SOCIETY

4. SUPPLY CHAIN 5. CORPORATE CITIZENSHIP 6. INNOVATION

79

Samsung thinks highly of its relationship with customers and partners throughout the whole production process, from product planning to sales, and conducts customer-centered management and win-win management with suppliers. We also pursue better lives for humanity using innovative technologies while at the same time continuously working hard to improve disadvantaged people's accessibility to IT technology. By doing this, we are able to combine the company's business activities and social contribution activities, ultimately promoting the development of a more sustainable society.

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SUPPLY CHAIN

Material issues

- 1. Supplier Labour Practices
- Transparency in Disclosure
 Stakeholder Engagement
- Responsible Sourcing
- 5. Raw Material Risk Management
- Environmental, Health and Safety Management for Suppliers
- 7. Shared Growth with Suppliers

OUR VISION

Samsung pursues co-prosperity with all local communities and countries based on a business philosophy of living together as a member of a global society. We also recognize suppliers—our business partners as strategic companions and aim to establish a sustainable supply chain. Furthermore, we are committed to providing the highest quality products and services for customers' value and satisfaction.

OUR COMMITMENT

We support all of our suppliers so that they can comply with the Samsung Supplier Code of Conduct and operate their business based on local laws and international standards. We manage risks by assessing their work environment, including sustainability aspects like the environment and human rights. We pursue the reinforcement of joint competitiveness and growth through continuous support for suppliers. We also prohibit the use of unethically mined minerals for our products and faithfully conduct overall activities to this end. We do our utmost to understand customer needs, lifestyles, and behavior changes. We also listen to suggestions from customers and partners and reflect them in our business activities, especially when it comes to improving our products and services.

IN THIS REPORT

This chapter introduces Samsung's various activities to establish a healthy corporate ecosystem and a sustainable supply chain. We have added supply chain management strategy and risk management system this year, and expanded the coverage of results and cases of numerous win-win cooperation programs. Furthermore, this chapter includes process improvement to increase transparency and the reliability of results from on-site inspections for supplier work environments. In terms of conflict minerals, we additionally disclose how smelters of each mineral are certified as well as the results of on-site inspections for suppliers.

TRENDS & CHALLENGES

Supply Chain Risks Stakeholders' expectations for the establishment of a sustainable supply chain are increasing. Resilience by rapid recovery scenarios is required when risk occurring, and a proactive system should be built to manage in advance a wide range of issues that may cause supply chain breaks.

Customer Diversification With the expansion of business areas, we need to improve customer satisfaction by providing high-quality services that meet local customers' characteristics and needs. Just as important, prompt measures are necessary to reinforce service systems, with expanded call centers in new markets, including some developing countries.

WHAT WE ARE DOING

Supply Chain System

Monitoring 50 risk factors in supplier, procurement process, and natural disasters areas

2 Win-win Cooperation

Operating win-win program to support suppliers' competitiveness such as finance, employee capability building, and innovation consulting

3 Management of Suppliers' Work Environment

Conducting self-assessments, onsite audits, and hot-line based on the Samsung Supplier Code of Conduct

4 Conflict Minerals

Prohibit the use of conflict minerals (3TG: tantalum, tin, tungsten, gold) unethically mined in conflict areas in 10 countries, the DRC and its nine adjoining countries; improve suppliers' awareness about this issue and inspect their management status

5 Listening to the voice from customer

Running communication channels such as customer contact centers and a website, and ranked no. 1 position in various customer satisfaction surveys in Korea and overseas every year



Conducting on-site quality inspections, training, and workshops for service quality control through a standardized process at global service centers and customer contact centers

Link to SDGs



[Goal 3] Ensure healthy lives and promote well-being for all at all ages

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

[Goal 8] Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for al

8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services
8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms
8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment

[Goal 12] Ensure sustainable consumption and production patterns

12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle





Supply Chain Management System

Samsung's supply chain includes over 2,700 suppliers in various industries across the world. In order to establish a sustainable supply chain and competitive business ecosystem, we pursue a supply chain management strategy with the following vision, mission and philosophy.

Supply Chain Management System



Supply Chain Management Strategy

Samsung manages its supply chain based on fair and transparent policies. These policies are described in more detail in the Procurement Code of Conduct, Supplier Code of Conduct, and the procurement system. Additionally, to minimize and address various risks that could occur in the supply chain, we clearly define risks and operate an integrated management system. Lastly, we actively support suppliers so that they can continuously grow as we conduct various win-win cooperation initiatives to establish mid- and long-term partnerships with them.

Supply Chain Management Strategy

We Buy Value, We Pay Trust

Supply Chain Policy	Risk Management	Supplier Operation Scheme
Procurement Code of Conduct Supplier Code of Conduct Integrated procurement system	· Supplier risks · Procurement process risks · Natural disasters risks	• Critical supplier management • Supplier evaluation • Risk Management on Sustainability

Supply Chain Policy

Samsung aims to establish fair and transparent trade within the supply chain. To achieve this, we conduct our business based on the Procurement Code of Conduct as well as Supplier Code of Conduct, and also carry out all activities related to the supply chain through our integrated procurement system, G-SRM (Global Supplier Relationship Management).

Global Procurement Code of Conduct

In August 2013, Samsung established a Global Procurement Code of Conduct which consists of standards and principles that procurement personnel must adhere to in all circumstances. Since then, we have made significant changes every year and continue to distribute it through the G-SRM System so that procurement employees across the world can fully understand its content and put its principles into practice at work. The Global Procurement Code of Conduct consists of a Charter of Procurement Practices, Standards and Principles of Procurement, Ethical Standards for Procurement, and Socially Responsible Procurement. Our Ethical Standards for Procurement section conveys our standards and commitment to ethical business practices, to which our procurement employees must adhere to all the time. The company provides procurement staff across the world with offline training and online lectures on our procurement code of conduct, procurement ethics, and the prevention of corruption and mismanagement every year. In 2015, 85 percent of all procurement employees received training through online and/or offline programs.

Supplier Code of Conduct

To improve suppliers' work environment, Samsung established a Supplier Code of Conduct based on the EICC Code of Conduct and has gone on to share it with its suppliers. In 2015, we updated the Supplier Code of Conduct to cover provisions regarding the protection of migrant workers' rights in accordance with revisions to the EICC Code of Conduct. Moreover, we created a Supplier Code of Conduct Guide to provide all suppliers in a bid to help them comply with the Supplier Code of Conduct as they carry out law-abiding management practices. The guide allows suppliers to check on details concerning action plans for work environment management by themselves. Furthermore, Samsung visited suppliers in person to offer on-site training on the Supplier Code of Conduct and detailed action plans. To prevent EHS accidents at supplier worksites, Samsung separately produced a Supplier EHS Code of Conduct Guide which it then distributed to suppliers. We also distributed a Supplier EHS Manual and conducted training to encourage suppliers to single out EHS risks and ensure improvement activities on their own.

Integrated Procurement System

In May 2014, Samsung established an integrated procurement system to be used at all worksites and by suppliers across the world called Global Supplier Relationship Management (G-SRM). This G-SRM system allows us to analyze the detailed costs, cost efficiency, and procurement conditions from each region's suppliers in a multilateral way for 100 percent of purchased parts. Also, we interactively share the SCM information necessary for trading with suppliers through this same system, and use G-SRM for work related to overall supplier management and supply chain risk management. Moreover, we added an integrated work environment management function to the G-SRM system so that suppliers can use it as part of their internal management practices. The Supplier Code of Conduct, Supplier Code of Conduct Guide, and Self-assessment Checklist are shared via G-SRM, while suppliers actively utilize G-SRM for improving their work environment by registering improvement tasks and the status of improvement activities as information becomes available.

G-SRM System

Integrated Management of Supply Chain

Procurement spend analysis		Sharing SCM data	** * * * * * * *	Supplier manage- ment (evaluation, registration)	• • • • • •	Integrated risk management		Supplier compli- ance management	••••••	Open sourcing
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Procurement Code



* After the Procurement Code of Conduct was established in 2013. online lectures were launched and have been expanded to overseas worksites since 2014.

2013 2014 2015

SOCIETY

Areas of Supply Chain Risk Management



1

- Supplier Risks
- · Management and finance
- · Conflict minerals & strategic
- materials • EHS & labor/human right
- Hazardous substances

2

Procurement Process Risks

- · Corruption & mismanagement
- Fair trade & subcontracting

3

Natural Disaster Risks

- Earthquakes
- Typhoons
- Floods
 Volcanoes

The Amount of Procurement from Critical Suppliers in 2015

> 30% of Registered Suppliers

93% of total procurement amount

Risk Management

Samsung operates a sustainable supply chain that timely responds to potential risks inside and outside the chain. To date, we have defined over 50 risk items in key areas (suppliers, procurement process, natural disasters), and now run an integrated management system through our G-SRM System.

Supplier Risks

Samsung have operated the process and system to take advance measures and to address for potential supplier-related risks in the supply chain. By regularly monitoring the financial status of suppliers, compliance with human rights & labor, as well as environment & safety regulations, conflict mineral management, compliance with restrictions on strategic materials, and non-use of hazardous substances, we prevent and manage risk factors in advance using our in-house systems.

Procurement Process Risks

Samsung's ultimate goal in this area is to completely eradicate corruption, mismanagement, and any violation of a regulation that could occur during the procurement process. Abnormal business processes related to corruption and mismanagement are constantly prevented on a fundamental basis through our systems, while all of our business activities are handled with transparency. Moreover, we conduct regular on-site inspections and monitor to check on compliance regarding fair trade and subcontracting.

Natural Disaster Risks

In 2016, Samsung began operating a system to detect natural disasters promptly and to provide analysis of their impact on the supply chain. We receive real-time information in association with other systems at leading global disaster information institutions. When a disaster does occur, the potential impact on each supplier can be automatically analyzed by using supplier location information from our G-SRM System, and any necessary warnings via e-mail and text message can be provided to the purchasers in charge of related suppliers. By doing this, we can disperse the risks throughout the supply chain caused by natural disasters in a timely fashion and minimize their impact on business activities.

Supplier Operation Scheme

On top of establishing strategic partnerships with excellent suppliers based on mutual trust, we operate a fair and transparent supplier registration process, while also reinforcing suppliers' competitiveness and minimizing risks through regular evaluations every year.

Critical Suppliers

Samsung designates and manages intensively the "critical suppliers" which carry out large-scale transactions, maintain excellent business relationship, or have a high dependence on Samsung. Critical suppliers are selected based on an annual analysis of their procurement performance and comprehensive evaluation results. We support these suppliers in a number of ways, such as through innovation activities, funding, and joint technology development, with the aim of guaranteeing a sustainable supply chain. In 2015, about 30 percent of the company's total registered suppliers were selected as critical suppliers. The amount of procurement from these companies makes up 93 percent of our total procurement amount. Those that conduct over 30 percent of their business with Samsung account for roughly 49 percent of all our critical suppliers.

Supplier Contract Management

To implement fair trade policies, we demand a certain level of capacities from suppliers when they enter into a contract with Samsung. In a standard supplier contract form, for example, suppliers are required to comply with ISO 9001 regulations for quality management system assurance, ISO 14001 regulations for environmental management system assurance, and the Samsung Environmental Standards for Hazardous Chemical Substance Management regulations. In addition, there are provisions detailing that these same suppliers must not be involved in labor practices that do not meet international human rights standards, such as child labor, forced labor, or discrimination.

The contract also states that all suppliers must comply with the Samsung Supplier Code of Conduct at all times. Today,

we are reinforcing management so that first-tier suppliers are required to sign a standard contract form with second-tier suppliers. It includes the same level of content adherence required by Samsung for the purpose of producing goods to supply for the company.

Example of Standard Contract Form for Suppliers

- Suppliers shall comply with the requirements stated in ISO 9001, ISO14001, or other quality assurance standards approved by Samsung and equivalent to the two aforementioned standards. In addition, suppliers shall follow Samsung's standards for the control of environmentally harmful materials.
- 2. Suppliers shall comply with the all requirements as stated in the ISO 9001, ISO 14001, and other quality assurance standards approved by Samsung and equivalent to the two aforementioned standards. In addition, suppliers shall follow Samsung's standards for the control of environmentally harmful materials.
- 3. Suppliers shall guarantee that they comply with all laws, regulations, rules, standards, ordinances, and all relevant international agreements and conventions that cover environmental protection, employee health

and workplace safety, fair labor and employment, child labor, human rights, racial and gender discrimination, anti-corruption, and conflict minerals (including in the Democratic Republic of the Congo) in the areas of their business presence. In areas that are not stated in the applicable jurisdiction, suppliers shall not be involved with labor practices that are considered inappropriate according to international human rights standards. This includes engaging children under the age of 16 in forced labor or any labor in providing products and services. Furthermore, suppliers shall not discriminate against employees or applicants based on race, skin color, religion, gender, nationality, age, or disability, or any additional matters protected under other applicable standards. Upon the request of Samsung, suppliers shall also prove their compliance with the above requirement in writing. Finally, all Samsung suppliers must comply with the code of conduct for Samsung suppliers.

Supplier Evaluation

Each year, all of our suppliers, except those newly registered within two years, are regularly reviewed in eight categories: technology (T), quality (Q), responsiveness (R), delivery (D), cost (C), environment (E), finance (F), and Law (L). This evaluation aims at improving the competitiveness of suppliers and establishing a sustainable supply chain through self-evaluation, joint improvement activities, and continuous follow-up management. Out of the eight TQRDCEFL evaluation categories, five categories (TQRDC) evaluate business competitiveness that employs Samsung's in-house standards. The remaining categories (EFL) are utilized for supplier risk analysis in terms of sustainable management. Economic risks are analyzed in finance (F), environmental risks are analyzed through environment (E), and social risks are analyzed in the law (L) category. Suppliers with a high rating based on the eight categories at the annual evaluation are given preferential allocation of supply for the following year and the opportunity to participate in the Supplier Support Program. Those with a low rating are required to devise specific plans for improvement, and should there be no improvement at the following evaluation, they enter into a process to discontinue transactions with Samsung.



2015 Supplier Evaluation Results

Among all suppliers



of suppliers underwent an annual evaluation

Among the suppliers evaluated in a supplier evaluation



of suppliers received an "Excellence" rating

86%

of suppliers received the same or higher rating compared to the previous year

Comprehensive Evaluation Criteria Business Competitiveness TECHNOLOGY **ENVIRONMENT & SAFETY** Eight items, including technology patents and R&D investments Five items, including worksite safety and international certification OUALITY FINANCE Five items, including failure rate and ISO 9000 certification Three items, including credit rating and debt ratio RESPONSIVENESS LAW Five items, including labor/human rights at worksites, Six items, including engagement in Samsung's policies and corruption and other social risks the non-use of conflict minerals DELIVERY Six items such as just-in-time warehousing and RTP* response rate COST Five items, including transaction amount increase and cost competitiveness * RTP: Return to Purchasing Order

Suppliers' EHS Certification



2013 2014 2015

Supplier Risk Management on Sustainability

Samsung Electronics manages financial risks by conducting an annual evaluation of suppliers' credit ratings based on their financial data through a third-party credit rating agency. Based on these results, we strengthen the monitoring of suppliers with low credit ratings, while also heightening management of suppliers by pre-analyzing the impact of any credit risks on transactions with them. In 2015, 2.1 percent of all suppliers received a credit rating less than or equal to level 4 (Poor) according to D&B, Inc. (Dun & Bradstreet), a prominent international credit rating agency. Those same suppliers then established countermeasures in tandem with quarterly financial data and conducted proactive management initiatives to prevent future business risks. Regarding the environmental, health & safety (EHS) risks of suppliers, the company carries out focused management by selecting required items suppliers must abide by at worksites, while also requiring ISO 14000 and OHSAS 18000 certification. Based on an analysis of the 2015 evaluation results, we are separately managing 3.8 percent of suppliers, and continuously monitor their improvements. Additionally, we have operated our Eco-Partner Certification System since 2004 in an effort to determine whether suppliers use hazardous chemical substances, and proactively manage the situation on a constant basis. As a result, only companies that do not use hazardous chemical substances can trade with Samsung. We select issues to check, including non-compliance with standards of labor/human rights, negative social issues, and corruption & mismanagement. We then intensively manage suppliers' compliance risks through on-site inspections and close communication. We are especially vigilant and maintain a zero tolerance principle about child labor, while imposing a penalty on suppliers with regulatory violations or corruption, such as giving lower rating on comprehensive supplier evaluations.

Open Sourcing System

Samsung has continuously operated programs to single out business partners with new future-oriented technologies and innovative ideas. In association with a number of international procurement centers (IPCs) that assess each region's technology trends and source new suppliers at strategic locations across the globe, we operate an Open Sourcing process that allows any company with world-class technology and competitive costs to propose a business opportunity with us at any time. Companies that wish to do business with Samsung can make a proposal via procurement portal site (www. secbuy.com) in our G-SRM System and later check on the progress of their offer. As a result of this procurement channel, a total of 900 proposals were reviewed in 2015, with 45 cases adopted for application to our products.

Win-win Cooperation

Based on the belief that our business performance is mutually dependent with our suppliers, Samsung operates diverse win-win cooperation programs in the fields of employee's capability building and competitiveness enhancement program for the suppliers' growth.

Funding Programs

Samsung operates various funding programs to support SMEs that are facing financial difficulties so that they can secure liquidity. In 2005, we began making full cash payments to suppliers, the first time any Korean conglomerate had done this. We also changed the payment cycle from twice a month to four times a month in 2011 and implemented early payments around Korea's traditional holiday seasons, thereby helping to smooth the funding of operations for suppliers.

Mutual Growth Fund

In collaboration with Industrial Bank of Korea, Korea Development Bank, and Woori Bank, Samsung established the Mutual Growth Fund totaling KRW 1 trillion, and operates as a low-interest loan program of up to KRW 9 billion to provide qualified suppliers with funds for technology development, facility investment, and operations. Since 2011, the recipients of financial support have been expanded to include second-tier suppliers.

Mutual Growth Guarantee Program and a Funding Program with Korea Eximbank

Samsung's Mutual Growth Guarantee Program, collaboration between Samsung and the Korea Credit Guarantee Fund or Samsung and the Korea Technology Finance Corporation, allows suppliers that have a letter of guarantee from Samsung to receive low interest rates without an additional bank examination or security deposit. In 2015, a total of KRW 12.6 billion was extended to 19 companies. In addition, we offer a funding program in connection with Korea Eximbank that provides SMEs with funds for their export business. In 2015, a total of 58 companies made use of KRW 251.2 billion in funding.

Public-private Joint Investment for Technology Development

In order to invigorate technological development at Korean SMEs that have new ideas and technological prowess, Samsung has participated in a public-private joint investment program for technology development since November 2013. This program is unique in that it supports a development fund in connection with the Small and Medium Business Administration (SMBA). Samsung and the SMBA have agreed to each raise KRW 10 billion and support SME R&D activities. Each SME can receive an investment of up to KRW 1 billion, totaling up to 75 percent of the entire project development cost. In 2015, Samsung provided approximately KRW 2.4 billion in development funds for five companies.

Win-Win Payment System

Furthermore, we have adopted a win-win payment system that was initiated by the Ministry of Trade, Industry and Energy to ensure there is no disruption with payments not only to first-tier suppliers but also to second-tier suppliers. This payment system allows second-tier suppliers to liquidate their payments—promptly and at low interest rates—from first-tier suppliers that are first paid by Samsung. In 2016, we plan on actively supporting suppliers even further by reflecting the results of first-tier suppliers in their adoption of this win-win payment system in our first-tier supplier evaluation so that more benefits can reach second-tier suppliers.



Samsung Achieves the Highest Rating in the NCCP's Win-Win Index for Four Consecutive Years from 2012

> * NCCP: Korea's National Commission for Corporate Partnership

Status of Mutual Growth Fund



Status of Supplier Training

Tier 1 Supplier Tier 2 Supplier

No. of participating companies



No. of trainees (persons)



Operation of Samsung Supplier Job Fair

No. of participating companies



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Employee's Capability Building Programs

Training Programs Tailored for Suppliers

The training center offers a variety of free training programs tailored for suppliers to strengthen the competencies of their employees. In 2015, we began offering a total of 290 online/offline courses that reflected the training needs of suppliers. By utilizing a training facility exclusively for suppliers, we were able to provide training opportunities for 12,694 employees from 615 companies (both first- and second-tier suppliers). Courses included rank-based training such as new employee orientation and an executive promotion course, specialized job training by level concerning development, manufacturing, quality, and procurement, as well as global training and leadership training.

Supplier Training System Improving competitiveness through customized training for suppliers Leadership training Job training Online training Global training Rank-based training

Support for Supplier Recruitment

Samsung Supplier Job Fair Samsung's Youth Job Center supports young job seekers in their quest for employment, while also standing behind suppliers in their bid to recruit the most talented people. Since 2012, Samsung has held its annual Samsung Supplier Job Fair, providing a venue for suppliers and jobseekers to meet in person. This has contributed to SMEs hiring highly skilled people and helping to resolve the issue of youth unemployment in Korea. In 2015, we expanded the job fair's focus from electronics, heavy industries, and construction to now include Samsung affiliates in the service industry such as Cheil Industries and Hotel Silla, providing a total of 12 affiliates and 197 first- and second-tier suppliers with opportunities to recruit qualified personnel. Additionally, Samsung provided new hires of suppliers with high-quality employee orientation, similar to the orientation for its own recruits, so that these new employees would be empowered to seamlessly enter their workplace and succeed in their position.



1 Opening of 2015 Samsung Supplier Job Fair A scene from the 2015 Samsung Supplier lob Fair

An Employment Stepping Stone In 2015, Samsung began its Employment Stepping Stone program which is aimed at playing an important role as a first step for young job seekers looking to gain employment with Samsung suppliers. Through the program, Samsung will provide 3,000 young job seekers with opportunities for three-month job training and three-month on-site training at suppliers in fields such as electronics and electrical products, equipment & molds, and facilities over a two-year period. All training costs are covered by Samsung.

Employment Stepping Stone Program (6 months) Orientation (2 weeks) Specialized job training (4 weeks) On-site training (3 months) occupational overview electronics and electrical products on-site training at supplier companies business customs & etiquette equipment & molds, facilities A 4 G 6 . >

General job training (4 weeks) productivity, quality, logistics, Six Sigma Matching up with participating companies (1 week) introducing job seekers to suppliers



establishing future plans, completion ceremony

Competitiveness Enhancement Program

Consulting for Suppliers' Innovation Activities

The Samsung Electronics Consulting Center's Win-Win Consulting Team consists of over 100 executives and general managers from Samsung, all of whom have more than 20 years of experience in their respective fields—including business management, manufacturing, development, and product quality—to support suppliers in carrying out customized innovation activities. Starting with the improvement of certain supplier manufacturing sites in 2013, we expanded our activities into eight areas, from marketing and development to manufacturing and procurement. In 2015, we provided consulting for a total of 146 first- and second-tier suppliers. In 2016, we will expand our support for suppliers' innovation activities to reinforce our support for global manufacturing competitiveness at suppliers located not only in Korea but also in countries around the world.



Case Study: Sungil Innotech Co., Ltd

Founded in 2005, Sungil Innotech based in Korea has achieved continuous sales growth based on differentiated technology: KRW 20.4 billion in 2012, 30.3 billion in 2013, and 41.4 billion in 2014. However, the company experienced great difficulty in 2014 when it suffered a decrease in operating profit. That's when Sungil Innotech asked the Samsung Electronics Consulting Center for assistance in order to overcome

a crisis though better innovation throughout the company. Samsung dispatched four consultants, including manufacturing and quality experts, to support Sungil Innotech's large-scale innovation activities. Sungil Innotech made significant strides with the management knowhow gained from Samsung's consultants. In fact, not long after receiving these consulting services from Samsung, Sungil Innotech saw a 30 percent increase in productivity, a 20 percent reduction in manufacturing/processing costs, and a 54 percent improvement in lowering chronic failure rates. Also, through the adoption of an ERP system, Sungil Innotech reduced its inventory period from 12 days to 3.5 days. Speaking about this later on, Sungil Innotech CEO Yim Min-ja said, "We didn't feel the need for innovation when our company was growing. Only when we experienced a loss in operating profit—despite continuous sales growth—did we finally recognize this as a problem, and felt the need for greater innovation throughout the company. Samsung's win-win consultants were able to deliver new and innovative methods to us, allowing our employees to learn how to work more efficiently and to improve our overall business activities. As a result, our management team got us back in the black in 2014. As we move forward, we will continue to secure competitiveness through ceaseless innovation activities based on knowhow obtained from Samsung."

Industry Innovation Campaign

In an effort to support SMEs' productivity innovation by expanding mutual growth, with a focus on large-sized companies and their first-tier suppliers, into second-tier suppliers and other companies, the Ministry of Trade, Industry and Energy initiated the Industry Innovation Campaign in 2013. Since then, Samsung has been actively involved in the campaign. In fact, Samsung has carried out its plan to invest a total of KRW 50 billion for five years, from 2013 to 2017, to support not only its second-tier suppliers but also other SMEs without any transactions with Samsung through consulting for their productivity innovation and the cost of purchasing equipment. Samsung provides support in many ways so that second-tier suppliers and other SMEs which have had difficulty growing through innovation due to poorly equipped worksites and lack of innovation infrastructure can implement their innovation tasks by dispatching Samsung's win-win consultants and external consultants to worksites in an effort to help innovation throughout their business activities. This includes business management, improvement of manufacturing sites, and production technology.

Fostering Small but Strong Companies

Since 2011, Samsung has selected suppliers with potential technological capability and a strong desire for innovation to support so that they can raise their market share high enough to become one of the world's top five, or one of the Korea's top two, leading companies in their respective field(s). The program comprehensively supports these suppliers with technology knowhow, funds, and human resources. Samsung helps these chosen companies fundamentally innovate themselves through funding and cooperation with Samsung's R&D/manufacturing employees, and on-site consulting. We selected 48 companies in total for this program, 14 companies in 2013, 10 companies in 2014, 13 companies in 2015, and 11 companies in 2016 through fair screening by experts both inside and outside the company.

Status of Industry Innovation Campaign (companies) Tier 2 Suppliers SMEs without any transactions with Samsung 501 428 433 150 00 1st Year 2st Year 3st Year *1st Year: Aug. 2013-Jul. 2014 2nd Year: Aug. 2014-Jul. 2015 3rd Year: Aug. 2015-Jul. 2016 Status of Small but Strong Companies (companies) 14 13 11 10

2013 2014 2015 2016





Benefit Sharing

Samsung runs a benefit sharing program through which we carry out joint activities with suppliers for improvements and the sharing of benefits. Samsung and its suppliers establish common goals such as cost reduction, improvement of quality and productivity, and new technology development. Moreover, we support suppliers with technology, funds, and human resources for achieving goals, and when the goals are successfully reached, we share all benefits with suppliers in the form of cash, expand order volume and patent sharing.

Patent Sharing

In 2015, Samsung shared a total of 27,000 patents that the company had for reinforcing SME technological competitiveness. It then posted a notice of these patents on the webpages for the Daegu Center for Creative Economy & Innovation and the Gyeongbuk Center for Creative Economy & Innovation. If SMEs that wish to utilize those patents apply to share them in the fields they require through these webpages, they are provided with the patent(s) after consulting with Samsung's patent experts on certain issues, one of which is the actual conditions of the contract(s). In addition, Samsung dispatched in-house patent experts to the Daegu and Gyeongbuk centers in 2015 to assist them with consulting on patent matching in the field of technologies that SMEs need, patent application, and utilizing methods so that SMEs can actively use the shared patents.

* For more information on the Case of Patent Sharing, please see Chapter 6.

Smart Factories

Samsung is proud to contribute to the improvement of other Korean companies' manufacturing capacities and to create a competitive corporate ecosystem, including manufacturing sites of suppliers and SMEs with which Samsung does not conduct any direct business with, through advanced information & communications technologies (ICT). For this purpose, we are expanding our Smart Factory program in four areas—automation of manufacturing, process simulation, ultra-precision molds, and factory operation systems—so as to reach 1,000 companies across the country by 2017 as a joint initiative with the Center for Creative Economy & Innovation. In August 2015, Samsung signed an MOU with the Ministry of Trade, Industry and Energy, and in October opened the Creative Economy Support Center, transferring Samsung's world-leading manufacturing knowhow to suppliers and other Korean SMEs.

Case of Smart Factories: Gyeongbuk Center for Creative Economy & Innovation

In 2015, the Gyeongbuk Center for Creative Economy & Innovation supported over 100 SMEs located in Gyeongsangbuk-do in adopting or establishing a smart factory with KRW 20 billion in funds jointly provided by Samsung Electronics and the province of Gyeongsangbuk-do. On top of that, Samsung professional mentors delivered their knowhow to local SMEs (Samsung suppliers: 20%, SMEs without any direct trade with Samsung: 80%). One of those recipient companies was DPM Tech Co., Ltd, which specializes in a dual-injection-adopted manufacturing execution system (MES) and automated parts-cutting equipment. Besides the adoption of a smart factory, Samsung's manufacturing experts stayed on at DPM Tech for some time, only to discover over 400 improvement tasks for the manufacturing site, at which time our experts carried out a number of innovation activities. As a result, orders for DPM Tech cellphone parts and automobile parts increased by 45 percent, from 2 million units to 2.9 million units a month. With Hyunwoo Precision Co., Ltd, they made a direct request to the Gyeongbuk Center for Creative Economy & Innovation for support in adopting a smart factory, and then went on to introduce the process 3D simulation method to its factory. This minimized wasteful movement between manufacturing processes, which ultimately reduced the moving distance when it came to logistics by 55 percent, from 5.13 kilometers to 2.33 kilometers. Also, the company adopted an automated grinding system and increased its productivity by 10 percent.



Supplier Communication

Samsung pursues a variety of communication activities so that it can forge partnerships with suppliers based on mutual trust.

Communication Program

In March 2015, Samsung held a Win-Win Cooperation Day event to provide a venue for mutual benchmarking through the presentation of awards to suppliers that had carried out excellent innovation activities and best practices. In May, we held a Place for Communication on Win-Win Cooperation event for first- and second-tier suppliers to further spread win-win cooperation activities by spreading Samsung's policies and supplier support programs for shared growth. Additionally, Samsung organizes a Win-Win Cooperation Workshop every October in which company executives and suppliers get together to openly discuss win-win cooperation activities and seek out mutually beneficial development plans for cooperation. Samsung also holds a Shared Growth Day event every other month. This gives Samsung's management the chance to visit supplier worksites and carry out consultations on product roadmaps and development. Management also listens to any difficulties suppliers are having, as well as supplier VOCs to help them address their problems, while continuing to engage in active communication for the establishment of solid partnerships with suppliers.

Communication Channels

Since 2008, Samsung has listened to grievances from its first- and second-tier suppliers through various channels, including a direct phone line (+82-80-200-3300) and exclusive e-mail address (ssvoc@samsung.com). The suggestions about co-prosperity has also been received, and these ideas were reflected in our policies to ensure win-win cooperation. Samsung has also been operating an online whistle-blowing system since 2010 through Win-Win Cooperation Portal (www.secbuy.com) channel on its website, in which all of global suppliers can voice their grievances at any time on condition of anonymity. In addition, we have been expanding communication channels to listen more VOCs (voice of customers) by visiting suppliers in person and holding workshops. In 2015, we received a total of 307 VOCs (293 from Korea, 14 from overseas) and addressed all the issues raised by our first- and second-tier suppliers.

Promotion of Cooperation with Suppliers

Samsung has extended its win-win cooperation initiative to its second-tier suppliers from only first-tier suppliers and encouraged cooperation between those two tiers of suppliers in an effort to help them both benefit from the company's goal of co-prosperity. With Samsung's "Hyeopseonghoe," a council made up of the company's suppliers, members have formed another council of trustees with second-tier suppliers that performs a range of activities to establish a culture of fair trade and shared growth between first- and second-tier suppliers. Every year, Hyeopseonghoe organizes meetings with representatives from second-tier suppliers to collect VOCs. Also, it supports second-tier suppliers in enhancing their competitiveness by participating in a variety of Samsung win-win partnership programs.



1,2 Toptec holds workshops with suppliers to listen to their thoughts and share management issues on a regular basis.

Toptec: An Example of a Win-Win Partnership

Toptec Co., Ltd., a first-tier supplier of Samsung Electronics, formed a council of trustees with 12 suppliers to strengthen its win-win partnership program in 2013. Initially, Toptec developed its win-win cooperation activities with the help of Samsung. Soon after this, however, Samsung expanded its initiatives to help Toptec carry out these activities on its own by paying their bills in advance and supporting innovative plans, a move meant to encourage Toptec's participation on the council. When asked about this, Toptec CEO Lee Jae-hwan commented, "We have grown as a competitive business through the support of Samsung's policy to promote win-win partnerships. As such, we will do whatever we can to support our own suppliers to assist them in becoming more competitive."

VOC Handling Rates



Management of Supplier Responsibility

Approach

Samsung Electronics strives to fully implement its human rights commitments throughout its supply chain and respects international agreements for worksite safety assurance. In line with this, we work tirelessly to ensure that work environments at all of our workplaces comply with international standards and guidelines. Every supplier that Samsung does business with is required to conform to our Supplier Code of Conduct. They are also mandated to carry out regular monitoring to identify problems and then carry out improvement measures. To encourage the voluntary adherence of its suppliers, Samsung offers a variety of support to increase their capabilities in managing work environments by educating them about human rights and legal compliance. We also help them single out problems through the establishment of verification processes and facilitate any and all improvement efforts. In addition, through the establishment of sustainable work environments at suppliers, we seek to build an open and transparent responsibility management system for suppliers to maintain highly participation and cooperation between all parties in our supply chain.

Management System

In 2012, the company established a dedicated the supplier responsibility team, and in 2013, we established a workplace management team to manage the workplace environment of overseas production site. The supplier responsibility team is in charge of creating policies on suppliers' responsibility management to create a safe work environment that meets international standards, and to also continually manage these policies. To this end, Samsung assists its suppliers in recognizing risks associated with work environments in advance and identifying improvement measures at once. In cooperation with staff in charge of regional workplace environment management team around the world, the unit evaluates whether overseas worksites comply with local regulations and also provides support tailored for each production site. For instance, it addresses regional issues such as work environment improvement.

Supplier Responsibility Management Policies

Supplier Code of Conduct Samsung has established a Supplier Code of Conduct which it shares with its suppliers, and is based on the EICC Code of Conduct to improve work environments. We annually update our Supplier Code of Conduct to cover provisions regarding the protection of workers' rights in line with revisions to the EICC Code of Conduct.

Supplier Code of Conduct Guide Samsung's Supplier Code of Conduct Guide aids our suppliers in complying with our Supplier Code of Conduct in order to facilitate their responsibility management system. This guide provides our suppliers with detailed information on how to integrate sustainable practices in their companies.

Self-assessment Checklist Furthermore, we share our Self-assessment Checklist with suppliers to help them better understand conditions surrounding their work environments as they come up with solutions to problems on their own. As such, suppliers are able to carry out self-assessments and identify issues they have to work on independently.

Risk Management for Supplier Responsibility

Management Targets

Samsung monitors all risks associated with work environments at all suppliers that are participating in production processes of our products on a real-time basis. Suppliers must meet worksite standards with regard to labor & human rights and EHS as stipulated in the Supplier Code of Conduct, and based on industry-wide standards such as the EICC. This is supervised through on-site audits by Samsung and a third party's strict verification process. In addition, we reflect the outcome of our evaluation on work environment risks annually in a comprehensive supplier evaluation. We use this as a key factor when deciding whether to continue our relationship with suppliers.

Policy Framework for Supplier Responsibility Management



Integrated Management Process

Samsung responds to identified risks in a preemptive manner after evaluating those which may be associated with work environment at all production sites at our suppliers based on a thorough analysis of all accumulated data in our internal system. The enhanced risk assessment system introduced in 2014 consists of internal management indicators, work environments and legal compliance, and external indicators, politics and society. Based on a regular analysis of evaluation results, we provide intensive consulting for suppliers that are more exposed to risks, offering them knowhow regarding best practices. Additionally, we evaluate risks at all supplier worksites based on EICC self-assessment standards.



Self-assessment Samsung's suppliers are obliged to carry out a self-assessment at least once a year. They carry out the self-assessment by going over a total of 104 checklist items that reflect each country's social responsibility requirements, which are all based on EICC standards. The checklist consists of two categories, labor & human rights and EHS, with the former including items regarding ethics and management system. After Samsung suppliers identify any self-assessment weaknesses, they immediately devise improvement tasks that are implemented voluntarily by suppliers. Upon receiving approval from the CEO, suppliers need to turn in the outcome of the self-assessment to Samsung. We conduct on-site verifications on 10 percent of all suppliers. By carrying out this process, it lends credibility to the self-assessment. We issue warnings against those carrying out self-assessments improperly and reflect that in our comprehensive supplier evaluation. In 2016, we plan to extend our on-site verifications to 20 percent of our suppliers.

On-site Audit In 2015, Samsung conducted on-site audits at 455 suppliers that were selected as 'priority suppliers' in consideration of their geopolitical location, trade size, past identified issues, and self-assessment results. On-site audits are led by the Samsung unit in charge of suppliers, which conducts an independent audit separate from the procurement unit, as well as by a different unit that is responsible for labor & human rights and EHS issues at worksites. Criteria related to on-site audits are same as self-assessment. Together with our regular on-site audits, we conducted an average of 4.8 surprise and special inspections per supplier in 2015, including audits concerning child employment, the recruitment process, and employment of interns and student workers during vacation periods. For thorough verification,

Work environment improvement in 2015





we listened to what supplier executives and employees had to say through interviews and an examination of the workplace environment, after which we came up with final improvement tasks to be addressed in cooperation with suppliers. We then registered these tasks with the Suppliers' Work Environment Management System, with suppliers responsible for implementing improvement measures on their own. Samsung supports the suppliers with policy development and provides consulting for corrective actions. In 2015, 95 percent of improvement tasks raised throughout the year have been implemented.

Third-party Audit For third-party audit, Samsung applies the same standards as the EICC and only uses an EICC-authorized external audit firm. In order to improve transparency and credibility, we conducted the third-party audit on 30 suppliers based on random sampling. In 2015, audit was conducted in a "semi-announced" type, with specific audit schedules not provided in advance to prevent any kind of preliminary preparation prior to the inspection and to ensure more accurate verification. For six suppliers, auditors conducted separate interviews with their employees outside the company premises so that the interviewees could be more candid when describing their work environment and without interruption. Samsung requires all suppliers to address every improvement task identified through third-party audit within three months. Suppliers then need to come up with corrective measures, such as complementary policies, employee education and/or site improvements, before fully carrying them out. Results are verified by a panel of experts through a closure audit three months later.

Results of Third-party Audits

The results of both on-site audits and third-party audits show similar compliance rates. From this, we can confirm that our in-house, on-site audits and improvement activities are reliable. The results of third-party audits on major issues are as follows. Figures represent final compliance rates and reflect the results of improvement measures suggested by the third-party audits.

		2014	2015			2014	2015
Labor & Human	Freely chosen employment	99%	99%	Business Ethics	Business integrity	95%	100%
Rights	Prohibition of child labor	100%	100%		No improper advantage	93%	100%
	employment			HE	Disclosure of information	100%	100%
\bigcirc	Protection of minor workers	90%	100%	111-12	Intellectual property	98%	100%
	Working-hour management	94%	89%		Protection of identity	95%	100%
1.1	Guarantee of one day off every seven days	96%	95%		Protection of personal information	95%	100%
	Wages & Benefits	94%	98%		Non-retaliation	100%	100%
	Humane treatment	100%	100%	Management	Company commitment	95%	100%
	Non-Discrimination	100%	100%	System	Management responsibility	93%	100%
Health & Safety	Occupational safety	83%	89%		Risk assessment & man_	93%	100%
Health & Safety	Emergency preparedness	88%	94%		agement	5570	10070
	Occupational injury and illness	95%	96%		Training	95%	100%
	Physically demanding work	98%	90%		Communication	93%	100%
	Machine safeguarding	90%	100%		Worker feedback & partic-	100%	100%
	Food, Sanitation & Housing	91%	98%		ipation		
Environment	Pollution prevention &	88%	100%		Corrective action process	98%	100%
^	Resource reduction				Improvement objectives	83%	100%
32	Hazardous substances management	87%	99%				
	Wastewater/Solid waste management	96%	88%				
	Air emissions	96%	98%				
	Materials restrictions	100%	100%				

Compliance Rates by Items

Labor & Human Rights

Prohibition on Child Labor & Preventive Measures There were no evidence of child labor cases at suppliers in 2015. Additionally, the company continues to educate managers and human resources staff at suppliers about the recruiting process. As part of this initiative, we have our suppliers verify the identity of all applicants and conduct mandatory face-to-face interviews. We then share the verification results through Samsung's G-SRM System on a monthly basis. In China, Samsung monitors the recruitment process of suppliers twice a year by strengthening its on-site taskforce patrol activities during vacation periods, when there is a high possibility that child workers, interns, and underage laborers will be employed temporarily. Also, the company has expanded its facial recognition system throughout supplier workplaces to block the hiring of children through ID fabrication from the very earliest stages.

Efforts for Working Hour Compliance and Day-off Guarantee In 2015, we sampled three different months from suppliers' a peak, a valley and an average month, and found that the number of work hours in an average week stood at 48 hours over those three months. Even during the peak season, total work hours were less than 52 hours, below the maximum limit of 60 hours per week, while our suppliers' compliance rates reached 89 percent on average, a bit lower than the previous year. This drop was due to a temporary surge in production during the peak season at some suppliers and the introduction of a new technology-based process for new products despite an increased supply in manpower and facility expansion. To improve compliance rates at supplier companies, we analyze data regarding their production capability and output, and make forecasts of estimated overtime work hours. We then help suppliers manage work hours in a preemptive manner by providing them with relevant data. Together with the monitoring of weekly extra work hours at supplier worksites, we have continued to carry out customized support activities, such as assisting workers in charge of equipment maintenance and repair work, which frequently requires overtime hours, to ensure that every supplier conforms to stringent work hour regulations. We are aware of the risk of suppliers forging working hours data and we take such cases very seriously.

Wages and Benefits All of suppliers should pay its employees more than the minimum wage and provide a legal holiday and vacation required in that specific region/country. However, we found that some companies were behind on their monthly wage payments as a result of mismanagement of in-house subcontractor wage payments and a failure to reflect legal revisions related to annual leaves/sick leaves as part of company regulations. Accordingly, Samsung educates suppliers about related policies and urges them to take corrective measures on their own. At the same time, we strictly penalize those suppliers that do not properly improve conditions based on our penalty process by doing things such as downgrading comprehensive supplier evaluations and reducing order volume. Since 2015, we have stepped up our efforts to prevent unfair wage payments and irregular management activities by analyzing individual salary statements as part of our supplier audits.

Penalty Cases An in-house subcontractor for one of Samsung's primary suppliers is located in Huizhou, China. In 2015, we discovered that they were one to two months behind schedule in dispersing employee wages. We first asked the supplier to take corrective measures. Then, three months later, we learned of similar incidents still taking place and took the following action: Lowered Decrease its purchases by D grade by 30% 1 notch We lowered their evaluation grade In the final evaluation, Consequently, Samsung will decrease by one notch and held it accountable for its purchases from this supplier by 30 poor management of the subcontractor given a D grade percent in 2016 compared to 2015

Health & Safety

Emergency preparedness program Certain suppliers showed clear problems with their safety measures in 2015, such as not having any emergency exits, a dearth of heat and smoke detectors, insufficient evacuation drills, and unpreparedness with their business resumption procedures. The emergency exit issue was resolved during on-site audits, while also securing a sufficient number of extinguishing agents/devices, and putting up more evacuation maps and emergency exit signs. They were also instructed to have all employees participate in emergency drills. Moreover, they were urged to conduct retraining every year and to establish systematic procedures to prevent any possible emergency situations.

Employee Health Examination Program Workers who work in a process that uses chemicals at some companies were found to have not received a health examination due to the frequent turnover rate. Samsung require these employees to wear appropriate personal protective equipment and encourage all employees at these companies to get a full medical checkup and to ensure monthly monitoring of these health examinations.

Controlling Physically Demanding Work We found certain suppliers with inadequate management of their programs that monitor employees with exposure to excessive physical labor. Samsung requires these companies to take administrative measures in such cases, including regulating physical work hours and rotating jobs, while also putting in place technical measures like the establishment of height-adjustable workbenches and palletizing. Furthermore, suppliers are required to monitor the effects of these measures through evaluations at least once a year.

Safety Control of Dangerous Equipment In 2015, some suppliers failed to furnish mechanical equipment with the proper safety devices and did not conduct regular inspections of insulation materials. In cases such as these, Samsung requires companies to immediately set up a protective wall and safety devices against all possible risk factors that pose a threat to the safety of workers. Our suppliers are currently following our instructions, ensuring that they are equipped with the necessary safety permits for all machine equipment (compulsory permits, licenses, inspection reports, etc.) as legally mandated, and that all equipment is kept in good working condition.

Environment

Strengthened Management of Hazardous Substances Suppliers must operate worker protection programs in order to treat hazardous materials safely such as attaching appropriate labels to the storage containers, installing a second container against chemical leakage and providing MSDS (Material Safety Data Sheet). As such, we instructed them to educate staff about such materials and to take other corrective measures. In addition, we are in progress of process improvement with suppliers.

Control of Wastewater and Solid Waste In 2015, some suppliers were found to be using unauthorized food waste disposal companies and/or discharging oil waste into rain sewage systems. Samsung required these specific companies to educate employees on related policies and to take the appropriate corrective measures. Today, we continue to send some of our workplace environment safety experts to these suppliers to offer consulting on a regular basis.

Ethics

Compliance with Whistle-blower Protection Policy Suppliers need to establish policies for the protection of whistle blowers and procedures to ensure their anonymity. Samsung checks suppliers' notices about such regulations and their operation process, and then monitors compliance through employee interviews and reviews of related records.

Management Systems

Support for Risk Assessment and Business Improvement Goal Setting Samsung learned in 2015 that some suppliers had an inadequate process for identifying, evaluating, and minimizing/easing/controlling risks in the areas of labor & human rights, EHS, and business ethics. These same companies then took corrective measures by using our ERP system and management innovation program in such fields as improvement of management expertise and funding, two aspects which Samsung believes suppliers are unable to carry out on their own.

Efforts to Improve Working Conditions in 2015

Grievance Channels

Samsung has run a hotline reporting system since 2012 to protect workers from human rights abuses and violations of work environment regulations that are liable to take place at one of our suppliers. Accordingly, we put up posters about how to report on this subject by using our hotline. What's more is that in 2014 we expanded the reporting options to include mobile phones (via QR code scanning) as well as telephone and email reporting. On top of the reporting channels which Samsung runs, suppliers are required to operate their own hotlines, and we monitor their operation through on-site inspections. Every case received through our hotline is investigated by the appropriate Samsung employee in charge. We guarantee the anonymity of all informants and mandate the prohibition of retaliation. Once a report is made, an informant is contacted within one week by telephone or email on the measures that will be taken in response to their report. If the report is found to be valid, the supplier(s) concerned must demonstrate how improvements will be made within one month, at which time Samsung validates the results of these improvement efforts. In 2015, we received a total of 127 reports from employees at overseas suppliers and replied to 100 percent of them about follow-up measures within one week.

Improvement Programs

Improving the Recruitment Process for Prevention of Child Labor We provide our suppliers with ID scanners (free of charge) so that they can operate an appropriate employment process. In addition, we have strengthened our stance on prohibiting hiring child labor by providing ID scanner and facial recognition system to suppliers in China. We plan to expand providing the facial recognition system to suppliers in other regions.

Fair Work Hour Management System Suppliers have difficulty in managing overtime work hours due to many variables that include monthly changes to human resources and a fluctuating production volume. Samsung took note of these and other difficulties when it established its Prior Management System to provide forecasts and inform about overtime hours based on the supplier's production capacity and production order data.

Strengthening Monitoring for Fair Work and Pay Through supplier audits, we find loopholes in overtime hour management, including fraudulent evidence material. When this happens, we immediately require the supplier to submit an improvement plan, and continuously monitor whether the plan is actually put into action. At Samsung, we are vigilant about monitoring for the input of falsified overtime hours with the overtime management system. As a result, we have strengthened this system by dispatching an official representative to suppliers when they are suspected of entering falsified overtime hours.

Tailored Consulting for Suppliers Based on data registered on the G-SRM system, Samsung classifies its suppliers into one of four groups: A, B, C, or D. This classification is based on an evaluation of the current work environment level and suppliers' improvement activities. In the future, we plan on continuously providing tailored consulting for suppliers in each group.







Wage

EHS

Work Hours

EHS Management at Subcontractors Samsung requires subcontractor's employees working at our worksites to respect the same environment, health and safety (EHS) standards as Samsung executives and employees. Furthermore, we have supplier CEOs attend regular meetings to share Samsung's safety standards and pending issues. We of course respect the management rights of our suppliers and closely listen to their recommendations on a continual basis. Suppliers that have employees residing at their worksites educate these people about all of Samsung's safety rules, such as individual safety equipment standards, MSDS (material safety data sheet) and chemical substance control guidelines. Samsung regularly carries out inspections at supplier worksites to evaluate their safety education and work environments. We then reflect these assessment results in the supplier selection process.

Suppliers' Day at the Environment Safety Innovation Conference From October 20 to 22, 2015, Samsung hosted over 1,000 participants at its Environment Safety Innovation Conference. On the second day of the conference, we held a Suppliers' Day, sharing cases of supplier environment safety innovation and handing out awards to six companies. Later, we held an education session to learn more about the winning companies' practices. We plan to expand the Suppliers' Day event at future Environment Safety Innovation Conference events, and to establish it as a pivotal way to promote the shared growth of environmental safety culture between Samsung and its suppliers.

Education Programs for Supplier Responsibility

Training for Managers Samsung has developed training programs to strengthen its employees' skillsets. We also offer optimized offline training by job level and function to all employees. The training covers 13 categories in six sectors, from labor and human rights to diversity and anti-discrimination. Additionally, we have created training programs specific to four regions: China, Southeast & Southwest Asia, the Americas, and Europe. In 2015, a total of 854 employees (including those taking more than one program) completed training. In 2016, we will be providing training to all employees at every production site with the goal of training 100 percent of our employees in at least one program. In 2015, we also secured a total of 44 experts by training EICC professional examiners.

Supplier-oriented Training To support training that is tailored to the different legal standards of each country, we conduct training related to work environments for employees at our local subsidiaries and suppliers. The training is provided in the form of regular meetings, workshops, or conferences. Also, for the convenience of production employees, we have developed online training programs and video content in numerous languages, including English, Chinese, and Vietnamese. This is also seen as a form of communication with management and those in charge of work environment management at our supplier worksites. Through this initiative, Samsung and its suppliers have solidified a joint desire to take responsibility in ensuring safe work environments.

Participation in Global Initiatives

Samsung participates in a variety of activities to support not only our supply chain but also the development of an eco-system that is spearheaded by our global suppliers. We seek to be a responsible corporate citizen and play an important role in the sustainable growth of mankind by carrying out responsible corporate initiatives for future generations, as well as related activities for corporate human rights.



Supplier-oriented Training
 Suppliers' Day

Conflict Minerals Management

Recently, human rights violations and environmental degradation caused by the mining of minerals in Indonesia and conflict-affected regions in Africa have both emerged as key global challenges. In response, Samsung strives to improve human rights and help the environment in conflict-affected regions by establishing a responsible supply chain management system and encouraging more suppliers to participate.



Conflict Minerals Management System

Policy on Conflict Minerals

Samsung considers environmental degradation and human rights violations in conflict areas as serious ethical issues. Thus, it has banned the use of conflict minerals (3TG: tantalum, tin, tungsten, gold) that are mined in an unethical manner in conflict regions in 10 countries, including the Democratic Republic of the Congo. Samsung manages the supply chain based on a principle of providing products that are produced through an ethical distribution process and by conducting thorough examinations on the inclusion of conflict minerals in its products.

Conflict Minerals Management Process

To consolidate its Conflict-free System, Samsung implemented due diligence process for conflict minerals in line with the 'OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas'. Furthermore, Samsung provides guidelines to suppliers and raises their awareness about conflict minerals issues through education and support, while also conducting regular investigations into the use of conflict minerals throughout the supply chain. Internally, we review information submitted by suppliers and conduct on-site inspections of companies whose systems require additional verification. In addition, we encourage suppliers to switch to smelters certified by the Conflict-Free Smelter Program (CFSP), and require uncertified smelters in our supply chain to become certified by the CFSP. On top of that, we have established a G-SRM Conflict Minerals Management System to manage conflict minerals more effectively. Samsung manages risks related to conflict-Free Sourcing Initiative (CFSI), which was co-founded by the Electronic Industry Citizenship Coalition (EICC) and the Global e-Sustainability Initiative (GeSI). We are also a member of the Conflict-Free Council, which was organized by the Korea Electronics Association (KEA).

Key Activities in 2015

Raising Supplier Awareness

Agreement Required on the Ban of Conflict Minerals Samsung requires all of its component suppliers to submit an agreement on the ban of illegally distributed minerals from conflict areas in 10 countries, the Democratic Republic of the Congo and its nine adjoining countries and collects an agreement of consent through our system as well. We have also made it mandatory for our suppliers to extend Samsung's conflict-free policy to their sub-suppliers.

Training on Conflict Minerals Samsung offers online/off-line training on conflict minerals policy to executives and staff members responsible for purchasing and sales to improve their capabilities when it comes to conflict minerals management, while also providing a conflict minerals guide and systematic support for suppliers. In fact, we have made online training obligatory. As a result, a total of 1,096 Samsung Electronics executives and employees had received group training on conflict minerals policy by 2015. Additionally, we have developed a management guide on conflict minerals and shared it with all of our suppliers so that they can train and educate their own employees. In a bid to raise supplier awareness about conflict minerals issues, Samsung has offered annual training sessions and workshops to its suppliers since 2011. In 2015, we offered training programs to 310 executives and management system, and how to become a CFSP-certified smelter. After carrying out on-site inspections, we offer additional training to suppliers that are inadequately managing conflict minerals.

Surveys on the Use of Conflict Minerals

Using the Conflict Minerals Reporting Template (CMRT) between December 2015 and February 2016, Samsung collected information about the use of conflict minerals at suppliers and smelters in its supply chain. In addition, we required our suppliers to extend this policy regarding the ban on conflict minerals to their subcontractors to keep them in line with Samsung corporate policy.

On-site Verification

Samsung verifies all of the information submitted to it by its suppliers in a fair and reasonable way. Following an internal review of the information, we carry out on-site inspections at 483 global suppliers whose systems require additional verification. We also check the credibility of this information and the state of management with suppliers' conflict minerals policies. Based on the credibility of the gathered information and the state of suppliers' conflict minerals management, we classify our suppliers into four groups: A, B, C and D. After learning of best practices in Group A group, we shared them with other suppliers for benchmarking purposes. For suppliers in Group B and Group C, they are required to submit additional evidence reports. We also require those in Group D to submit additional evidence reports and conduct more training. Through these activities, we help our suppliers to check on and improve their conflict minerals management policies and information management systems so that they can strengthen their ability to manage conflict minerals and heighten their due diligence system.

2015 On-site Verification Results (No. of Supplier's Worksites)



Risk Assessment and Improvement Activities in the Supply Chain

For the expansion of our Conflict-Free System throughout the supply chain, Samsung has requested all of its suppliers not to use conflict minerals, while also continuously urging them to work with CFSP-certified smelters. In addition, we always verify the origin of minerals and the use of conflict minerals based on smelter information submitted by each supplier. We then re-check whether smelters with uncertain origins or without CFSP certification used conflict minerals before instructing them to obtain this certification.

Switching to CFSP-certified Smelters with suppliers Following surveys on the use of conflict minerals, we continually require suppliers doing business with smelters not certified by the CFSP to purchase materials from a smelter certified by a third party. As a result, all of our suppliers that deal in tantalum do business with CFSP-certified smelters as of April in 2016, and up from 99 percent in 2015. With tin, tungsten, and gold, we have continually urged our suppliers to follow our conflict-free policy.

Recommending Smelters to Obtain CFSP Certification Samsung has requested that all smelters handling conflict minerals (3TG: tantalum, tin, tungsten, gold) related to supply materials immediately obtain CFSP certification from a third party. What's more is that we have urged smelters not certified by a third party to join the CFSP based on our conflict-free policy. In fact, since visiting a number of domestic smelters to recommend their participation in CFSP, seven smelters have been listed on the CFSI. For overseas smelters, we have continually asked them to participate in the CFSP through local procurement units. Consequently, 45 tantalum-related smelters all obtained the CFSP by April 2016. We have also encouraged other minerals-related smelters in our supply chain to obtain CFSP certification.

3TG-related Smelters in the Supply Chain

	CFSP	1	lise of equivalent	Smoltor solf-	Samsung asked	
	Certification Completed	Certification In Progress	certification scheme	declared non-use of conflict minerals	smelter to obtain a CFSP certification	Total
Tantalum	45	-	-	-	-	45
Tin	59	9	-	1	5	74
Tungsten	30	5	4 (TI-CMC ¹⁾)	-	2	41
Gold	81	11	2 (LBMA ²⁾)	3	16	113

1) TI-CMC: Tungsten Industry Conflict Minerals Council

2) LBMA: London Bullion Market Association

Computer Data System-based Management

We operate an internal Trade Compliance System (TCS) under G-SRM for the effective use of conflict minerals information. After systematizing the CMRT—the CFSI's way of examining the use of conflict minerals—in the TCS, we have been able to help our suppliers enter information more conveniently. Also, we provide information regarding CFSP-certified smelters through our system so that our suppliers can identify smelters that are not using conflict minerals. Today, we operate a system designed to manage conflict minerals information by material unit in order to control the use of such materials at the earliest stages of product development. To this end, we monitor the use of conflict minerals and their origins, and push for all suppliers to switch to a certified smelter. We actually make it a rule not to sign contracts with suppliers that have failed to submit conflict minerals information or have used minerals purchased from uncertified smelters. This process was systemized to reinforce our activities in conflict-free business initiatives.

Management of Minerals at Issue

On top of conflict minerals matters, issues regarding human rights violations and environmental degradation caused by the mining of minerals, such as tin on Bangka Island, Indonesia and cobalt in the Democratic Republic of the Congo, are raising concerns among stakeholders. Friends of the Earth (FoE) is an international non-governmental organization (NGO) which alerted that the mining of tin on Bangka Island, Indonesia is destroying key elements of the local marine eco-system, such as coral islands, and is causing damage to the agriculture and fishery industries in surrounding regions. FoE has urged companies to join forces to address this issue. Therefore, since 2013, we have participated in the Indonesian Tin Working Group (TWG), a working group established to address the issue of tin mining on Bangka Island together with the EICC, likeminded technology companies, and coordinated by the Dutch Sustainable Trade Initiative called IDH. With its renewed support, Samsung is working closely with IDH, the Electronic Industry Citizenship Coalition (EICC) and various other stakeholders, including the local Indonesian government, smelters, companies, and NGOs such as Friends of the Earth, to find a reasonable solution to these concerns. At the end of 2015, Samsung decided to support the TWG Incentives Guide and is looking at pilot projects which could be launched in 2016. In addition, child labor has long been highlighted as a problem at cobalt mines in the Democratic Republic of the Congo and has recently come to garner much attention. Given the nature of this issue, however, joint efforts among governments, NGOs and corporations are urgently needed. Samsung is well aware of the corporate world's responsibilities and roles with problems caused by the mining of minerals. As a result, we have pledged to redouble our efforts and find ways to resolve these challenges by listening to greater numbers of stakeholders and actively participating in joint initiatives.

Customers and Product Services

Based on our vision of "Perfection in Quality beyond Your Imagination," Samsung is committed to providing products and services with the utmost priority on employee product control.

Product Quality Control To secure the highest product quality, Samsung conducts a CS Certification System. We listen to the voice of customers and reflect that from the stage of new product development. We come up with the assessment criteria for CS Certification through a cooperation among quality-related divisions, and product quality is assessed at each stage of development. We also verify whether all products meet customer needs through the executive council and only provide customers with premium quality products. In addition, we reinforce product durability by developing a reliability test that considers a wide range of user environments. Once new products are brough to market, we analyze users' inconveniences and repair information to solve any potential problems, and then apply these results to new models.

Safety Assurance To guarantee that customers are provided with safe products, Samsung evaluates all factors that might harm the safety of products, such as electric shock, fire, and injury due to any abnormal operating status when taking the real user environment into account. To this end, Samsung operates a standards laboratory that is certified by 29 global certification authorities.

Communication with Customers

Samsung runs customer contact centers and a dedicated website to deal with customer requirements. By dealing with voice of customers on product purchases, repairs, and instructions, we can effectively resolve all customer inconveniences. Our globally integrated VoC management system allows for the analysis of various customer needs, shares them with employees across the company, and utilizes them for product and service improvement.

Customer Satisfaction Survey

Samsung carries out a customer satisfaction survey on a regular basis to discover areas for improvement and does its utmost to provide customer-oriented services. The survey results are then shared with relevant divisions, and items that scored a low level of satisfaction or turned out to be less competitive are improved in a consistent manner by establishing improvement plans. As a result of this initiative, the level of satisfaction with our services has continuously improved since the survey was first introduced in 1994.

Customer Satisfaction Survey Results in 2015

Samsung has received excellent evaluations from customers because of the activities it has run to improve the quality of its products and services, ranking first in customer satisfaction surveys conducted by external organizations in different regions.

Customer Satisfaction Survey Results in 2015

Korea		
Korea Management Association Con- sulting (KMAC)	Korean Standards Association (KSA)	Korea Productivity Center (KPC)
1st in the Korean Customer Satisfaction Index (KCSI) ³⁾	1st in the Korean Standard Quality Excellence Index (KS-QEI) ⁴⁾	1st in the National Customer Satisfaction Index (NCSI) ³⁾
TVs, refrigerators, washing machines, air conditioners, kimchi refrigerators, smart- phones, tablets, PCs, multipliers	TVs, refrigerators, washer dryer combos, air conditioners, kimchi refrigerators, smartphones, tablets, PCs, laser printers	TVs, kimchi refrigerators, air conditioners, smartphones, tablets, PCs
1st in the Korean Service Quality Index (KSQI) ²⁾	1st in the Korean Standard Service Quality Index (KS-SQI) ⁵⁾	
	Home appliances, PCs, smartphone services	
Call center, Indoor & Outdoor Service (cellphones, home appliances)	1st in the Korean Standard Contact Service Quality Index (KS-CQI)®	1) Korean Customer Satisfaction Index 2) Korean Service Quality Index 3) National Customer Satisfaction Index
	Call center	 Korean Standard Quality Excellence Index Korean Standard Service Quality Index Korean Standard Contact Service Quality Index

Overseas



Country	Organizer	Result	Target Products/Services
United States	Consumer Report magazine	1st in customer satisfaction	20 products
U.K.	Which magazine	1st in customer satisfaction	10 products
Germany	TEST magazine	1st in customer satisfaction	10 products
	Finanzen	1st in service evaluation	Service evaluation on smartphone
			manufacturers
France	Que Choisir magazine	1st in customer satisfaction	7 products
Poland	Three organizations, including Jakosci	Grand prize at the Customer Satisfaction	Electronics industry category
	Obslugi	Awards	
Columbia	Latin America Call Center Association	Bronze Medal at the Call Center Awards	Only one recipient among all electronics
			manufacturers

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SOCIETY

Customer support website

http://www.samsung.com/ sec/support

Customer Service Channels

Samsung operates approximately 20,000 service centers and 61 contact centers (1 in Korea, 60 overseas) across the globe to provide rapid and convenient after-sales service. The service centers are operated by retail stores and professional service agencies according to the market characteristics of each country. The number of service centers is on a constant rise in regions where Samsung product sales are increasing, such as Latin America, Africa, and the Middle East. At our contact centers, 10,000 qualified consultants answer service requests and product inquiries. The websites for each country also provide a customer support menu, including a customer self-examination guidance and product instructions. In addition, Samsung is expanding online services to minimize its customers' inconvenience in personally visiting service centers. Customer contact centers utilize a variety of customer support services depending on the needs of each country, such as a tele-consulting service that solves problems by accessing a customer's product through a network, and live chats and e-mail consulting provided on our websites.

Customer Service Channels

Galaxy Consultants With the increase of smartphone sales, Samsung has expanded services at retail stores—on top of existing service centers—since 2014 to provide simple repair services, such as software upgrades, on the spot. To this end, we introduced the Galaxy Consultants (smartphone-specific consultants) program, which has received positive consumer feedback since its inception. In 2015, these people work at 158 stores under Samsung's direct management in Korea, and with growing success in the Korean market, we are expanding the program into many other countries, including China. Also, in the case of overseas stores without consultants, we provide simple repair services by general sales staff at the stores.

Strategic Cities for Service Innovation In addition, Samsung has improved its level of services by investing in related systems, human resources, and infrastructure in major cities around the world, with the goal of providing repair services within one hour upon request for smartphones and within 24 hours for large home appliances such as TVs, refrigerators, and washing machines. This service was introduced in 27 cities in 2014, and 106 cities in 2015, with plans to expand the program to 215 cities in 2016.

Product Service Standards

To ensure the quality of customer services, Samsung has established operational standards for service centers and contact centers, and also established a guide for the overall service process. By sharing the guide with sales subsidiaries across the world through our global business process standardization system, we will provide standardized services to people everywhere. Based on this global guide, each regional subsidiary localizes the manual according to their market characteristics, provides employees with training, and shares the manual through the internal knowledge portal site. In 2015, Samsung produced and distributed an in-store service guide in order to expand the service function of retail stores.



Service Standard Type	Description					
Service Standard Operation	Operating manual by service process					
Manual	Contact center, technology consultations, service requests, technology training, repairs, result reports, customer					
	satisfaction calls, expense settlements, and claim management					
In-store Service Guide	Guide for adding in-store service functions					
	Definition of in-store services, service functions, layout, etc.					
Technical Guide	Technology guide for product repair					

Status of Galaxy Consultants



Status of Strategic Cities



Service Quality Control

On-site Inspection

Since 2014, Samsung has conducted on-site service quality inspections on a regular basis to verify the application of service standards at every worksite. We have also established improvement goals according to the size of the service centers, conducted regular evaluations, and provided incentives such as an increase of commission or award for centers with high performance results.



Quality Control Global CS Center Business Process Standardization System Subsidiaries & Branches E Mowledge Portal Service Centers

Service Training

For the consolidation of company-wide service standards, Samsung provides training programs for service center managers and service engineers on new product repair technology and customer treatment. Remote video training or group training (according to the product features and the characteristics of each country) allows employees to check video clips and technology data through the in-house system at any time. Every December, Samsung Electronics' HQ organizes a CS Strategy Workshop to help personnel in each sales corporation, while going over the results of the year and establishing service strategies for the following year. In addition, a series of workshops are frequently held by region—such as North America, China, and Europe—to reinforce service differentiation strategies for each region.



Training for Service Center
 Workshop for CS service strategies

Distribution Process of Standard Guide for Service

5 CORPORATE CITIZENSHIP

Material issues

1 Developing Local Communities 2 Stakeholder Engagement

OUR VISION

As a member of the global community, Samsung is determined to contribute to society's well-being and create shared value through our technology and innovation.

OUR COMMITMENT

Samsung strives to meet and exceed its social responsibility for sustainable social development and thus contribute to creating a better life for people. In order to solve various social issues related to education, medical care, employment, and the environment, we actively pursue social contribution activities. For example, we share with all of society cutting-edge technologies, which are our core competency, and promote the donation of employee talent.

IN THIS REPORT

Samsung continuously operates locally customized training programs for the benefit of local communities, and provides various types of support so that local residents can cultivate the competencies they need to create a better future through the company's unique technologies and professional workforce. We are especially committed to improving the quality of life for local residents as we pursue sustainable development that minimizes our environmental impact, while also contributing to local communities' economic and social development. In this chapter, we introduce cases of different countries where we work hard to implement corporate citizenship in various areas, including education, local communities, and medical care.

TRENDS & CHALLENGES

Changes in Awareness about Social Contribution There is an increasing expectation for sustainable social contribution programs to solve both social problems and create value for corporations. Companies are expected to directly respond to social problems through creating shared value (CSV) and connecting with UN SDGs.

Measurement and Assessment of Results Leading global companies place an emphasis on impact when analyzing results of their social contribution activities in addition to reporting the numerical results (cost, number of beneficiaries, hours of service).

WHAT WE ARE DOING

A	
H	HZ.

Educational Support

Providing Samsung's digital devices and training to reinforce the IT competencies of teenagers in many countries, including Germany, Thailand and Russia

Local Community Development

Laying the foundation for economic independence by way of establishing infrastructure, relieving unemployment, and fostering technical manpower through integrated local services for disadvantaged people and impoverished areas



Medical Support

Conducting medical support utilizing the company's capabilities, such as providing remote medical services using mobile devices, installing ultrasonic equipment, and providing educational equipment and materials



Employee Engagement

Having Samsung's employees around the world directly plan and carry out various volunteering programs

Other

 Implementing locally customized corporate citizenship activities in each country we operate in, while also providing volunteer services and support by establishing a disaster response process in Latin America, where disasters frequently occur

Link to SDGs



[Goal 1] End poverty in all its forms everywhere

1.a Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions

[Goal 4] Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations

[Goal 17] Strengthen the means of implementation and revitalize the global partnership for sustainable development

17.7 Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed

17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology





SOCIETY

Samsung knows that our role in society moves beyond our products, so we work hard to meet its social responsibility in promoting sustainable social development and bettering the lives of people everywhere. By analyzing social issues in each region more deeply and closely cooperating with local stakeholders such as the government and academia, the company is actively participating in efforts to solve important social problems. To this end, we implementCorporate Citizenship programs to address social issues in a wide range of areas, including education, local community development, medical care, and the environment, in line with UN Sustainable Development Goals (SDGs). Furthermore, we operate programs unique to Samsung such as employee volunteer programs and mentoring programs to bring about positive changes in local communities, making full use of employee talent, all of whom voluntarily participate in these initiatives. Based on the belief that our products and technology can be used to ensure a greater future for our neighbors, Samsung shares the company's unique value for the improvement of society. In fact, we run various customized programs for local communities that focus on five major corporate citizenship programs—Samsung Smart School, Solve for Tomorrow, Samsung Tech Institute, Nanum Village, and Care Drive—at our global worksites so that we can contribute to offering fundamental solutions to local community problems instead of merely making cash donations or providing temporary help.





Corporate Citizenship Expenses (Unit:KRW million)





Social Contribution Expenses

(Unit: KRW million)

536,338 523,395 523,109

Expenses for 5 Key Areas of International Exchanges





Samsung Smart School

In order to bridge the IT accessibility gap, Samsung operates the Samsung Smart School program, fostering creative talents by providing interactive education that draws on digital devices. The Smart School supports educational efforts so that teachers and students have the ability to conduct classes and communicate with each other in real-time no matter where they are. This program is not simply about supporting them with electronic devices, but helping educationally marginalized students gain equal opportunities for education by accessing a high-quality IT environment. Samsung reinforces coding training to strengthen students' software competencies in cooperation with the government and educational organizations and develops a variety of content to improve the quality of education and provide more effective education methods for teachers and students to share together. In 2015, the company supported 224,753 students. Currently, we are working on how to continuously increase the number of beneficiary students so that a larger number of them can improve their knowledge about information technology through IT training, while also being monitored in a way that helps them find employment.





SOCIETY

(66)

I can remember walking past a classroom and seeing the children completely and utterly focused, heads down, completely immersed in their learning and it was such a marked difference from how I'd seen that class learning the year before.

- Jacqueline Willer, Head Teacher of Henwick Primary School (London, UK)

"

I feel there's a clear difference before and after the adoption of the Samsung Smart School program. Students voluntarily searchfor relevant material for their classes and share it with one another using the Galaxy Note. Kids now see these classes not asstudying but as playing.

- Kim Seung-joon, Teacher,Baekhak Elementary School, Yeoncheon, Gyeonggi-do

Samsung Smart Schools in Germany

(2013-2015, cumulative)

Number of Smart Schools



Number of Students



Number of Teachers





* A software training program in Korea (Junior Software Academy) not included - See P. 120

Digital Classroom Project in Germany

Across Germany, Samsung conducts projects like the initiative Rethinking Digital Education (to support digital public education) and the Code Week Award (programming training) to encourage children and teenagers to embrace the spirit of a digital engineer and to inspire them to creatively explore the future by themselves. To reform less developed digital education, Samsung Electronics GmbH draws the attention of the government, educational organizations, and local communities to IT education because the company regards digital competitiveness as an essential capability in today's world. Through the Digital Classroom Project, we support students and teachers so they can experience a digitalized educational environment and develop innovative IT education methods to exchange with one another. Between 2013 and 2015, we carried out a total of 187 Digital Classroom projects in which 4,675 students and 561 teachers participated. We plan on expanding these projects to 293 schools, with 7,334 students and 806 teachers taking part in them, by the end of 2016. To prepare young professionals for the changing demands of job profiles driven by digital transformation processes, Samsung is also a partner of the initiative WorldSkills Germany, helping make young talents excel in their field of work.



Thailand's Samsung Smart Learning Center

Centered on low-income areas, Samsung established Smart Schools at 41 elementary schools in Thailand under the name Samsung Smart Learning Center. In 2016, we will establish six more Smart Learning Centers and will open a total of 60 Smart Learning Centers by 2018, improving the overall quality of IT education in Thailand. Up until now, over 80,000 Thai

students have participated in the Samsung Smart Learning Center (producing over 60,000 graduates) and joined the educational process for solving problems to do with local society using digital devices. As such, these graduates have all benefited from a variety of digital training. From 2016 onwards, we will be giving out Samsung Discovery Kits that include educational content designed to help students find the job they want, distributing them to over 600 schools across Thailand. We expect roughly 60,000 students to receive some form of assistance in choosing their career through these kits.

Samsung Smart School for Child Patients in Russia

In Russia, we opened a Samsung Smart School with a full curriculum covering all school subjects inside a hospital for longterm child patients and their teachers at the Dmitriy Rogachev Federal Center for Pediatric Hematology, Oncology and Immunology. The Russian Ministry of Education and Science, along with renowned professors including Gazprom Dobycha Yamburg from the Russian Academy of Sciences, jointly develops educational content on an ongoing basis, while Samsung provides electronic devices such as electronic boards and tablets. Patients who complete courses at the Samsung Smart School become qualified to write Russia's Unified State Exam. They also receive the same graduate certificate as they would from an ordinary school. For example, one girl named Anna, a cancer patient who was hospitalized in grade 11, was later able to enter the Department of Sports and Tourist Industry Management at the Russian Presidential Academy of National Economy and Public Administration in 2016 by continuing her studies at the Samsung Smart School. In 2015, Samsung Electronics Rus Kaluga (SERK) supported the project by providing roughly USD 120,000 in funding to establish Samsung Smart Schools at three hospitals, one of which is now used as a cutting-edge digital classroom for training teachers at hospital Smart Schools. At present, we are running 30 Samsung Smart Schools across Russia.



Smart Schools in association with an NGO in Latin America

In Latin America and the Caribbean, we have provided digital education for 733 teachers and 29,000 students. We have established 38 Smart Schools since 2013 in association with the Ministry of Education in 13 countries and an education-related NGO, Glasswing International. Countries where we have a presence include Panama, Costa Rica, Guatemala, Ecuador, the Dominican Republic, El Salvador, and Venezuela.

Samsung Electronics Latin America (SELA) has a budget put aside for digital education with regular curriculums based on close cooperation with each country's Ministry of Education. It also takes part in every part of the process, from selecting target schools to training teachers and developing curriculum content. In order to prepare educational systems and firmly establish Samsung Smart Schools, we continuously train teachers through a teacher training curriculum that consists of 19 courses. In addition, we have full-time coaches to support smart learning for both teachers and students. At the same time, we train school teachers and local residents so that they can volunteer at Smart Schools, making the Smart School system more smoothly entrenched in each country where it operates.







Number of Students



Number of Teachers



Participating Students in Software Training 14 327 8,838 1 261 2013 2014 2015 2015 Software Creation Contest Total number of teams Total number of participants 2,940

JUNOR SOFTWARE ACADEMY

Junior Software Academy

Since July 2013, Samsung has been running a Junior Software Academy in Korea with the purpose of expanding the overall software base and nurturing creative talents, something no other Korean company has done before. The goal of the academy is to support students not yet in college and to offer a variety of software training after school, helping students grow into future leaders that have the ability to think logically and solve problems in a creative

way. Samsung provided software training for 1,261 students in 2013, 8,838 students in 2014, and 14,327 students in 2015 through the Junior Software Academy. Furthermore, we develop our own educational content and have provided software training to over 1,000 teachers since 2013 because we recognize the importance of offering quality education for teachers so that they can inspire a love of education in their own students. In fact, our efforts have played a critical role in the Korean government's adopting software as part of a regular school curriculum.

2015 Software Education in Elementary, Middle, and High Schools in Korea



Along with this, we hold an annual Junior Software Creation Contest to help teenagers across the country become more interested in software and in crease their skills in the field. In 2015, a total of 2,940 people in 923 teams participated in the contest under the theme "Making Software for Family." The contest became a venue for thousands of teens to increase their interest in software and to develop their computer-related abilities.

"Before I took part in the Junior Software Academy, I didn't have any particular dream for the future. Now, however, I dream of being a brilliant programmer who will bring great honor to our country. I truly appreciate the Junior Software Academy, as it helped me discover two treasures: my dream of becoming a programmer and my ability to create great programs that can change the world. In the future, I hope to create some really fantastic programs to help people."

- RohYoo-bin (Yuseok Elementary School, Seoul),a participant in the 2015 Junior Software Academy

"The Junior Software Academy is not just for learning how to work with software, but a platform where students can display their creativity using software through cooperative learning. Two of our school's fifth graders who joined the academy passed the fourth screening and were selected as "brilliant children in fusion information," as sponsored by a local educational office. The academy provides programs that are highly popular not only with students, but also with parents."

- A teacher who participated in the 2015 Junior Software Academy (Yanggang Elementary School, Seoul)

As a global IT company, Samsung has great respect for nurturing talented people in the fields of science, engineering, technology, and mathematics (STEM). Accordingly, we sponsor a program called 'Solve for Tomorrow' to deliberate on social issues alongside students and explore/execute ideas to contribute to local communities through creative problem solving that draws on STEM subjects. After every student hands in a proposal about a social problem, issue or development of the local environment, some of them are singled out as excellent ideas, with further opportunities and various support then provided to execute these ideas. This program has become a leading example of how to support students' entrepreneurial spirit, while also showing how technology contributes to local communities and the environment. Furthermore, this program encourages students to directly solve social problems as they chase their dreams.

U.S.

In the U.S., Samsung has held a national science competition from elementary to high school student sunder the theme of "Problem Solv-

ing Methods Using STEM Subjects" since 2011. Each year, five top school teams are selected, with an awards ceremony later held in Washington D.C. in which STEM Champion Awards are presented by a Congressperson. At the ceremony, senators, governors, and White House educational advisors congratulate the winners and a round table discussion is held on Samsung's social contribution activities as they relate to STEM. One of the 2015 award recipients wasa team from Mississippi's Nicholson Elementary School, which developed a movable robot that can detect obstructions under local drains in order to prepare for floods in local communities. Another winner was a team from Northwest Pennsylvania Collegiate Academy team. They developed a "vertical vegetable garden" which can be used in urban centers that lack the space to grow plants.





In China, the Solve for Tomorrow program has been conducted in the form of an idea contest for social change through technology since 2013.

China

Over the last three years, approximately 75,000 students have participated in it. While the program focuses on well-known people's speeches and participants' experience with technology products at prominent universities across the country, the participation rate of students and their interest in the program is gradually increasing. Liang Fengy an from Sichuan University, one of the contest finalists in 2014, acquired a patent for eco-friendly liquid development technology. Later, he started his career as a scientist when he entered the Chinese University of Hong Kong with a graduate school scholarship.



Solve For Tomorrow





Samsung Tomorrow Solution Contest

The Samsung Tomorrow Solution Contest is an annual event held in Korea. Anyone can participate and propose their own creative ideas to address social

issues and relieve inconveniences in our everyday lives. They can then take the initiative to implement these same ideas. Samsung employees and expert mentors provide support for contest participants so that they can apply leading solutions to social problems. In 2015, the 3rd Samsung Tomorrow Solution Contest was held, with 5,823 people participating in it as part of 1,235 teams.

Mobile App to Solve Child Abuse

In Korea, child abuse cases have increased more than tenfold over the last five years and are often not reported at all. A mobile app called "I Wish," which was designed for the easy reporting of child abuse, won the Grand Prize in the idea category at the 2015 Samsung Tomorrow Solution Contest.

We are developing more advanced solutions to help people recognize child abuse when witnessing suspected child abuse situations and to facilitate easy and precise reporting.

1		2	3 4		5
	Abuse suspected	Report received	On-site investigation	Follow-up measures	Child's safety ensured

"Before winning the Tomorrow Solution Contest, there were a plethora of obstacles in getting this app out there, but we were able to do so by cooperating with the National Police Agency and child protection services through the contest. Our aim was to make a practical contribution to solving child abuse problems with this app." - 'Ist' Team, Grand Prize winner -

Bus Ride Solution for the Visually Impaired

A bus information app to connect visually impaired people with the proper bus won the Grand Prize in the idea category at the Tomorrow Solution Contest in 2014. The application allows bus drivers to better assist these people. This solution lets visually impaired people input the bus number they want to take. The information is then transmitted to a bus via an electronic traffic information system so that bus drivers learn of the situation before hand and can help the passenger get on the bus at their stop. Visually impaired people can use the TalkBack function (which reads aloud text from a screen) on a smartphone. Since winning the Grand Prize in 2014, problems with the app have been fixed and the new solution will be used for all bus routes across Seoul in 2016 before being expanded to other regions. Samsung is continuously working hard to uncover great ideas for a better world through the Samsung Tomorrow Solution Contest and then help turn these thoughts into reality.



2015 Samsung Tomorrow Solution Contest

Total number of teams



Total number of participants



China

Samsung Tech Institute

Samsung runs all of its Samsung Tech Institutes in conjunction with universities and local governments in order to foster a young and talented workforce. At the same time, it is meant to spur job creation through IT job training, while also laying the foundation for the economic growth of each country it operates in by hiring local citizens. The program cultivates excellent human resources with customized operations to the specific needs of each country in which it operates. For example, it is designed to nurture software experts in advanced countries and offer training for customer service engineers in developing countries. Up until now, we have been operating a total of 188 programs in Africa, the Middle East, Southeast Asia, Latin America, and Europe.

	Global San	nsung Tech Institutes (2013-2015 c	umulative)	
		188 programs	s in total		
Europe	65	Southeast Asia	20	Africa	8
North America	10	Middle East	12	Japan	1
South America	39	CIS	3		

France

8

Southwest Asia

In 2014, Samsung opened a two year tech institute in France called Samsung Campus to train web developers. This institute aims to support the employment of young people without a high school diploma so that they will not give up on their dreams. The training course represents over 1,600 hours of curriculum in web and mobile app development and is operated by ZUP de CO (an NGO promoting equal opportunity for disadvantaged young people) and EPITECH (a leading IT educational institute). Samsung Campus will produce its first graduates in the second half of 2016 and also see the third class of 50 students join the program at around the same time as Samsung continues to support students in their pursuit of personal dreams. In 2015, Samsung Campus took great pride in winning the LSA Award from LSA, the weekly trade magazine that is a leader in the distribution industry.





22

Since China won its first gold medal in the WorldSkills Competition held in Brazil in 2015, people's interest in technology and job training has

China

been quickly increasing. In light of this, Samsung established a Samsung Tech Institute in the world's most populous country to foster a young and innovative workforce in order to help resolve youth unemployment and improve awareness about technical jobs. We have been running eight Samsung Tech Institutes since 2013, offering service skill training for over 800 young people in association with the Samsung Electronics (Beijing) Service Company (SBSC). Of the 300 people who completed the course, 50 graduates are now working at SBSC as service engineers.



Expenses in 2015 KRW 18,598 million Cumulative number of beneficiaries 39,659

"

Video game development was my long-time dream. To realize this dream, I worked at an animation center for several years, but I had no hesitation to start learning from the basics of the programming language Scratch for my goal. Naturally, there were moments that it was so difficult for me to give up the course. However, while learning from Samsung Campus, I greatly improved my ability in game development and problem-solving, and I can now work with any web development language. I feel that I can realize my dream to work in the field of video games thanks to Samsung Campus.

- Christoph Aupet, France

"

Even though I participated in WorldSkills on behalf of Shaanxi province, I wasn't able to get a very good job before finally securing employment at Samsung Electronics Shanghai Service Center through the Samsung Tech Institute. While learning about my current job for half a year, I gained more confidence in what I was doing from my boss and from customer compliments. Eventually, I started dreaming of opening my own product repair center thanks to the Samsung Tech Institute.

- Ren Kang, China



Samsung Nanum Village

Nanum ("sharing") refers to the fact that we share both joy and pain with others. In this spirit, Samsung works hard to ensure the happiness of local communities by deliberating on various social issues in underprivileged regions and finding convenient solutions to hard problems. Samsung Nanum Village is a program designed to address the causes of poverty and lay the foundation for economic independence by providing the comprehensive infrastructure needed for basic living in low-income and underprivileged areas. Established in Vietnam and India, this program aims to improve social infrastructure by building Digital Villages equipped with medical facilities, schools, and a local community service center in each region. Nanum Village does not focus its attention on charities or donations, but on contributions to practically improve the lives and economic independence of local residents. As a result, the effectiveness of this program is highly regarded by global institutions and the media.



<u>Samsung Digital Village</u>

Samsung has been running Samsung Digital Villages in underprivileged areas that lack electricity in the Republic of South Africa, Nigeria, and Ghana since October 2013. Our goal is to improve the quality of education, medical care, and life overall in local communities by providing solar-powered Internet schools, mobile hospitals, power generators, and LED lights which draw power from solar-power facilities. Furthermore, we support small businesses in surrounding areas in an effort to establish a base for local residents' economic independence. thereby contributing to the creation of comprehensive shared value. As of 2015, we had built 7 Samsung Digital Villages. In the near future, we will be adding four more digital villages in Tanzania, Ethiopia, Kenya, and Zimbabwe. As a result of Samsung's operation of these digital villages, Samsung Electronics Africa was ranked 4th among Africa's Most Innovative Companies in February 2016, according to the American business magazine Fast Company.



Latin America

Gran Chaco Nanum Village, Argentina

In 2013, Samsung founded Nanum Village in-Gran Chaco, the poorest area of Northwest Argentina, and has continued to sponsor it ever since then. Gran Chaco is home to native peoples such as the Wichi and Qom and is an isolated area that lacks the most basic infrastructure, including electricity, Internet, and drinking water. In order to improve the quality of people's lives in Gran Chaco, Samsung established a locally optimized infrastructure project in cooperation with the Argentine government and local NGOs (such as Avina, ACDI, Fundacion Gran Chaco, Habitat for Humanity, Fundacion Mundo Sano, and Fundacion Educando). We have been improving the IT environment so that locals can enjoy smooth social exchanges with other areas through the use of digital devices. We have also been providing fundamental Internet education and providing comprehensive local services that include support for economic independence. In 2015, Gran Chaco Nanum Village won second prize in the innovative organization category from the British-Argentina Chamber of Commerce.



Samsung Care Drive

In poverty-stricken regions around the world, as well as certain developing countries in Africa and Asia with less developed medical services, many mothers do not receive any help from doctors when giving birth, which often results in the death of babies. In a bid to help solve this serious health problem, Samsung began the Samsung Care Drive in 2013 to lower the mortality rate of pregnant women and the fetal mortality rate with medical services in local communities in need of basic medical facilities. The Samsung Care Drive is carried out in two ways. First, through Sono School, we provide cutting-edge Samsung equipment and facilities for young doctors in medically vulnerable regions to foster diagnostic medical experts. Second, we support the improvement of local residents' health and quality of life by offering basic health check-up services through Mobile Healthcare Centers—vehicles equipped with facilities for simple check-ups (ophthalmic, dental, and blood)—and treatments for external injuries. In addition, the vehicles are designed to make services available even in remote areas by supplying power through solar-powered panels that have been installed on these vehicles.



U.S Southeast Asia

Support for Mobile Health Centers in Cooperation with Children's Medical Foundation

In association with the Children's Medical Foundation, which consists of doctors, dentists, and volunteers in the U.S., Samsung has offered mobile hospital services for poor children in urban areas since 2014. We also offer remote medical services using mobile devices at the Samsung Innovation Center, which is located inside a hospital bus, in collaboration with professors at the Columbia University Medical Center. Samsung supports the Children's Medical Foundation with 40 Mobile Health Buses that have helped 20,000 people to date, including children, teenagers, and homeless people without medical insurance.





Establishment of the Sono School for Mater-

There are still many parts of Southeast Asia

where expectant mothers and fetuses do not re-

ceive the proper medical assistance they require

because of a lack of medical professionals and/

or equipment. Accordingly, Samsung established

a total of seven Sono Schools in five regions of

Vietnam, Thailand, Indonesia, the Philippines,

and Malaysia to foster medical professionals

who could promote the health of local residents.

In those regions, we have provided ultrasonic

equipment, as well as educational apparatuses

and materials, and given medical personnel free

education on gynecology, fetuses, and cardiol-

ogy. Additionally, we have prepared a curriculum for our own medical education, which today helps

contribute to fostering local medical staff.

nal and Fetal Health

Samsung Care Drive in the U.S

Mobile Health Bus (units)



Medical services (persons)

Samsung Care Drive in Southeast Asia

(places)

Establishment of the Sono School

Employee Engagement

Samsung conducts a variety of activities for different regions in order to address social problems and bring about a more harmonious society through employees' volunteerism both in Korea and abroad. In particular, we run an employee overseas volunteer program every year through which selected volunteers visit alienated or poor areas overseas for a week to carry out a wide range of projects, such as improving the lives of local children, strengthening the educational environment, and providing IT lectures. Also, we conduct projects to solve local social problems depending on certain regional issues or situations.

Samsung Employee Overseas Volunteer Program

Through Samsung Employee Volunteers, which started with 31 members volunteering in one country in 2010, a total of 1,121 employees have now volunteered in 28 countries on a cumulative basis. They have installed PCs and offered science classes, conducted medical relief activities, and built IT and educational infrastructure to improve local residents' educational environment. They have also conducted various projects to resolve locally customized problems. In 2015, Samsung employees performed volunteering activities in six countries: the Democratic Republic of Congo, Zambia, Uzbekistan, Azerbaijan, Mexico, and Vietnam.

Samsung Employee Volunteers' Activities



Samsung Employee Overseas Volunteer Program

(Cumulative)

Number of participants



Dispatched to



Uzbekistan In September 2015, the Samsung Employee Volunteers conducted training programs on android operating systems, drones, multimedia software, and 3D printing for students in this developing country who are working hard to learn programming skills despite the huge educational challenges at Tashkent University of Information Technologies, a prominent postsecondary school located in the capital city of Uzbekistan. Students trained by the Samsung Employee Volunteers won awards in the android O/S and web programming categories at software competitions held in Uzbekistan later on. In addition, they helped develop a number of useful programs, such as a traffic safety rules app, 3D image games, and a remote medical care app in order to improve upon the inconveniences they experience at school or in everyday life. Through various activities to support young developers, Samsung provided an opportunity to contribute to the development of information and communications technology in Uzbekistan.

Vietnam Thai Nguyen is a typical Vietnamese farming village. For children with no quality playing facilities and severe motorbike smoke in the neighborhood, Samsung Employee Volunteers offered an eco-friendly form of transportation called "Dalve bicycles," which features lights when the person pedals. Thus, children now help the environment while riding Dalve bicycles.

DR Congo In DR Congo, where many people lack electricity, Samsung developed an eco-friendly power-generating LED lantern to help students and to secure safety measures against accidents during nighttime walks. Samsung used solar energy for common use lanterns to make them rechargeable just by shaking the mand without batteries.

Azerbaijan Air pollution in Azerbaijan is becoming more serious due to rapid industrialization, which includes the oil industry and energy development. Seeing this, Samsung Employee Volunteers produced simple air purifiers using cheap materials. They made air purifiers using easy-to-find materials such as computer cooling fans and automotive air filters, and then spread production methods to NGOs and local residents.

Zambia Kabwe, which is 100 km away from the capital of Zambia, is a place where people have a lot of difficulty living, as it is one of the world's heavily polluted places. Samsung Employee Volunteers presented hope for local residents by building houses in collaboration with the local government and Habitat for Humanity. In addition, our volunteers distributed lanterns using waste cellphones in consideration of the fact that the region has a high mortality rate due to nighttime traffic accidents.



Students at Tashkent University of Information Technologies, Uzbekistan



An eco-friendly means of transportation, Dalve bicycles were given to Vietnamese children



"Shake Delight" lighted the darkness in DR Congo



Clean air for Azerbaijan! A simple air purifier.



"Sunlight" for the safety of Zambia



While I was looking for a more convenient way to organize individual study schedules, I ended up establishing a computer program for the entire university and created a learning management systemto check assignments. In the past, ideas just floated around my head, but while studying under Samsung lecturers I gained the confidence I needed to actually devise my own computer systems.

- Samadov , the No. 1 ranked student in the web programming category at an IT competition

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SOCIETY

Employee Volunteering in Korea in 2015



Total number of teams (teams)

2,263

Volunteering time per person (hours)



"

Although Samsung employees and our students spent a short time together, their sincerity towards our students will be remembered for a long time. Thanks to the cutting-edge TVs and tablets Samsung donated, we were able to deliver vivid stories from around the world to our students.

- Ashin Phin Nyaw BhanTha, Principal of Pann Pyo Let Monastic Education School

Regional Volunteering

Korea In Korea, Samsung volunteers work hard to vitalize local economies through numerous activities, such as helping farming villages and holding direct dealing markets for agricultural and marine products. They also support the socially disadvantaged and senior citizens to improve their quality of lives by providing meals and coal briquettes. Furthermore, our volunteers help teenagers from lower income families to grow as healthy members of society by supporting them with the necessary programs and facilities for independence, as well as teenagers who can no longer live at their community home. In addition, Samsung opened the sixth House for Hope in 2015 to improve the conditions of local community child centers. At the same time, our employees have contin-



Support for hearing impaired children's cochlear implantations and rehabilitation

uously supported cochlear implantations and rehabilitation for hearing impaired children with financial difficulties since 2006. Since June 2015, they have also supported medical expenses for children and youth under the age of 24 who are suffering from cancer, heart disease, or a rare disorder using special donations to commemorate the 20th anniversary of Samsung's New Management.

Myanmar Samsung Electronics' Southeast Asia Headquarters operates the Love and Care volunteer program, which employees from eight subsidiaries in Southeast Asia take part in of their own volition. Love and Care is a global volunteering festival that was first organized by the Samsung Group in October 2015. That same year, 54 employees from Samsung Electronics' Southeast Asia Headquarters and Samsung Electronics Australia provided IT training, as well as food and stationery items, for 400 elementary school students at PannPyo Let Monastic Education School in Yangon, Myanmar. In 2016, the 2nd Love and Care program will be carried out in Cambodia in the first week of October. Moving forward, we will continue carrying out this employee volunteering activity throughout different parts of Asia.



India The Samsung R&D Institute India, Bangalore (SRI-B) has a volunteer group named SEVA, which means "altruistic service beyond culture, religion, or region in Sanskrit". Launched in 2005, SEVA has been involved in a series of continuous volunteering activities for the past 10 years under the goal of "providing vision for local communities and making positive contributions to the environment." SEVA was organized through the voluntary participation of the institute's employees and currently boasts about 150 members who provide educational support for students at schools in surrounding areas. In 2012, em-



ployees began donating their talent by mentoring 5,000 students at 75 schools under the college level. Since then, employees have continuously expanded their efforts and now teach English and offer computer training as well. In 2015, they even provided software training for college students. Over the last decade, SEVA members have provided mentoring and given lectures on English and computers for 12,000 students at almost 200 schools. Furthermore, SEVA members are dispatched as employee lecturers to the Samsung Digital Academy (Samsung Tech Institute in India), where the TIZEN, Samsung's own smartphone O/S, is being developed. These same people also regularly teach app development methods to 85 local lecturers. In 2015, the program was conducted four times (8 hours each). In addition, they visit a vocational school operated by the Ministry of Micro, Small and Medium Business Enterprises (MSME) that collaborates with the Samsung Digital Academy on a regular basis to help students gain employment skills and better understand technical work, ultimately helping cultivate greater employment capability.

Brazil Samsung Electronics' Latin America Headquarters (LAHQ) and Samsung Electronica Da Amazonia (SEDA-S) have organized a host of volunteering activities that employees take part in every year to raise their pride as Samsung employees. LAHQ and SEDA-S have nine different volunteer programs in place, including mentoring for underprivileged Brazilian teens, support for visually impaired people to enjoy artistic performances, and education on Korean culture. Through these initiatives, and by distributing annual volunteering calendars to all staff members in advance, we are increasing the rate of employee volunteerism.



In fact, employee participation has been on the rise every year, and in 2015 it increased six times more than the previous year, with 56 percent of all employees joining at least one volunteer program. Participants have shared meaningful time with over 1,300 people, including underprivileged Brazilian teens and disabled people.

(Latin America) Emergency Disaster Response in Chile, Guatemala, and Paraguay Due to certain particular regional characteristics, Samsung Electronics Latin America established a disaster response process that enables rapid response to the frequent natural disasters which occur throughout the region. Samsung aims to recognize/repair damages as soon as a disaster occurs, and at the same time minimize any inconveniences to the lives of victims in local communities.

1

Chile The Northern Chile floods in March 2015 affected 26,000 people, with 24 people dying and 69 others gone missing. At the request of Chile's Ministry of Public Works, Transportation & Telecommunications, Samsung donated 30 50-inch LED TVs so that victims could still keep up to date about news of the disaster and learn about missing family members. The company also sent service trucks installed with repair equipment to the region.

2

Guatemala As a result of mudslides in a native village in Santa Catarina Pinula in October 2015, 125 households were buried, 161 people died, and 300 people went missing. Samsung provided emergency relief goods such as TVs and washing machines (worth USD 12,000 in total) for two shelters, while SELA (Latin America & Caribbean region) employees organized a volunteer group to carry out work at disaster recovery sites.



3

Paraguay In December 2015, floods around Asuncion, the capital of Paraguay, led to 130,000 people (25,000 households) fleeing their homes and a state of emergency being declared. Samsung helped victims by donating washing machines for communal use. This included donating washing machines worth of USD 30,000 to Paraguay's National Emergency Secretariat (SEN) to install at 30 shelters (churches, schools, and other public facilities).



Material issues

Improving Productivity
 Innovating Technology
 Support for Technology Access

OUR VISION

The basic principle to define Samsung's future vision is "Inspiration for a future society, the creation of a new future." When we recognize responsibility as a creative leader in the global society, our employees and suppliers can create shared value, and at the same time we can invest our efforts and resources to provide new value for the industry and customers. Samsung aims to create the future that everyone is interested in and anticipates. For this, we work hard to enrich people's lives by concentrating on creative management—one of our three strategic approaches—and to provide inspiration for the future through innovative technologies, products, and designs which contribute to a sustainable future.

OUR COMMITMENT

Samsung's business philosophy, "To devote our human resources and technology to create superior products and services, thereby contributing to a greater global society," is embodied in the company's innovative values, "People, Excellence, Change, Integrity, Co-prosperity." Our innovation not only pursues top-notch technology but also has been developed based on the spirit that it should go together with the sustainability of society. We develop new products through design innovation based on the designing motto "Make It Meaningful," and have worked hard to develop innovative technologies by participating in global consortiums, cooperating with academia, and creating synergistic effects with suppliers and operating research centers. Also, we conduct research on the improvement of accessibility to IT devices and technologies in developing products and services so that everyone can equally benefit from our cutting-edge technologies regardless of their social class.

IN THIS REPORT

The ability to take the lead in the fiercely competitive global market lies in creation and innovation. All employees should move in one direction in order to figure out rapidly changing technological trends and social environment, and pre-emptively reflect them in business strategies for the future. This chapter explains the establishment of an innovative culture in the company and steady R&D investment as well as a variety of efforts to bring about innovation and results.

TRENDS & CHALLENGES

Innovation to Meet Social Needs Instead of innovation to achieve new records focusing on "industry's first," technology development and innovation for resolving global, social issues are required. It is necessary to develop products and services that contribute to a safe, convenient society and create social value. For this, continuous monitoring of social trends and analysis of phenomena are demanded.

WHAT WE ARE DOING

Establishing an Innovative Culture

Operate small-sized innovative unit C-Labs and in-house crowd sourcing, MOSAIC, to spread creative culture in the company

2 R&D Investment

1

Reinforce business competitiveness by making steady R&D investments regardless of the year's sales

3 Open Innovation

Improve Samsung's technological prowess through strategic partnerships and M&As; take the initiative in fostering innovative companies

4 Productivity Innovation

Improve productivity by securing manufacturing competitiveness and innovating overall work process

5 Product Innovation

Work hard to secure market leadership in various products and services

6 Innovation in Social Areas

Apply "4C (Considerate, Comprehensive, Coherent, Co-Create)" accessibility design principles so that all customers can use our products and services in an equal, convenient way

Link to SDGs



[Goal 9] Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation

9.b Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities



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SOCIETY

Samsung actively secures innovation and growth engines in order to share new technology and products with society. Internally, the company operates breakthrough programs and systems to establish an innovative culture and invests heavily in R&D and greater productivity. Recently, we have worked hard for "open innovation" in an effort to single out various ideas and business opportunities, resulting in many noteworthy successes. Through such initiatives, we have secured innovativeness and more efficient systems to ensure future growth. On top of using innovative technologies for the sake of profit, we are sharing these same technologies to help bring about a more sustainable society.



Establishing an Innovative Culture

Small-sized Innovation Unit: C-Lab (Creative Lab)

C-Lab (Creative Lab) allows employees to submit their ideas to the in-house idea competition, while also providing opportunities for winners to focus on the realization of their ideas. The selected ideas may be commercialized as products at Samsung, or used for continued research. Sometimes they are even used commercially at external startups. This is an example of Samsung's new attempt to encourage employees in their voluntary, creative initiatives under the motto of "Failure is okay as long as we follow our hearts."

Major C-Lab Results by Year

	2013	2014	2015	Cumulative
Number of selected C-Lab projects	27	38	39	104
Completed projects	12	22	38	72
Commercialization + Transfers to in-house divisions	9	16	17	42
External projects for commercialization (spin-offs)			10	10
No. of participants	108	160	148	416



"Failure is okay as long as we follow our hearts."

Number of C-Lab idea suggestions: 2,700 (2013-2015)

Every year, over 2,000 employees freely propose ideas at the C-Lab competition. Selected employees then receive the company's support for each team, made up of three to four people, to concentrate on the realization of their idea for the next six months to one year. Employees at C-Lab are unhampered by their rank and the company's work management, working under a more self-regulatory atmosphere. In addition, new evaluation and compensation systems directly connected with project results have been introduced so that participants can strive only for making notable achievements. As of 2015, 104 C-Lab projects had been carried out, of which 72 projects were completed. There was a high level of achievement with C-Lab, 52 projects were already commercialized or transferred to different business divisions for further development or launched their own startup companies. In addition, we filed for a total of 95 patent applications through C-Lab. With C-Lab projects that showed great potential as a new business outside the company, we support the establishment of an external startup, and also provide opportunities for the person to rejoin Samsung. (See page 140 for more details)

Since 2013, a total of 416 employees, or an average of 140 people a year, have participated in 104 C-Lab projects. This represents 0.6 percent of Samsung's domestic R&D workforce (SET division-based), and the company has a long-term goal of making one percent (cumulative) of its domestic R&D workforce go through C-Lab by 2020. By doing this, we hope to single out creative business areas that can naturally become a growth engine for the future, and wish that employees who experience C-Lab as a research facility in the style of a start-up will continue to spread our creative organizational culture at work even after projects are completed.





- 1 Jae-won Kim, who participated in the C-Lab project competition as a "C-Lab senior" (left), and a challenger, Dong-il Won (right), who proposed an app to recommend exercises suitable for team members with music
- 2-4 Views of C-Lab Space, which opened at Samsung Digital City on May 2, 2015



C-Lab Projects Results (Cumulative basis)

Idea proposals (cases)



by 2020

Ideas Displayed at International Fairs through C-Lab

Some excellent projects, which started at C-Lab, were recognized for their innovativeness and gained attention on the global market through international fairs. Samsung displayed excellent projects to customers at International Fairs in advance to check the market's response, and will use that feedback to improve upon future projects.

Samsung's Startup Hall at CES 2016







1. rink: Hand Motion Controller for Mobile VR Devices

 WELT: A Smart Belt to Monitor a User's Weight

3. Telephone Conversation UX TipTalk

rink: Hand Motion Controller for Mobile VR Devices

'rink' is a new controller concept that allows users to control virtual reality (VR) games/ multimedia content as if they are actually manipulating the objects. In fact, Rink was developed to be used in VR devices which have relatively more hardware limitations than PCs.

WELT: A Smart Belt to Monitor a User's Weight

Using the imbedded sensor in the belt, WELT identifies a user's waistline, eating habits, quantity of motion, and hours of sitting on a chair to analyze these factors with an app and provide the user with a customized weight management service. Just as with a common belt, a variety of designs are applicable to WELT, which also serves as a fashion item. In cooperation with Samsung C&T Corporation, WELT was also introduced at Samsung Electronics' main exhibition hall as part of The Humanfit brand.

Telephone Conversation UX TipTalk : Using the Human Body as a Medium to Transmit Sound

Tip Talk is a new concept telephone conversation UX developed by a start-up company called Innomdle Lab. The idea started with a C-Lab project, and was separated from Samsung in August 2015. When using a wearable device, you can hear sound without an earphone or headset simply by touching your finger to your ear. This makes it convenient in public places because other people cannot hear the sound of any talking while you can hear a clear sound even at noisy places like performance halls and construction sites. Tip Talk, which comes in the shape of a watch strap, can be connected to a smartphone, enabling the text-to-speech function regardless of whether the watch itself is a smart watch or not.

Salted Venture's Independent Booth for IOFIT at MWC 2016



IOFIT's Smart Shoes Solution

IOFIT is a smart shoes solution created by Salted Venture, one of the spin-off startups that began as a C-Lab project from Samsung. Pressure sensors are attached to the outsole of shoes to analyze various data including the number of steps one takes an hour, the time and pressure one's feet touch the ground, the pressure of two feet hitting the ground, and the movement of the center of gravity, providing appropriate exercise information for the wearer in real time.

The booth—exclusively for IOFIT products at MWC—was organized with the display area for prototypes as well as an experience area. The booth attracted the attention of visitors with its lively atmosphere, which resembled a sports shop.

Employee Crowdsourcing¹⁾ : MOSAIC

Samsung is generating innovation by bringing together the power of the collective intelligence of its employees through the in-house system MOSAIC, which was created under the slogan "We are smarter than I." Our 300,000 employees have discussed various issues and business ideas through MOSAIC, the in-house collective intelligence system opened in March 2014.

Through MOSAIC, we saw 74 million page views (194,000 visitors) as of December 2015. MOSAIC is very popular among employees as seen by the fact that suggestions of new ideas and postings surpassed 1.6 million by 2015, and the number of average daily users stood at 62,000, with a daily average of 155 ideas and 77 discussions on business issues being held. Also, we have concentrated employees' capabilities through the platform, which is connected to creative achievements. Well-known examples include NFC antenna standardization, which was applied to six kinds of smartphones (200 million units) and contributed to saving KRW 65 billion in costs. Other examples include a system to improve drivers' vision at night and a way to control wearable devices when seton kids mode, both of which led to patents. Recognized for such achievements, MOSAIC received the Korean President's Award at the 4th Korea Knowledge Awards in September 2015. More recently, employees are using MOSAIC to make work processes more efficient and improve the work environment. Samsung expanded MOSAIC to include over 200,000 employees overseas in 2015. In April 2015, a translation service was combined with the system, while a global survey service was also launched. Through these changes, it is expected that more ideas will be secured and developed with greater crowdsourcing.

1) Crowdsourcing: a way of making the general public become involved in the process of producing goods or creative works

MOSAIC Operation Results

IDEA MARTKET

Through Idea Market, part of MOSAIC's Square section, employees' ideas are led to practical business results, such as commercialization or patent applications. In 2015, these practical results increased by 60 percent over the previous year. In fact, Idea Market became a venue for employees to propose ideas and realize them. For example, our Mobile Communications Business had a contest for employees' opinions to improve development efficiency through Idea Market in 2015. A total of 1,387 ideas were received and over 20 ideas were applied to products. A way to enhance the image quality for the camera of the Galaxy 6 model was also proposed through this contest.

Results of the Mobile Communications Business Contest for Improving Development Efficiency through Idea Market

No. of Suggested Ideas	No. of Excellent	Expected Effect in
(cases)	Suggestions (cases)	Amount (KRW 100 million)
1,257	26	2,524
4,132	152	1,605
5,389	178	4,129
	No. of Suggested Ideas (cases) 1,257 4,132 5,389	No. of Suggested Ideas No. of Excellent (cases) Suggestions (cases) 1,257 26 4,132 152 5,389 178

M-Project

M-Project is a service that helps employees openly recruit team members for implementing the ideas they have suggested. In 2015, five employees voluntarily made a team to solve a problem in using rest rooms by changing some restrooms in the company into "smart restrooms," which attracted great attention.



"We are smarter than I."

Key Functions of MOSAIC



IDEA MARTKET

Adding collective intelligence to ideas



M-STORE Releasing apps to be assessed



Solving issues through collective discussions





M-PROJECT Planning projects



SQUARE Gathering interested people

COMMUNITY

through crowdsourcing



Facilitating sharing and collaboration

SOCIETY

Using Samsung's IoT platform, called SmartThings, the team members developed a service through which employees can check empty slots of restrooms through door sensors and "hub" collecting/sending data to the main server. This smart restroom service is currently being applied to a building in Samsung Digital City, which is located in Suwon, Gyeonggi-do,for a trial application. Users can check empty slots at restrooms via an application called "Pooroject" (a combination of the words "poo" and "project"). To date, the application's downloads have surpassed 1,500. Today, one-fourth of the 6,000 employees working at the building use this service.

Investment in Innovation

R&D Investments

Samsung has 36 R&D centers across the world to secure core technology for the future and invested KRW 14.8488 trillion in R&D in 2015. Samsung continues its efforts to secure new patents. Since 2006, we have maintained our position as the second largest patent holder according to the U.S. Patent & Trade Office.





Samsung invests heavily in securing telecommunications patents. In April 2015, the Taiwan Intellectual Property Office (TIPO) released its 2014 report on patent trends in the telecom industry, which said that Samsung has the largest number of standard-essential patents (SEPs) related to LTE/LTE-A. According to this report, Samsung has 17 percent of LTE/ LTE-A SEPs (over 3600cases), and was ranked number one among 35 companies. This is the result of TIPO's requesting the National Applied Research Lab to analyze over 6,000 cases of LTE/LTE-A related patent applications registered with the U.S. Patent & Trade Office over a two-year period. Samsung also held 17 percent of all patents in the 2015 version of TIPO's report, and was ranked number one for two consecutive years. As the number of companies having patents in the field of 4G LTE is increasing and competition is accelerating in the market, Samsung will do its utmost to continuously take the lead in the field of LTE/LTE-A SEPs.

Samsung Electronics' Global Patents Registered as of 2015

(as of the end of 2015, cumulative cases)

D		
	_	

Korea ·····	30,/41
U.S.	38,809
Europe ······	15,654
China ·····	10,030
Japan ·····	6,746
Other	8,165





* Taiwan Intellectual Property Office (TIPO)'s 2014 report on patent trends in the telecom industry as released in April 2015

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Master System

Samsung has operated a Master System to foster in-house experts in different fields of R&D since 2009. A Samsung Master is a leader in the field of technology, and this system was introduced to make researchers continuously grow, while also concentrating on research as experts in their respective field. When one becomes a Master, they can focus on research in their specialized field and become involved in various activities such as patent applications, publication of papers, and attendance at conferences. Samsung was able to secure technology leadership in the fiercely competitive global market largely because of the activities of Masters who fully utilize their expertise in their own field as well as a corporate philosophy that values technology. In December 2015, we appointed six new Masters for 2016. These people have the world's highest level of expertise in the fields of digital TV system software, next-generation 3D displays, and core process and facilities for next-generation semiconductors. There are currently 58 Masters at work. Through this Master System, Samsung will increase its technology and further reinforce industry leadership and business competitive ness for the future.

New Masters in 2016



Efforts for Securing Manufacturing Competitiveness

The Global Technology Center is the control tower that reinforces manufacturing competitiveness at our 31 production sites operated around the world. The center is devoted to maintaining/developing the world's highest manufacturing competitiveness through the standardization and automation of production lines as well as the innovation of related systems and processes. We are working hard to maintain our global manufacturing competencies at a consistently high level by applying the development of new methods and technologies, the standardization of manufacturing processes and systems, and best practices to all of our production sites across the world. Recently, the center developed high precision, advanced technologies like a new ultra-fine metal processing method for premium products, and a new 3D glass manufacturing method as we concentrated on securing consistent quality and cost competitiveness of exterior parts. We are also realizing smart factories for the future through the expansion of automated lines combined with IoT and robots, the Global Manufacturing Execution System (G-MES), and a Global Supply Chain Management (G-SCM).





Global Supply Chain Management (G-SCM)



Global Manufacturing Execution System (G-MES)

Process Innovation Management

Samsung improves the speed, flexibility, and visibility of the work process for optimized business operation while also supporting the company's worksites around the world by establishing and implementing sales & supply plans in a rapid and precise way through the standardization of necessary systems in the fields of development, sales, manufacturing, and logistics. Additionally, we not only relay information between in-house units but also closely work with business partners to share information and rapidly respond to changes in the market.



ERP involves the systematic planning and integrated management of a company's business resources. The material mobilization function of procurement, manufacturing, logistics, sales, and services are well combined with accounting and financial functions in the system, providing business information regarding sales, inventory, profits and losses in real time, while also playing a role in supporting rapid decision-making on management.

For three years, from 2006, Samsung changed independently operated ERP systems at different business divisions and worksites into an integrated global system through process standardization. We also selected best practices at each division and region to establish them as company-wide standard processes and to connect all worksites around the world as one system, improving the efficiency of global operations. At the same time, the process reflected the uniqueness of each division and region to increase convenience. Based on real- time information on the company's global business, we laid the foundation for speed management, such as the simultaneous application of the head office's policies to all subsidiaries and saving time in setting up a system according to changes in business base strategies.

Open Innovation

Strategic Partnerships

With the blurring of inter-industry boundaries, fusion-style innovation in many areas is becoming more important. Accordingly, Samsung reinforces market competitiveness through strategic partnerships with global companies in various fields and works hard to provide customers with new and creative products and services. In addition, we are creating further opportunities through partnerships and collaborations with a variety of companies in fashion, social network services, finance, and entertainment, as well as IT companies in the same industry.

Mergers & Acquisitions

Samsung is also securing market leadership by actively merging/acquiring innovative companies. Well-known M&A cases include that of a U.S. IoT (Internet of Things) open platform company, SmartThings, in August 2014, and another U.S. company, LoopPay, in February 2015. LoopPay's magnetic secure transmission (MST) technology was included as a core function of Samsung Pay, which was released in 2015, while SmartThings' IoT open platform also contributed to Samsung's developing Smart Home technology and developing IoT modules including ARTIK.



1,2 Samsung Pay using LoopPay's technology

Incubation of Innovative Companies

Samsung recognizes that the development of technology is realized not simply by a company but through cooperation between people of different ages and countries. As a result, we work hard to realize such cooperation in many ways. In fact, we have carried out M&As with innovative companies, made strategic investments, and carried out incubation for new startups through the Global Innovation Center (GIC), which was established in 2012 under the mission of creating innovative software products by supporting startup entrepreneurs. Furthermore, we launched Accelerator teams in San Francisco, near Silicon Valley, and New York, the center of the global economy, so that startup companies' technologies, human resources, and venture culture could be integrated with Samsung's existing organization. The Samsung Accelerator program employs highly experienced and talented people, and provides them with abundant capital, products, and independence for developing innovative software products.

Local startup entrepreneurs consisting of small-sized startup teams (six people or less in each team) are provided opportunities to make products and services they develop spread via Samsung's global products through the Samsung Accelerator program. Additionally, Samsung has the chance to internalize innovative products and services developed through Silicon Valley-style development processes and away from its existing development processes, while also utilizing leading local human resources. We continue active exchanges with local startup communities through offices in San Francisco and New York, where startup communities are most active in the U.S., as well as Tel Aviv, the capital of startups in Israel. In 2015, the Samsung Accelerator program saw its first commercialized achievements. The Pixie Team developed a product for about one year through Samsung Accelerator before being connected with Samsung's Visual Display Business. Their solution 'Extras' was installed in our smart TVs in 2015.



1,2 Samsung Accelerator program

Innovative Products and New Growth Engines

Samsung's Innovative Products

Samsung's ceaseless efforts for innovation have led to achievements in products and services. We have continuously maintained market leadership in various areas and been ranked number one in the industry in many international customer surveys while also receiving numerous awards. Furthermore, we have received excellent results at a variety of design awards for many years.

Samsung's Market-leading Products



iF and IDEA Winners in 2015



No. 1

in overall results at iF (2013-2015)



No. 1

in overall results for the past five years at IDEA (2011-2015)

Samsung's New Growth Engine

Internet of Things (IoT)

Samsung is fully prepared for the era of Internet of Things (IoT) to come. We accelerated the development of IoT open platforms by acquiring the U.S. company SmartThings in August 2014, and today we are releasing various products and services to realize the IoT era. In addition, we are taking the lead in building the foundation for related services with the goal of applying IoT to all Samsung TV sets by 2017 and to all Samsung hardware by 2020.



ARTIK: An Open IoT Platform Samsung first released its open IoT platform called ARTIK at the 2nd IoT World held in May 2015. It then released the commercialized version of this product in February 2016 and launched an official partner program, firmly establishing the ARTIK Ecosystem.

The ARTIK platform is an open platform whose development was initiated by the Samsung Strategy & Innovation Center in Silicon Valley. It is a comprehensive IoT platform that provides a hardware developer kit, including processors and storage, as well as software including security and operation systems. When developing IoT services and devices using the ARTIK platform, developers can largely reduce time and costs to realize their ideas rapidly. ARTIK 1 is an ultra-mini module that provides Bluetooth connection and fits small-sized devices that require low power consumption, while ARTIK 5 fits home hub, drone and wearable devices. ARTIK 10 fits home servers and media devices as it provides Wi-Fi and Bluetooth connection. When speaking about this, Curtis Sasaki, the general manager at Samsung Strategy & Innovation Center, said, "As Samsung produces not only parts like semiconductors but also a variety of product groups, it is possible to take the initiative in creating new changes in the IoT market if only we establish a good open ecosystem."

Ecosystems of ARTIK Partners

OS	Solution Tools	Cloud	Security
 Snappy Ubuntu Tizen Fedora Nucleus 	Medium One's data process- ing & analysis technology Sensory's/ Soundhound's voice recognition tech- nology Vayyar's 3D radar tech- nology	 Microsoft's cloud platform Azure developer's kit Samsung's data collection platform, SAMIIO 	• Trustonic's TEE security solutions and services

Solving Social Problems through IOT Besides technology innovation through IoT, Samsung is constantly solving various social problems such as water shortages, traffic congestion, and environmental pollution. For example, California experiences serious droughts because of its warm weather, so the state spends a great deal to help deal with this water shortage problem. After learning about this, Samsung considered how to send wasted water to places where water is truly required using ARTIK from an IoT perspective. Since announcing the ARTIK Challenge back in 2015, we've had a total of 577 registered applicants. We've announced the top finalists and honorable mentions at the Samsung Developer Conference on April 27. We plan to announce the final winner during the first week of July.

Samsung also works hard to solve social issues through partnerships with many IoT- related companies. A leading case is our collaboration with a new company named Boogio to develop sensor pads for the rehabilitation treatment of patients who have difficulty with their balance or moving their body. When patients wear shoes with these pads attached, their motion and pressure are sensed. The method of transmitting real- time data to doctors is currently tested under an agreement with a Florida hospital in the U.S. In addition, we are exploring ways to solve the problem of overusing water resources jointly with Weenat, a French farming solutions company, by measuring data on soil and air to transmit it to farmers' smartphones and let them know of the appropriate quantity of water to use.

Going forward, we will expand our IoT business in all directions through collaboration with companies in various industries such as automobiles, medical care, and public services, and do our best to contribute to solving social problems beyond technological innovation.

Samsung's Innovative Organization in Silicon Valley for New Growth Engines

Samsung is moving fast in Silicon Valley, the center of innovation, in order to discover new growth engines such as IoT and digital healthcare, while also taking the initiative in new IT ecosystems. We are also laying the foundation for leading the next-generation IT market ecosystem by making an open innovative organization that embraces hardware, software, and platforms in Silicon Valley, and connecting multiple R&D centers for securing core technologies for the future.

Located in Silicon Valley, SSIC, GIC, and SRA has come up with innovative results through active exchanges between one an other, strategic investments and partnerships with innovative companies, and also through M&As. SSIC introduced the AR-TIK module—the IoT device development platform based on Samsung's cutting-edge semiconductor solution—2015, and has commercialized it with many different companies, while GIC acquired two U.S. companies, SmartThings and LoopPay, thereby contributing to Samsung's securement of core technologies for the future. SmartThings is an IoT-related open platform company and is expected to create a great synergistic effect in the field of smart homes in the future, adding to Samsung's exist-ing products such as semiconductors, smartphones, TVs, and home appliances. Also, LoopPay's magnetic secure transmission (MST) was used as a core technology for Samsung Pay as of 2015. SRA conducts research on various areas such as hardware, software, services, and platforms. It also has active exchanges with many research institutions to secure core technologies for the future. The round display and rotating bezel of Gear S2, which was released as of 2015, and the fingerprint recognition of Samsung Pay, are key achievements by SRA.

Samsung will continue open innovation with various companies through innovative organizations in Silicon Valley. At the same time, the company's R&D centers around the world will concentrate on technology development from a mid- and long-term perspective to further reinforce technology leadership.

Samsung's Innovation Units in Silicon Valley and Major Results

1

SSIC introduced the Artik module the IoT device development platform based on Samsung's cutting-edge semiconductor solutions

🔳 ARTIK

GIC acquired SmartThings and LoopPay

SmartThings

8

SRA developed the round display and rotating bezel for the Gear S2, as well as the fingerprint recognition of Samsung Pay





*SSIC (Samsung Strategy & Innovation Center)

Established in 2013 under the DS Division, SSIC pursues open innovation singles out newly emerging technologies and possibilities of innovation by using Samsung's global platform. SSIC has offices in Korea, Israel, and the U.K. to discover strategic partners and establish a business ecosystem for win-win partnerships. Key research areas include digital healthcare, a data center, cloud computing, and Human-computer Inter-

face Technologies. Furthermore, the center pays strategic attention to IoT. SSIC provides Samsung's unique ecosystem and resources for strategic partners such as startups and venture businesses in these fields.

In May 2015, SSIC established an open platform called ARTIK that provides comprehensive support of software, drivers, storage, security solutions, development boards, and cloud services, and in June it signed an equity investment agreement with Sigfox, a communications equipment technology venture company in Paris. Also, at the Samsung Developer Conference in April 2016, the center announced the SAMSUNG ARTIK CloudTM, an open data exchange platform designed to connect devices and applications. Through this open standard, SSIC actively exchanges with business leaders, technology innovators, and investors based on solutions that only Samsung can provide for future technology development.

* GIC (Global Innovation Center)



Led by President David Eun, GIC has conducted M&As with innovative companies, made strategic investments, and helped with the incubation of new startups since it was founded in the latter half of 2012. Well-known acquisition cases include the acquisition of the U.S. IoT open platform developer SmartThings in August 2014 and LoopPay in February 2015. LoopPay's magnetic secure transmission (MST) was used as core technology for Samsung Pay, which was released in 2015. SmartThings' IoT

open platform also contributes to Samsung's securing smart home technology and developing IoT modules. We have also launched Accelerator teams in San Francisco, near Silicon Valley, and New York, the center of the global economy so that startup companies' technologies, human resources, and venture culture can be integrated with Samsung's existing organization. In addition, CIG has established strategically cooperative relationships with future-oriented companies in IoT, security solutions, digital health, and virtual reality by supporting them with early stage investments.



* SRA (Samsung Research America)

Located in Mountain View, Silicon Valley, SRA conducts R&D on various aspects, such as hardware, software, services, and platforms.

SRA's keywords in R&D include "intelligence" (devices that can recognize and learn about the surrounding environment and conditions), analysis of "big data" related to individual lives, application of "5G" technology to IoT, and the "maximization of user convenience" through an analysis of user experience.

The round display and rotating bezel of the Gear S2, which was released in 2015, mobile security platform KNOX, and fingerprint recognition have all been significant achievements made by SRA's R&D department.

Furthermore, SRA has seen innovative results in many areas such as hardware, software, and platforms. For example, SRA released a TV interaction platform in the U.S. through which viewers can see SNS content regarding the program on the smart TV screen, or check information on athletes when watching sports with the push of a button on their remote control.

Innovation in Social Areas

Inclusive Innovation

Expansion of Accessibility

Samsung pursues "technological innovation for all" to provide meaning and pleasure for everyone's life. To this end, we apply 4C accessibility experience design principles so that all customers can use our products and services in an equal and convenient way. 4C refers to "considerate," "comprehensive," "coherent," and "co-create," through which we aim to capture a human-centered philosophy—one which accepts diversity and embraces differences—in all of Samsung's products, content, and services.



Samsung's 4C accessibility experience design principles

In order to develop products and services based on such principles, Samsung established and has distributed an Accessibility UX Design Guideline and an Accessibility UX Design Checklist company-wide. These guidelines and checklists play the role of a compass when designers and developing staff members consider accessibility, and then realize this goal during the actual product design process.

(U.K.) Samsung Smart TV, Winner of RNIB's Inclusive Society Award

Samsung received the Inclusive Society Award from the Royal National Institute of Blind People (RNIB) in the U.K. in 2016. The company was recognized for its continuous efforts to develop technology so that people with disabilities can easily watch TV. Samsung has worked hard to strengthen accessibility features for the visually impaired since 2014.

Samsung radically improved visually impaired people's TV-watching when it adopted for its smart TVs the voice guide feature to read aloud information on programs and TV settings along with the high contrast screen feature to easily allow reading by showing clear graphic information with white text on an opaque black background.

In addition, Samsung has continuously worked on technology development to improve TV accessibility for people with disabilities in cooperation with the RNIB since 2012. Through efficient cooperation with international organizations, we have collected numerous opinions about TV use that people with disabilities feel uncomfortable about, and developed features to provide easier TV-watching experiences, reflecting the results in our products.

Services for the People with Disabilities

Samsung pays close attention to contributing to addressing social challenges using innovation and technologies. In particular, we present services and applications for the people with disabilities and actively operate them, thereby helping everyone around the world enjoy our products in an optimal way.



Look At Me

http://youtu.be/99TL3hGPw5I

Services for the People with Disabilities

Look At Me

Look At Me is a mobile app to help with the communication of children who have autism by training them to make eye contact with others and to express human feelings. Digital technology and humanity are harmonized in the Look At Me project, which has earned much attention for a mobile device that can bring useful value to people's lives. The campaign for this app received awards in five categories at the Cannes Lions International Festival of Creativity, including the Gold Award in the cyber category and the Silver Award in the mobile category.

Samsung Electronics Canada (SECA) adopted Look At Me in 2015. With SECA's donation of 252,000 dollars, Galaxy Tab S and the Look At Me app were presented to over 200 families with children who have autism in association with the Canadian organization Autism Speaks Canada. Many children with autism showed significant improvement in interpersonal relations and face recognition through this project. In Canada, 2,846 people applied for the Look At Me project, which resulted in high competition, with over 30 local media outlets covering the project, such as The Toronto Star, PSFK, and Adweek. As of May 2016, the video on the Look At Me project had 120,000 hits on YouTube via Samsung Electronics Newsroom



Hearing Hands

https://www.youtube.com/ watch?v=UrvaSqN76h4

Hearing Hands on Social Media

Hearing Hands

Samsung Electronics Turkey (SETK) has operated sign language service at a video call center since January 2015. There are about 3.5 million hearing-impaired people in Turkey, and Samsung planned the innovative online sign language service in order to relieve their inconveniences as they cannot inquire about products or request repairs through general call centers. This service, called Samsung Duyaneller* (Turkish for "hearing hands"), raised citizen awareness, including lawmakers and civil servants, about the hearing-impaired, and led them to become more interested in sign language training, while also providing momentum for the Grand National Assembly of Turkey to start the "Disability Inclusive Parliament" project.



Sharing Innovative Technologies with Society

Free Opening of Patents

In June 2015, Samsung opened 27,000 registered patents to SMEs in Korea and has provided 3,000 patents for free. In November 2015, we expanded the scope of opening patents to reduce the burden on SMEs in this matter, and have of-fered all 27,000 patents for free since then. Through this decision, we hope that Korean SMEs can utilize quality patents in the fields of mobile devices, audio & video, communications & networks, home appliances, and semiconductors, while gaining practical help in improving their competitiveness.

Providing SMEs with Free Patents

Korea (cases)





Improving the Quality of the World's Thinnest Endoscope with Free Patents

GSM Korea, a new medical equipment manufacturer in the industry, succeeded in developing the world's thinnest endoscope in 2015. It was innovative technology to manufacture an endoscope of a mere 0.7 millimeters in thickness, only one-third of a common endoscope. The result is expected to innovatively reduce extreme pain and

the long operation time of endoscopies and endoscopic operations. However, the company still faced one major problem: how to improve the low-resolution images while making it so thin. The problem was fatal in medical care where precise imaging is critical. At that time, GSM Korea was granted two patents by Samsung for free and was able to solve the problem. The image processing technology provided by Samsung allowed the realization of even higher resolution images than those of existing products. The achievement was made even more meaningful because the infrastructure of Korea's medical equipment industry was not very good at the time.



Since 2015, Samsung has supported C-Lab projects that are considered to have great potential as new businesses so that employees can establish startup companies directly, while also providing opportunities for independent business management. In 2015 alone, 10 projects left Samsung and launched their own startup companies. (established 9 startup companies) We pass on management and technology knowhow to independent startups and support their early stabilization and growth. Also, we offer opportunities for those who have tried new businesses to reenter Samsung if they want to, as we value their entrepreneurship and startup experience. Through this, we expect to encourage employees' creative ideas and pioneering spirit as well as single out hidden talents with entrepreneurship, resulting in bringing new changes and an innovative atmosphere to the company.