,095</b>     | <b>50,502,909</b>     | <b>47,165,446</b>     | <b>43,543,216</b>     |
| <b>Non-current liabilities</b>   |                       |                       |                       |                       |
| Debentures   | 58,542                | 1,230,448             | 50,474                | 1,060,883             |
| Long-term borrowings   | 1,244,238             | 266,542               | 1,072,772             | 229,810               |
| Long-term other payables   | 3,317,054             | 3,041,687             | 2,859,938             | 2,622,519             |
| Net defined benefit liabilities  | 173,656               | 358,820               | 149,725               | 309,372               |
| Deferred income tax liabilities  | 7,293,514             | 5,154,792             | 6,288,411             | 4,444,422             |
| Provisions   | 358,126               | 522,378               | 308,773               | 450,390               |
| Other non-current liabilities  | 2,062,066             | 2,042,140             | 1,777,899             | 1,760,717             |
| <b>Total liabilities</b>   | <b>69,211,291</b>     | <b>63,119,716</b>     | <b>59,673,438</b>     | <b>54,421,329</b>     |
| <b>Equity attributable to owners of the parent</b>                                   |                       |                       |                       |                       |
| Preferred stock  | 119,467               | 119,467               | 103,004               | 103,004               |
| Common stock   | 778,047               | 778,047               | 670,826               | 670,826               |
| Share premium  | 4,403,893             | 4,403,893             | 3,797,002             | 3,797,002             |
| Retained earnings  | 193,086,317           | 185,132,014           | 166,477,524           | 159,619,385           |
| Other components of equity   | -11,934,586           | -17,580,451           | -10,289,907           | -15,157,728           |
| Accumulated other comprehensive income attributable to assets held-for-sale-for-sale | -28,810               | 23,797                | -24,841               | 20,517                |
|  | 186,424,328           | 172,876,767           | 160,733,608           | 149,053,006           |
| <b>Non-controlling interests</b>   | <b>6,538,705</b>      | <b>6,183,038</b>      | <b>5,637,621</b>      | <b>5,330,968</b>      |
| <b>Total equity</b>  | <b>192,963,033</b>    | <b>179,059,805</b>    | <b>166,371,229</b>    | <b>154,383,974</b>    |
| <b>Total liabilities and equity</b>  | <b>262,174,324</b>    | <b>242,179,521</b>    | <b>226,044,667</b>    | <b>208,805,303</b>    |

## CONSOLIDATED STATEMENTS OF PROFIT OR LOSS

(In millions of Korean won, in thousands of US dollars)

|   | December31,2016 (KRW) | December31,2015 (KRW) | December31,2016 (USD) | December31,2015 (USD) |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>Revenue</b>  | 201,866,745           | 200,653,482           | 174,047,940           | 173,001,874           |
| <b>Cost of sales</b>  | 120,277,715           | 123,482,118           | 103,702,512           | 106,465,323           |
| Gross profit  | 81,589,030            | 77,171,364            | 70,345,428            | 66,536,551            |
| Selling and administrative expenses   | 52,348,358            | 50,757,922            | 45,134,348            | 43,763,086            |
| <b>Operating profit</b>   | 29,240,672            | 26,413,442            | 25,211,080            | 22,773,465            |
| Other non-operating income  | 3,238,261             | 1,685,947             | 2,792,003             | 1,453,610             |
| Other non-operating expense   | 2,463,814             | 3,723,434             | 2,124,281             | 3,210,316             |
| Share of profit of associates and joint ventures  | 19,501                | 1,101,932             | 16,814                | 950,077               |
| Financial income  | 11,385,645            | 10,514,879            | 9,816,615             | 9,065,847             |
| Financial expense   | 10,706,613            | 10,031,771            | 9,231,159             | 8,649,315             |
| <b>Profit before income tax</b>   | 30,713,652            | 25,960,995            | 26,481,072            | 22,383,368            |
| Income tax expense  | 7,987,560             | 6,900,851             | 6,886,812             | 5,949,860             |
| <b>Profit for the year</b>  | 22,726,092            | 19,060,144            | 19,594,260            | 16,433,508            |
| Profit attributable to owners of the parent   | 22,415,655            | 18,694,628            | 19,326,604            | 16,118,363            |
| Profit attributable to non-controlling interests  | 310,437               | 365,516               | 267,656               | 315,145               |
| Earnings per share for profit attributable to owners of the parent (in Korean won, in US dollars) |                       |                       |                       |                       |
| Basic   | 157,967               | 126,305               | 136.2                 | 108.9                 |
| Diluted   | 157,967               | 126,303               | 136.2                 | 108.9                 |

## CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In millions of Korean won, in thousands of US dollars)

|  | December31,2016 (KRW) | December31,2015 (KRW) | December31,2016 (USD) | December31,2015 (USD) |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>Profit for the year</b>   | 22,726,092            | 19,060,144            | 19,594,260            | 16,433,508            |
| <b>Other comprehensive income Items not to be reclassified to profit or loss subsequently:</b> |                       |                       |                       |                       |
| Remeasurement of net defined benefit liabilities, net of tax                                   | 963,602               | 263,978               | 830,810               | 227,600               |
| Shares of other comprehensive income of associates and joint ventures, net of tax              | 50,438                | 24,069                | 43,487                | 20,752                |
| <b>Items to be reclassified to profit or loss subsequently:</b>                                |                       |                       |                       |                       |
| Changes in value of available-for-sale financial assets, net of tax                            | -23,839               | -414,961              | -20,554               | -357,776              |
| Share of other comprehensive loss of associates and joint ventures, net of tax                 | -130,337              | -65,330               | -112,376              | -56,327               |
| Foreign currency translation, net of tax   | 1,131,536             | 268,315               | 975,603               | 231,339               |
| <b>Other comprehensive income for the year, net of tax</b>                                     | 1,991,400             | 76,071                | 1,716,970             | 65,588                |
| <b>Total comprehensive income for the year</b>   | 24,717,492            | 19,136,215            | 21,311,230            | 16,499,096            |
| <b>Comprehensive income attributable to:</b>   |                       |                       |                       |                       |
| Owners of the parent   | 24,310,814            | 18,804,189            | 20,960,595            | 16,212,826            |
| Non-controlling interests  | 406,678               | 332,026               | 350,635               | 286,270               |

## CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(In millions of Korean won)

|   | Preferred stock | Common stock | Share premium | Retained earnings | Other components of equity | Accumulated other comprehensive income attributable to asset held-for-sale | Equity attributable to owners of the parent | Non-controlling interests | Total        |
|---|-----------------|--------------|---------------|-------------------|----------------------------|--|---|---------------------------|--------------|
| <b>Balance as of January 1, 2015</b>  | 119,467         | 778,047      | 4,403,893     | 169,529,604       | (12,729,387)               | 80,101   | 162,181,725                                 | 5,906,463                 | 168,088,188  |
| Profit for the year   | -               | -            | -             | 18,694,628        | -                          | -  | 18,694,628                                  | 365,516                   | 19,060,144   |
| Changes in value of available-for-sale financial assets, net of tax                     | -               | -            | -             | -                 | (348,068)                  | (24,750)   | (372,818)                                   | (42,143)                  | (414,961)    |
| Share of other comprehensive income (loss) of associates and joint ventures, net of tax | -               | -            | -             | -                 | 12,686                     | (54,118)   | (41,432)                                    | 171                       | (41,261)     |
| Foreign currency translation, net of tax  | -               | -            | -             | -                 | 266,061                    | (1,233)  | 264,828                                     | 3,487                     | 268,315      |
| Remeasurement of net defined benefit liabilities, net of tax                            | -               | -            | -             | -                 | 258,983                    | -  | 258,983                                     | 4,995                     | 263,978      |
| Classified as held-for-sale   | -               | -            | -             | -                 | (23,797)                   | 23,797   | -   | -                         | -            |
| <b>Total comprehensive income (loss)</b>  | -               | -            | -             | 18,694,628        | 165,865                    | (56,304)   | 18,804,189                                  | 332,026                   | 19,136,215   |
| Dividends   | -               | -            | -             | (3,073,481)       | -                          | -  | (3,073,481)                                 | (54,603)                  | (3,128,084)  |
| Capital transaction under common control  | -               | -            | -             | -                 | (5,314)                    | -  | (5,314)                                     | 423                       | (4,891)      |
| Changes in consolidated entities  | -               | -            | -             | -                 | -                          | -  | -   | (152)                     | (152)        |
| Acquisition of treasury stock   | -               | -            | -             | -                 | (5,015,112)                | -  | (5,015,112)                                 | -                         | (5,015,112)  |
| Disposal of treasury stock  | -               | -            | -             | -                 | 3,406                      | -  | 3,406                                       | -                         | 3,406        |
| Stock option activities   | -               | -            | -             | -                 | (806)                      | -  | (806)                                       | -                         | (806)        |
| Others  | -               | -            | -             | (18,737)          | 897                        | -  | (17,840)                                    | (1,119)                   | (18,959)     |
| <b>Total transactions with owners</b>   | -               | -            | -             | (3,092,218)       | (5,016,929)                | -  | (8,109,147)                                 | (55,451)                  | (8,164,598)  |
| <b>Balance as of December 31, 2015</b>  | 119,467         | 778,047      | 4,403,893     | 185,132,014       | (17,580,451)               | 23,797   | 172,876,767                                 | 6,183,038                 | 179,059,805  |
| <b>Balance as of January 1, 2016</b>  | 119,467         | 778,047      | 4,403,893     | 185,132,014       | (17,580,451)               | 23,797   | 172,876,767                                 | 6,183,038                 | 179,059,805  |
| Profit for the year   | -               | -            | -             | 22,415,655        | -                          | -  | 22,415,655                                  | 310,437                   | 22,726,092   |
| Changes in value of available-for-sale financial assets, net of tax                     | -               | -            | -             | -                 | (87,706)                   | (23,797)   | (111,503)                                   | 87,664                    | (23,839)     |
| Share of other comprehensive income (loss) of associates and joint ventures, net of tax | -               | -            | -             | -                 | (80,146)                   | 212  | (79,934)                                    | 35                        | (79,899)     |
| Foreign currency translation, net of tax  | -               | -            | -             | -                 | 1,160,316                  | -  | 1,160,316                                   | (28,780)                  | 1,131,536    |
| Remeasurement of net defined benefit liabilities, net of tax                            | -               | -            | -             | -                 | 926,280                    | -  | 926,280                                     | 37,322                    | 963,602      |
| Classified as held-for-sale   | -               | -            | -             | -                 | 29,022                     | (29,022)   | -   | -                         | -            |
| <b>Total comprehensive income (loss)</b>  | -               | -            | -             | 22,415,655        | 1,947,766                  | (52,607)   | 24,310,814                                  | 406,678                   | 24,717,492   |
| Dividends   | -               | -            | -             | (3,061,361)       | -                          | -  | (3,061,361)                                 | (65,161)                  | (3,126,522)  |
| Capital transaction under common control  | -               | -            | -             | -                 | (37)                       | -  | (37)  | 12,272                    | 12,235       |
| Changes in consolidated entities  | -               | -            | -             | -                 | -                          | -  | -   | 1,790                     | 1,790        |
| Acquisition of treasury stock   | -               | -            | -             | -                 | (7,707,938)                | -  | (7,707,938)                                 | -                         | (7,707,938)  |
| Retirement of treasury stock  | -               | -            | -             | (11,399,991)      | 11,399,991                 | -  | -   | -                         | -            |
| Others  | -               | -            | -             | -                 | 6,083                      | -  | 6,083                                       | 88                        | 6,171        |
| <b>Total transactions with owners</b>   | -               | -            | -             | (14,461,352)      | 3,698,099                  | -  | (10,763,253)                                | (51,011)                  | (10,814,264) |
| <b>Balance as of December 31, 2016</b>  | 119,467         | 778,047      | 4,403,893     | 193,086,317       | (11,934,586)               | (28,810)   | 186,424,328                                 | 6,538,705                 | 192,963,033  |

## CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(In thousands of US dollars)

|   | Preferred stock | Common stock | Share premium | Retained earnings | Other components of equity | Accumulated other comprehensive income attributable to asset held-for-sale | Equity attributable to owners of the parent | Non-controlling interests | Total       |
|---|-----------------|--------------|---------------|-------------------|----------------------------|--|---|---------------------------|-------------|
| <b>Balance as of January 1, 2015</b>  | 103,004         | 670,826      | 3,797,002     | 146,167,108       | (10,975,179)               | 69,063   | 139,831,824                                 | 5,092,507                 | 144,924,331 |
| Profit for the year   | -               | -            | -             | 16,118,363        | -                          | -  | 16,118,363                                  | 315,145                   | 16,433,508  |
| Changes in value of available-for-sale financial assets, net of tax                     | -               | -            | -             | -                 | (300,102)                  | (21,339)   | (321,441)                                   | (36,335)                  | (357,776)   |
| Share of other comprehensive income (loss) of associates and joint ventures, net of tax | -               | -            | -             | -                 | 10,938                     | (46,660)   | (35,722)                                    | 147                       | (35,575)    |
| Foreign currency translation, net of tax  | -               | -            | -             | -                 | 229,398                    | (1,065)  | 228,333                                     | 3,006                     | 231,339     |
| Remeasurement of net defined benefit liabilities, net of tax                            | -               | -            | -             | -                 | 223,293                    | -  | 223,293                                     | 4,307                     | 227,600     |
| Classified as held-for-sale   | -               | -            | -             | -                 | (20,518)                   | 20,518   | -   | -                         | -           |
| <b>Total comprehensive income (loss)</b>  | -               | -            | -             | 16,118,363        | 143,009                    | (48,546)   | 16,212,826                                  | 286,270                   | 16,499,096  |
| Dividends   | -               | -            | -             | (2,649,932)       | -                          | -  | (2,649,932)                                 | (47,078)                  | (2,697,010) |
| Capital transaction under common control  | -               | -            | -             | -                 | (4,582)                    | -  | (4,582)                                     | 365                       | (4,217)     |
| Changes in consolidated entities  | -               | -            | -             | -                 | -                          | -  | -   | (131)                     | (131)       |
| Acquisition of treasury stock   | -               | -            | -             | -                 | (4,323,991)                | -  | (4,323,991)                                 | -                         | (4,323,991) |
| Disposal of treasury stock  | -               | -            | -             | -                 | 2,937                      | -  | 2,937                                       | -                         | 2,937       |
| Stock option activities   | -               | -            | -             | -                 | (695)                      | -  | (695)                                       | -                         | (695)       |
| Others  | -               | -            | -             | (16,154)          | 773                        | -  | (15,381)                                    | (965)                     | (16,346)    |
| <b>Total transactions with owners</b>   | -               | -            | -             | (2,666,086)       | (4,325,558)                | -  | (6,991,644)                                 | (47,809)                  | (7,039,453) |
| <b>Balance as of December 31, 2015</b>  | 103,004         | 670,826      | 3,797,002     | 159,619,385       | (15,157,728)               | 20,517   | 149,053,006                                 | 5,330,968                 | 154,383,974 |
| <b>Balance as of January 1, 2016</b>  | 103,004         | 670,826      | 3,797,002     | 159,619,385       | (15,157,728)               | 20,517   | 149,053,006                                 | 5,330,968                 | 154,383,974 |
| Profit for the year   | -               | -            | -             | 19,326,604        | -                          | -  | 19,326,604                                  | 267,656                   | 19,594,260  |
| Changes in value of available-for-sale financial assets, net of tax                     | -               | -            | -             | -                 | (75,619)                   | (20,518)   | (96,137)                                    | 75,583                    | (20,554)    |
| Share of other comprehensive income (loss) of associates and joint ventures, net of tax | -               | -            | -             | -                 | (69,101)                   | 183  | (68,918)                                    | 29                        | (68,889)    |
| Foreign currency translation, net of tax  | -               | -            | -             | -                 | 1,000,415                  | -  | 1,000,415                                   | (24,812)                  | 975,603     |
| Remeasurement of net defined benefit liabilities, net of tax                            | -               | -            | -             | -                 | 798,631                    | -  | 798,631                                     | 32,179                    | 830,810     |
| Classified as held-for-sale   | -               | -            | -             | -                 | 25,023                     | (25,023)   | -   | -                         | -           |
| <b>Total comprehensive income (loss)</b>  | -               | -            | -             | 19,326,604        | 1,679,349                  | (45,358)   | 20,960,595                                  | 350,635                   | 21,311,230  |
| Dividends   | -               | -            | -             | (2,639,481)       | -                          | -  | (2,639,481)                                 | (56,182)                  | (2,695,663) |
| Capital transaction under common control  | -               | -            | -             | -                 | (32)                       | -  | (32)  | 10,581                    | 10,549      |
| Changes in consolidated entities  | -               | -            | -             | -                 | -                          | -  | -   | 1,543                     | 1,543       |
| Acquisition of treasury stock   | -               | -            | -             | -                 | (6,645,724)                | -  | (6,645,724)                                 | -                         | (6,645,724) |
| Retirement of treasury stock  | -               | -            | -             | (9,828,984)       | 9,828,984                  | -  | -   | -                         | -           |
| Others  | -               | -            | -             | -                 | 5,244                      | -  | 5,244                                       | 76                        | 5,320       |
| <b>Total transactions with owners</b>   | -               | -            | -             | (12,468,465)      | 3,188,472                  | -  | (9,279,993)                                 | (43,982)                  | (9,323,975) |
| <b>Balance as of December 31, 2016</b>  | 103,004         | 670,826      | 3,797,002     | 166,477,524       | (10,289,907)               | (24,841)   | 160,733,608                                 | 5,637,621                 | 166,371,229 |

The above consolidated statement of financial position should be read in conjunction with the accompanying notes.

## CONSOLIDATED STATEMENTS OF CASH FLOWS

(In millions of Korean won, in thousands of US dollars)

|  | December31,2016 (KRW) | December31,2015 (KRW) | December31,2016 (USD) | December31,2015 (USD) |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>Cash flows from operating activities</b>                              |                       |                       |                       |                       |
| Profit for the period  | 22,726,092            | 19,060,144            | 19,594,260            | 16,433,508            |
| Adjustments  | 30,754,471            | 29,610,971            | 26,516,267            | 25,530,350            |
| Changes in assets and liabilities arising from operating activities      | (1,180,953)           | (4,682,032)           | (1,018,209)           | (4,036,812)           |
| Cash generated from operations   | 52,299,610            | 43,989,083            | 45,092,318            | 37,927,046            |
| Interest received  | 1,405,085             | 2,151,741             | 1,211,453             | 1,855,215             |
| Interest paid  | (443,838)             | (748,256)             | (382,674)             | (645,141)             |
| Dividend received  | 256,851               | 266,369               | 221,455               | 229,661               |
| Income tax paid  | (6,132,064)           | (5,597,176)           | (5,287,018)           | (4,825,842)           |
| <b>Net cash generated from operating activities</b>                      | <b>47,385,644</b>     | <b>40,061,761</b>     | <b>40,855,534</b>     | <b>34,540,939</b>     |
| <b>Cash flows from investing activities</b>                              |                       |                       |                       |                       |
| Net increase in short-term financial instruments                         | (6,780,610)           | (5,762,783)           | (5,846,189)           | (4,968,627)           |
| Proceeds from disposal of short-term available-for-sale financial assets | 3,010,003             | 2,143,384             | 2,595,201             | 1,848,009             |
| Acquisition of short-term available-for-sale financial assets            | (2,129,551)           | (509,349)             | (1,836,082)           | (439,157)             |
| Proceeds from disposal of long-term financial instruments                | 789,862               | 3,999,710             | 681,013               | 3,448,519             |
| Acquisition of long-term financial instruments                           | (1,741,547)           | (132,733)             | (1,501,548)           | (114,441)             |
| Proceeds from disposal of long-term available-for-sale financial assets  | 2,010,356             | 200,502               | 1,733,313             | 172,871               |
| Acquisition of long-term available-for-sale financial assets             | (1,498,148)           | (232,530)             | (1,291,692)           | (200,486)             |
| Proceeds from disposal of investment in associates and joint ventures    | 2,280,203             | 278,009               | 1,965,973             | 239,697               |
| Acquisition of investment in associates and joint ventures               | (84,306)              | (137,917)             | (72,688)              | (118,911)             |
| Disposal of property, plant and equipment                                | 270,874               | 357,154               | 233,545               | 307,935               |
| Purchases of property, plant and equipment                               | (24,142,973)          | (25,880,222)          | (20,815,884)          | (22,313,726)          |
| Disposal of intangible assets  | 6,944                 | 1,083                 | 5,987                 | 934                   |
| Purchases of intangible assets   | (1,047,668)           | (1,501,881)           | (903,291)             | (1,294,910)           |
| Cash outflows from business combinations                                 | (622,050)             | (411,445)             | (536,327)             | (354,745)             |
| Others   | 19,936                | 421,231               | 17,190                | 363,183               |
| <b>Net cash used in investing activities</b>                             | <b>(29,658,675)</b>   | <b>(27,167,787)</b>   | <b>(25,571,479)</b>   | <b>(23,423,855)</b>   |
| <b>Cash flows from operating activities</b>                              |                       |                       |                       |                       |
| Net increase in short-term borrowings                                    | 1,351,037             | 3,202,416             | 1,164,854             | 2,761,098             |
| Acquisition of treasury stock  | (7,707,938)           | (5,015,112)           | (6,645,724)           | (4,323,991)           |
| Disposal of treasury stock   | -                     | 3,034                 | -                     | 2,616                 |
| Proceeds from long-term borrowings and debentures                        | 1,041,743             | 192,474               | 898,183               | 165,950               |
| Repayment of long-term borrowings and debentures                         | (252,846)             | (1,801,465)           | (218,002)             | (1,553,209)           |
| Payment of dividends   | (3,114,742)           | (3,129,544)           | (2,685,506)           | (2,698,269)           |
| Net increase in non-controlling interests                                | 13,232                | (25,312)              | 11,407                | (21,823)              |
| <b>Net cash used in financing activities</b>                             | <b>(8,669,514)</b>    | <b>(6,573,509)</b>    | <b>(7,474,788)</b>    | <b>(5,667,628)</b>    |
| Effect of exchange rate changes on cash and cash equivalents             | 417,243               | (524,487)             | 359,744               | (452,209)             |
| <b>Net increase in cash and cash equivalents</b>                         | <b>9,474,698</b>      | <b>5,795,978</b>      | <b>8,169,011</b>      | <b>4,997,247</b>      |
| <b>Cash and cash equivalents Beginning of the period</b>                 | <b>22,636,744</b>     | <b>16,840,766</b>     | <b>19,517,225</b>     | <b>14,519,978</b>     |
| <b>End of the period</b>   | <b>32,111,442</b>     | <b>22,636,744</b>     | <b>27,686,236</b>     | <b>19,517,225</b>     |

# INDEPENDENT ASSURANCE REPORT

## To the management of Samsung Electronics

Upon request of 'Samsung Electronics (further "the Company")', we have reviewed the information presented in the 'Samsung Electronics Sustainability Report 2017 (further "the Report")'. The management of the Company is responsible for preparing the Report. Our responsibility is to carry out a Limited Assurance engagement on the Report and to provide opinions on it based on our review.

## RESPECTIVE RESPONSIBILITIES

The Company's management is responsible for collection and presentation of the information within the Report. The Company's management is also responsible for the design, implementation and maintenance of internal controls relevant to the preparation of the Report, so that it is free from material misstatement, whether due to fraud or error.

Our responsibility, in accordance with our engagement terms with the Company's management, is to carry out a 'limited level' assurance engagement on the selected data (further "the Selected Data") on the Performance Summary of the Report. This consists of:

### • Society

- An Eco-friendly and Safe Workplace - Workplace health and safety: Injury rate
- Sustainable Supply Chain - Responsible management of the supplier work environment: Third-party Initial Audits on the supplier work environment, Third-party Closure Audits on the supplier work environment
- Sustainable Supply Chain - Supplier Compliance by Key Third-party Verification Item: Labor & Human Rights– Work hour management, Health & Safety–Occupational safety, Environment–Pollution prevention
- People First - Human rights \_ diversity and inclusion: Employees who return to work after childcare leave

### • Environment

- Product Innovation - Environmental innovation: Development of eco-friendly products
- Product Innovation - Environmental innovation \_ Improving efficiency in energy use: GHG emissions reduction in the product use phase, GHG emissions reduction in the product use phase of the concerned year, Reduction in energy consumption for products
- Product Innovation - Environmental innovation \_Improving efficiency in resource use: Accumulated recovery of end-of-life products
- Eco-friendly and Safe Workplace - Environment and safety expenditures
- Eco-friendly and Safe Workplace - Climate change: Use of renewable energy
- Eco-friendly and Safe Workplace - Environmental resource management: Water Resource Management, Waste management, Pollutant management
- Eco-friendly and Safe Workplace - Workplace health and safety\_ Chemicals management in the workplace: Consumption of chemicals

We do not accept or assume any responsibility for any other purpose or to any other person or organization, regarding the results on the limited level assurance engagement on the Selected Data. Any reliance any such third party may place on the Report is entirely at its own risk.

Our assurance engagement has been planned and performed in accordance with the ISAE 30001 (published by IAASB (International Auditing and Assurance Standards Board)).

1) International Standard on Assurance Engagement (Revised): Assurance Engagements other than Audits or Reviews of Historical Financial Information

The Report has been reviewed in accordance with the following criteria:

## COMPLETENESS

- Whether the Selected Data have been collected from appropriate sources and that boundary have been appropriately defined and applied.

## CONSISTENCY

- Whether the reporting criteria of the Company have been consistently applied to the Selected Data when they are collected from each appropriate sources.

## ACCURACY

- Whether the Selected Data collected from each appropriate sources have been complied with the reporting criteria of the Company.
- Whether supporting information are maintained at a global level when the Selected Data is collected from each appropriate sources.

## SUMMARY OF WORK PERFORMED

The procedures we performed were based on our professional judgment and included the steps outlined below:

In order to form our conclusions we undertook the steps outlined below:

1. Interviews with management responsible for the collection and maintaining accuracy of the Selected Data.
2. A confirmation of whether methodologies, guidance documents and processes for reporting the Selected Data exists.
3. Reviewed the Report for the appropriate presentation of the Selected Data, including the discussion of limitations and assumptions relating to the Selected Data presented.
4. A confirmation of the Company's online collection tool for the Selected Data, including sample of collected data within the tool.
5. Reviewed underlying documentation for a sample of site level data points.

## LIMITATIONS OF OUR REVIEW

We conducted our work to express a Limited Assurance conclusion. The procedures performed in a Limited Assurance engagement vary in nature and timing from, and are less in extent than for a Reasonable Assurance engagement. Consequently, the level of assurance obtained in a Limited Assurance engagement is substantially lower than the assurance that would have been obtained had we performed a Reasonable Assurance engagement and we do not therefore express a Reasonable Assurance opinion.

The scope of our engagement was limited to the reporting period, and therefore 2016 performance only.

Our review did not address the accuracy of information within the financial figures disclosed in the Report and we have not sought any supporting evidence for data that has been sourced from the Company's Annual Report and Accounts.

The responsibility for the prevention and detection of fraud, error and non-compliance with laws or regulations rests with the Company's management. Our work should not be relied upon to disclose all such material misstatements, frauds, errors or instances of non-compliance that may exist.

## CONCLUSION

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Selected Data was not prepared in accordance with the criteria of completeness, consistency, and accuracy.

## OUR INDEPENDENCE

With the exception of this work, we have provided no other services relating to the Report. Also, we comply with the Ethical Standard issued by IFAC (International Federation of Accountants).

## OUR COMPETENCE

The assurance engagement was performed by the engagement team with a long history of experience and expertise in sustainability area.

Jin-Sug Suh  
Regional Managing Partner  
EY Han Young  
Seoul, Korea  
June 2017



# VERIFICATION STATEMENT ON 2016 SAMSUNG ELECTRONICS CO., LTD., GREENHOUSE GAS EMISSION

## INTRODUCTION

Korean Foundation for Quality (hereinafter 'KFQ') has been engaged by Samsung Electronics Co., Ltd.(hereinafter the 'Company') to independently verify its 2016 Greenhouse Gas Emission Report of domestic corporations and 28 overseas subsidiaries. It is the responsibility of the Company to compile the Greenhouse Gas Emission Report according to the 'Greenhouse Gas and Energy Target Management Scheme(Notification No. 2014-186 of Ministry of Environment)', 'Guidelines for GHG emission reporting and certification of GHG emission trading scheme (Notification No. 2016-15 of Ministry of Strategy and Finance)', and ISO 14064-1:2006' and KFQ has responsibility to conduct verification based on 'ISO 14064-3:2006' to provide verification opinion on compliance of the Report against verification criteria.

## VERIFICATION SCOPE

In this verification, domestic corporations and 28 overseas subsidiaries under operational control of Samsung Electronics Co., Ltd., and reported emission is including Scope 1 and Scope 2 emission.

## VERIFICATION OPINION

Through the verification process according to the 'ISO 14064-3:2006', KFQ could obtain reasonable basis to express following conclusion on the Greenhouse Gas Emission Report.

- 1) 2016 Samsung Electronics Co., Ltd., Greenhouse Gas Emission Report was prepared against 'Samsung Electronics Co., Ltd., Greenhouse Gas Inventory Guideline' developed based on the 'Greenhouse Gas and Energy Target Management Scheme' and 'ISO 14064-1:2006'.
- 2) As a result of materiality assessment on 2016 domestic Greenhouse Gas Emission, material discrepancy is less than the criteria of 2.0% for the organization which emits more than 5,000,000 tCO<sub>2</sub>eq/yr in accordance with the requirements of the 'Guidelines of verification for Greenhouse gas emission trading scheme'.
- 3) For the 28 overseas subsidiaries, document review was conducted for entire 28 subsidiaries and sampling on-site assessment was conducted for 4 subsidiaries, 2 in Mexico, 1 in Hungary and 1 in Slovakia, as well as Company self-assessment. The result of material discrepancy is less than 2.0%.
- 4) As reported Greenhouse Gas Emission purchased electricity, process emission by fluorinated gas use and LNG consumption take more than 99% of total emission. Activity data of these emission sources were checked through the objective evidence provided by supplier therefore KFQ could confirm that these activity data is valid itself.
- 5) However, verification opinion regarding to the relevant error caused by emission reduction efficiency of emission reduction technologies in process emission which affect Greenhouse Gas Emission was not considered. It is because of the efficiency has to be assessed and confirmed by the Government or related specialized agency but it was developed by Company according to the Company own methodology. For the overseas subsidiaries, each national net caloric value and electricity emission factor were preferentially used but net caloric value and electricity emission factor were adopted from IPCC Guidelines or Korean Energy Law Enforcement Regulation and IEA statistics respectively in case of nonexistence of it. Therefore, it is necessary to re-calculate Greenhouse Gas Emission in any change of these parameters or factors.
- 6) Except unconsidered emission source in the 'Samsung Electronics Co., Ltd., Greenhouse Gas Inventory Guideline', material error, omission or insignificant issues was not found in 2016 Samsung Electronics Co., Ltd., Greenhouse Gas Emission Report.

Report year 2016.1.1~2016.12.31

(Unit: Kton CO<sub>2</sub>eq)

| Verification Scope |                            | Domestic | Overseas |                |       |        |         |        | Total  |
|--------------------|----------------------------|----------|----------|----------------|-------|--------|---------|--------|--------|
|                    |                            |          | China    | Southeast Asia | India | Europe | America | Africa |        |
| GHG emission       | Subtotal                   | 6,897    | 2,284    | 1,453          | 94    | 104    | 754     | 14     | 11,600 |
|                    | Direct Emission(Scope 1)   | 1,788    | 518      | 100            | 7     | 23     | 115     | 3      | 2,554  |
|                    | Indirect Emission(Scope 2) | 5,109    | 1,766    | 1,353          | 87    | 81     | 639     | 11     | 9,046  |

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

May 24<sup>th</sup> 2017



Daehyun Nam  
President & CEO Korean Foundation for Quality

# GRI INDEX

## GRI G4 General Standard Disclosure

| Aspect                 | No.  | Index Description   | Status   | Page                | Comments                     |                              |
|------------------------|--|---|--|---------------------|------------------------------|------------------------------|
| Strategy and analysis  | G4-1                                       | Statement from the most senior decisionmaker of the organization (incl. strategy relates to sustainability, impacts of the activities in relation to the stakeholders)  | ●  | 4-5                 |                              |                              |
| Organizational profile | G4-3                                       | Name of the organization  | ●  | 7                   |                              |                              |
|                        | G4-4                                       | Primary brands, products, and/or services   | ●  | 10-15               |                              |                              |
|                        | G4-5                                       | Location of organization's headquarters   | ●  | 2                   |                              |                              |
|                        | G4-6                                       | Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report   | ●  | 8-9                 |                              |                              |
|                        | G4-7                                       | Nature of ownership and legal form  | ○  | -                   | Refer to the Business Report |                              |
|                        | G4-8                                       | Markets served (including geographic breakdown, sectors served and types of customers/beneficiaries)  | ●  | 8-15                |                              |                              |
|                        | G4-9                                       | Scale of the reporting organization   | ●  | 30-31               |                              |                              |
|                        | G4-10                                      | The total workforce by employment type, gender, employment contract and region  | ●  | 34                  |                              |                              |
|                        | G4-11                                      | The percentage of total employees covered by collective bargaining agreements   | ●  | 90                  |                              |                              |
|                        | G4-12                                      | Describe the organization's supply chain  | ●  | 8-9                 |                              |                              |
|                        | G4-13                                      | Significant changes during the reporting period relating to size, structure, or ownership or its supply chain   | ●  | 8-9, 59             |                              |                              |
|                        | G4-14                                      | Explanation of whether and how the precautionary approach or principle is addressed by the organization   | ●  | 22-23               |                              |                              |
|                        | G4-15                                      | List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses   | ●  | 83, 87              |                              |                              |
|                        | G4-16                                      | List memberships of associations (such as industry associations)  | ●  | 24                  |                              |                              |
|                        | Identified material aspects and boundaries | G4-17   | Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures (List all entities in the consolidated financial statements)                  | ○                   | -                            | Refer to the Business Report |
|                        |  | G4-18   | Process for defining report content and the Aspect Boundaries and explain how the Reporting Principles has been implemented  | ●                   | 25-26                        |                              |
| G4-19                  |  | List all the material Aspects identified in the process for defining report content   | ●  | 25-26               |                              |                              |
| G4-20                  |  | The Aspect Boundary within the organization: Whether the Aspect is material within the organization; The list of entities included in G4-17 for which the Aspect is or is not material; Specific limitation regarding the Aspect Boundary within the organization         | ●  | 27, 29              |                              |                              |
| G4-21                  |  | The Aspect Boundary outside the organization: Whether the Aspect is material outside the organization; The list of entities for which the Aspect is material, relate to geographical location; Specific limitation regarding the Aspect Boundary outside the organization | ●  | 27, 29              |                              |                              |
| G4-22                  |  | Explanation the effect of any restatements of information provided in previous reports, and the reasons for such restatements   | ●  | 32-39               | Refer to each footnote       |                              |
| G4-23                  |  | Report significant changes from previous reporting periods in the Scope and Aspect Boundaries   | ●  | 8-15                |                              |                              |
| Stakeholder engagement |  | G4-24   | The list of stakeholder groups engaged by the organization   | ●                   | 24                           |                              |
|                        | G4-25                                      | The basis for identification and selection of stakeholders with whom to engage  | ●  | 24                  |                              |                              |
|                        | G4-26                                      | Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group  | ●  | 24                  |                              |                              |
|                        | G4-27                                      | Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting: Report the stakeholder groups that raised each of the key topics and concerns     | ●  | 24                  |                              |                              |
|                        | Report profile                             | G4-28   | Reporting period (such as fiscal or calendar year) for information provided  | ●                   | 2                            |                              |
| G4-29                  |  | Date of most recent previous report   | ●  | 2                   |                              |                              |
| G4-30                  |  | Reporting cycle   | ●  | 2                   |                              |                              |
| G4-31                  |  | Provide the contact point for questions regarding the report or its contents  | ●  | 2                   |                              |                              |
| G4-32                  |  | Table identifying the location of the Standard Disclosures in the report  | ●  | 2, 114-115, 118-122 |                              |                              |
| G4-33                  |  | Policy and current practice with regard to seeking external assurance for the report  | ●  | 114-115             |                              |                              |
| Governance             |  | G4-34   | The governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts | ●                   | 20-21                        |                              |
| Ethics and integrity   | G4-56                                      | Describe the organization's values, principles, standards, and norms of behavior such as codes of conduct and codes of ethics.  | ○  | -                   | Refer to the Company website |                              |

## GRI G4 General Standard Disclosure

| Aspect                    | No.     | Index Description  | Status | Page            | Comments                            |
|---------------------------|---------|--|--------|-----------------|-------------------------------------|
| <b>ECONOMIC</b>           |         |  |        |                 |                                     |
| Economic Performance      | G4-DMA  | Disclosure on Management Approach  | ●      | 30-31           |                                     |
|                           | G4-EC1  | Direct economic value generated and distributed  | ●      | 30              |                                     |
|                           | G4-EC2  | Financial implications and other risks and opportunities for the organization's activities due to climate change   | ●      | 69              |                                     |
|                           | G4-EC3  | Coverage of the organization's defined benefit plan obligations  | ○      | -               | Refer to the Business Report        |
|                           | G4-EC4  | Financial assistance received from government  | ○      | -               |                                     |
| Market Presence           | G4-DMA  | Disclosure on Management Approach  | ●      | 86-87           |                                     |
|                           | G4-EC5  | Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation   | ○      | -               |                                     |
|                           | G4-EC6  | Proportion of senior management hired from the local community at significant locations of operation   | ●      | 34              |                                     |
| Indirect Economic Impacts | G4-DMA  | Disclosure on Management Approach  | ●      | 18, 56, 100-101 |                                     |
|                           | G4-EC7  | Development and impact of infrastructure investments and services supported  | ●      | 19, 60, 100-107 |                                     |
|                           | G4-EC8  | Significant indirect economic impacts, including the extent of impacts   | ●      | 29, 30          |                                     |
| Procurement Practices     | G4-DMA  | Disclosure on Management Approach  | ●      | 76-77           |                                     |
|                           | G4-EC9  | Proportion of spending on local suppliers at significant locations of operation  | ●      | 32              |                                     |
| <b>ENVIRONMENTAL</b>      |         |  |        |                 |                                     |
| Materials                 | G4-DMA  | Disclosure on Management Approach  | ●      | 47, 61          |                                     |
|                           | G4-EN1  | Materials used by weight or volume   | ○      | -               |                                     |
|                           | G4-EN2  | Percentage of materials used that are recycled input materials   | ●      | 37              |                                     |
| Energy                    | G4-DMA  | Disclosure on Management Approach  | ●      | 66-67, 69       |                                     |
|                           | G4-EN3  | Energy consumption within the organization   | ●      | 38              |                                     |
|                           | G4-EN4  | Energy consumption outside of the organization   | ●      | 38              | Disclosed as GHG emission (Scope 3) |
|                           | G4-EN5  | Energy intensity   | ●      | 38              |                                     |
|                           | G4-EN6  | Reduction of energy consumption  | ●      | 71              |                                     |
|                           | G4-EN7  | Reductions in energy requirements of products and services   | ●      | 37              |                                     |
|                           | G4-EN8  | Total water withdrawal by source   | ●      | 38              |                                     |
| Water                     | G4-DMA  | Disclosure on Management Approach  | ●      | 66-67, 71       |                                     |
|                           | G4-EN9  | Water sources significantly affected by withdrawal of water  | ●      | 71              |                                     |
|                           | G4-EN10 | Percentage and total volume of water recycled and reused   | ●      | 38              |                                     |
|                           | G4-EN11 | Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas                                | ●      | 73              |                                     |
| Biodiversity              | G4-DMA  | Disclosure on Management Approach  | ●      | 66-67, 73       |                                     |
|                           | G4-EN12 | Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas | ●      | 73              |                                     |
|                           | G4-EN13 | Habitats protected or restored   | ●      | 73-74           |                                     |
|                           | G4-EN14 | Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk                  | ●      | 73              |                                     |
| Emissions                 | G4-DMA  | Disclosure on Management Approach  | ●      | 66-70           |                                     |
|                           | G4-EN15 | Direct greenhouse gas (GHG) emissions (Scope 1)  | ●      | 38              |                                     |
|                           | G4-EN16 | Energy indirect greenhouse gas (GHG) emissions (Scope 2)   | ●      | 38              |                                     |
|                           | G4-EN17 | Other indirect greenhouse gas (GHG) emissions (Scope 3)  | ●      | 38              |                                     |
|                           | G4-EN18 | Greenhouse gas (GHG) emissions intensity   | ●      | 38              |                                     |
|                           | G4-EN19 | Reduction of greenhouse gas (GHG) emissions  | ●      | 70              |                                     |

| Aspect                                 | No.     | Index Description   | Status | Page       | Comments |
|--|---------|---|--------|------------|----------|
|  | G4-EN20 | Emissions of ozone-depleting substances (ODS)   | ●      | 39         |          |
|  | G4-EN21 | NOx, SOx, and other significant air emissions   | ●      | 39         |          |
| Effluents and Waste                    | G4-DMA  | Disclosure on Management Approach   | ●      | 66-67      |          |
|  | G4-EN22 | Total water discharge by quality and destination  | ●      | 38         |          |
|  | G4-EN23 | Total weight of waste by type and disposal method   | ●      | 39         |          |
|  | G4-EN24 | Total number and volume of significant spills   | ●      | 39         |          |
|  | G4-EN25 | Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention 2 Annex I, II, III, VIII, and percentage of transported waste shipped internationally) | ●      | 73         |          |
|  | G4-EN26 | Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff                                   | ●      | 73         |          |
| Products and Services                  | G4-DMA  | Disclosure on Management Approach   | ●      | 61         |          |
|  | G4-EN27 | Extent of impact mitigation of environmental impacts of products and services   | ●      | 37, 62-65  |          |
|  | G4-EN28 | Percentage of products sold and their packaging materials that are reclaimed by category  | ○      | 37, 62, 64 |          |
| Compliance                             | G4-DMA  | Disclosure on Management Approach   | ●      | 66-67      |          |
|  | G4-EN29 | Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations   | ●      | 38         |          |
| Transport                              | G4-DMA  | Disclosure on Management Approach   | ●      | 66-67      |          |
|  | G4-EN30 | Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce                                       | ●      | 70         |          |
| Overall                                | G4-DMA  | Disclosure on Management Approach   | ●      | 66-68      |          |
|  | G4-EN31 | Total environmental protection expenditures and investments by type   | ●      | 38         |          |
| Supplier and environmental assessment  | G4-DMA  | Disclosure on Management Approach   | ●      | 76-78      |          |
|  | G4-EN32 | Percentage of new suppliers that were screened using environmental criteria   | ●      | 78         |          |
|  | G4-EN33 | Significant actual and potential negative environmental impacts in the supply chain and actions taken   | ●      | 78-79      |          |
| Environmental grievance mechanisms     | G4-DMA  | Disclosure on Management Approach   | ●      | 66-67      |          |
|  | G4-EN34 | Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms   | ○      | 68         |          |
| <b>SOCIAL</b>                          |         |   |        |            |          |
| <b>Labor practices and decent work</b> |         |   |        |            |          |
| Employment                             | G4-DMA  | Disclosure on Management Approach   | ●      | 86-87      |          |
|  | G4-LA1  | Total number and rates of new employee hires and employee turnover by age group, gender, and region   | ●      | 34         |          |
|  | G4-LA2  | Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation   | ●      | 93         |          |
|  | G4-LA3  | Return to work and retention rates after parental leave, by gender  | ●      | 35         |          |
| Labor/ Management Relations            | G4-DMA  | Disclosure on Management Approach   | ●      | 86-87      |          |
|  | G4-LA4  | Minimum notice periods regarding operational changes, including whether these are specified in collective agreements  | ○      | -          |          |
| Occupational Health and Safety         | G4-DMA  | Disclosure on Management Approach   | ●      | 66-68      |          |
|  | G4-LA5  | Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs                            | ○      | 90         |          |
|  | G4-LA6  | Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work related fatalities, by region and by gender   | ○      | 32         |          |
|  | G4-LA7  | Workers with high incidence or high risk of diseases related to their occupation  | ○      | 74-75      |          |
|  | G4-LA8  | Health and safety topics covered in formal agreements with trade unions   | ○      | 90         |          |
| Training and Education                 | G4-DMA  | Disclosure on Management Approach   | ●      | 86-87      |          |
|  | G4-LA9  | Average hours of training per year per employee by gender, and by employee category   | ●      | 35         |          |
|  | G4-LA10 | Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings   | ●      | 92         |          |
|  | G4-LA11 | Percentage of employees receiving regular performance and career development reviews, by gender and by employee category  | ○      | 91         |          |

| Aspect   | No.     | Index Description  | Status | Page             | Comments  |
|--|---------|--|--------|------------------|---|
| Diversity and Equal Opportunity                  | G4-DMA  | Disclosure on Management Approach  | ●      | 86-87            |   |
|  | G4-LA12 | Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity                         | ●      | 35               |   |
| Equal Remuneration for Women and Men             | G4-DMA  | Disclosure on Management Approach  | ○      | -                | Refer to the Business Conduct Guideline 2016 10) Equality and Diversity   |
|  | G4-LA13 | Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation   | ○      | -                | We do not discriminate on any basis in all processes including promotion, compensation and disciplinary measures. |
| Supplier Assessment for Labor Practices          | G4-DMA  | Disclosure on Management Approach  | ●      | 46, 76-78        |   |
|  | G4-LA14 | Percentage of new suppliers that were screened using labor practices criteria  | ●      | 78               |   |
|  | G4-LA15 | Significant actual and potential negative impacts for labor practices in the supply chain and actions taken  | ●      | 46, 78-79        |   |
| Labor Practices and Grievance Mechanisms         | G4-DMA  | Disclosure on Management Approach  | ●      | 86-87            |   |
|  | G4-LA16 | Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms  | ●      | 90               |   |
| <b>Human Rights</b>                              |         |  |        |                  |   |
| Human Rights Investment                          | G4-DMA  | Disclosure on Management Approach  | ●      | 76-77, 86-87     |   |
|  | G4-HR1  | Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening  | ●      | 78               |   |
|  | G4-HR2  | Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained              | ●      | 89               |   |
| Non-discrimination                               | G4-DMA  | Disclosure on Management Approach  | ●      | 86-87            |   |
|  | G4-HR3  | Total number of incidents of discrimination and corrective actions taken   | ○      | -                |   |
| Freedom of Association and Collective Bargaining | G4-DMA  | Disclosure on Management Approach  | ●      | 90               |   |
|  | G4-HR4  | Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights | ●      | 81-82, 90        |   |
| Child Labor                                      | G4-DMA  | Disclosure on Management Approach  | ●      | 46, 76-77, 86-87 |   |
|  | G4-HR5  | Operations and suppliers identified as having significant risk for incidents of forced or child labor, and measures taken to contribute to the effective abolition of child labor                      | ●      | 46, 81-83, 88-89 |   |
| Forced or Compulsory Labor                       | G4-DMA  | Disclosure on Management Approach  | ●      | 46, 76-77, 86-87 |   |
|  | G4-HR6  | Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor   | ●      | 46, 81-83, 88-89 |   |
| Security Practices                               | G4-DMA  | Disclosure on Management Approach  | ○      | -                |   |
|  | G4-HR7  | Percentage of security personnel trained in the organization's human rights policies or procedures that are relevant to operations   | ○      | -                |   |
| Indigenous Rights                                | G4-DMA  | Disclosure on Management Approach  | ○      | -                |   |
|  | G4-HR8  | Total number of incidents of violations involving rights of indigenous peoples and actions taken   | ●      | 123              | No violations during reporting period   |
| Assessment                                       | G4-DMA  | Disclosure on Management Approach  | ●      | 94-95            |   |
|  | G4-HR9  | Total number and percentage of operations that have been subject to human rights reviews or impact assessments   | ○      | -                |   |
| Supplier Human Rights Assessment                 | G4-DMA  | Disclosure on Management Approach  | ●      | 46, 76-77        |   |
|  | G4-HR10 | Percentage of new suppliers that were screened using human rights criteria   | ●      | 78               |   |
|  | G4-HR11 | Significant actual and potential negative human rights impacts in the supply chain and actions taken   | ●      | 46, 78-79        |   |
| Human Rights Grievance Mechanisms                | G4-DMA  | Disclosure on Management Approach  | ●      | 86-87            |   |
|  | G4-HR12 | Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms   | ●      | 90               |   |

| Aspect                                     | No.     | Index Description   | Status | Page         | Comments   |
|--|---------|---|--------|--------------|--|
| <b>Society</b>                             |         |   |        |              |  |
| Local Communities                          | G4-DMA  | Disclosure on Management Approach   | ●      | 100-101      |  |
|  | G4-SO1  | Percentage of operations with implemented local community engagement, impact assessments, and development programs  | ●      | 36, 101-107  |  |
|  | G4-SO2  | Operations with significant actual or potential negative impacts on local communities   | ○      | -            |  |
| Anti-corruption                            | G4-DMA  | Disclosure on Management Approach   | ●      | 94-95        |  |
|  | G4-SO3  | Total number and percentage of operations assessed for risks related to corruption and the significant risks identified   | ●      | 96-98        |  |
|  | G4-SO4  | Communication and training on anti-corruption policies and procedures   | ●      | 35, 97-98    |  |
|  | G4-SO5  | Confirmed incidents of corruption and actions taken   | ●      | 98           |  |
| Public Policy                              | G4-DMA  | Disclosure on Management Approach   | ●      | 94-95        |  |
|  | G4-SO6  | Total value of political contributions by country and recipient/beneficiary   | ○      | -            | Our Code of Conduct prohibits contribution to political parties                  |
| Anti-competitive Behavior                  | G4-DMA  | Disclosure on Management Approach   | ●      | 94-95        |  |
|  | G4-SO7  | Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes  | ○      | -            | Refer to the Business Report   |
| Compliance                                 | G4-DMA  | Disclosure on Management Approach   | ●      | 94-95        |  |
|  | G4-SO8  | Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations   | ○      | -            | Refer to the Business Report   |
| Supplier Assessment for Impacts on Society | G4-DMA  | Disclosure on Management Approach   | ●      | 46, 76-77    |  |
|  | G4-SO9  | Percentage of new suppliers that were screened using criteria for impacts on society  | ●      | 78           |  |
|  | G4-SO10 | Significant actual and potential negative impacts on society in the supply chain and actions taken  | ●      | 46, 78-79    |  |
| Grievance Mechanisms for                   | G4-DMA  | Disclosure on Management Approach   | ●      | 94-95        |  |
|  | G4-SO11 | Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms  | ●      | 98           |  |
| <b>Product Responsibility</b>              |         |   |        |              |  |
| Customer Health and Safety                 | G4-DMA  | Disclosure on Management Approach   | ●      | 42-43, 50-51 |  |
|  | G4-PR1  | Percentage of significant product and service categories for which health and safety impacts are assessed for improvement   | ●      | 53           |  |
|  | G4-PR2  | Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes   | ○      | -            | Refer to the Business Report   |
| Product and Service Labeling               | G4-DMA  | Disclosure on Management Approach   | ●      | 61           |  |
|  | G4-PR3  | Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements | ●      | 63           |  |
|  | G4-PR4  | Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes   | ○      | -            | Refer to the Business Report   |
|  | G4-PR5  | Results of surveys measuring customer satisfaction  | ●      | 32           |  |
| Marketing Communications                   | G4-DMA  | Disclosure on Management Approach   | ○      | -            | Refer to the Business Conduct Guideline 2016 15) Responsible Sales and Marketing |
|  | G4-PR6  | Sale of banned or disputed products   | ●      | 42-43        |  |
|  | G4-PR7  | Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by types of outcomes   | ○      | -            | Refer to the Business Report   |
| Customer Privacy                           | G4-DMA  | Disclosure on Management Approach   | ●      | 94-95        |  |
|  | G4-PR8  | Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data   | ●      | 123          | No violations during reporting period  |
| Compliance                                 | G4-DMA  | Disclosure on Management Approach   | ●      | 94-95        |  |
|  | G4-PR9  | Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services  | ○      | -            | Refer to the Business Report   |

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**Date of Publication** June 30, 2017  
**Publisher** Oh-Hyun Kwon  
**Published by** Samsung Electronics  
**Designed by** Honey Communications  
**Report Prepared by** Corporate Sustainability Management Office

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