A JOURNEY TOWARDS A SUSTAINABLE FUTURE

SAMSUNG ELECTRONICS
SUSTAINABILITY REPORT 2020

SAMSUNG

A JOURNEY TOWARDS A SUSTAINABLE FUTURE

About This Report

Samsung Electronics publishes the 13th Sustainability Report in 2020 to share its economic, social and environmental progress transparently with various stakeholders.

Reporting Standards

This report was prepared in accordance with the Core Options of the Global Reporting Initiative (GRI) standards. It also reflected the indicators of the UN Sustainable Development Goals (SDGs), Task Force on Climate-related Financial Disclosures (TCFD) and Sustainability Accounting Standards Board (SASB).

Reporting Scope

This report covers all our global worksites and supply chains. Financial performance data is based upon consolidated K-IFRS accounting standards. Environmental performance of our worksites is based upon data collected from 37 global production subsidiaries.

Reporting Period

This report covers economic, social, and environmental performance and activities from January 1, 2019 to December 31, 2019, and for some achievements in this report may include information dated to May 2020. Quantitative data for the latest three fiscal years are provided to allow for trend analysis over time.

Reporting Cycle

Annual (last report issued in June, 2019)

Report Assurance

To ensure the reliability of the reporting process and information included in the report, Samsung Electronics engaged with Samil PwC, an independent external assurance provider to conduct the assurance review. The review was conducted in accordance with International Standard on Assurance Engagements (ISAE) 3000 and AA1000AS Type II.

FOR FURTHER DETAILS ON THIS REPORT

· Samsung Electronics Website : http://www.samsung.com
· Sustainability Website : https://www.samsung.com/us/aboutsamsung/sustainability/strategy/
· IR Website : https://www.samsung.com/global/ir/
· Samsung Electronics Newsroom : http://news.samsung.com/kr
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CEO Message

"As a global corporate citizen, Samsung Electronics will continue to create environmental and social values while achieving positive economic outcomes."

Samsung Electronics Co.,Ltd.
Vice Chairman and CEO
Kim, Kinam

We thank you for your continued interest and support for Samsung Electronics, especially given the challenging circumstances brought on by the global outbreak of the COVID-19. We would like to take this opportunity to wish you continued good health and well-being.

Samsung Electronics is doing its best to promptly respond to the COVID-19 crisis that is affecting the world.

As part of quarantine measures, we analyzed the unprecedented crisis quickly and are actively preventing the spread of the disease among our employees as well as the workers of our suppliers. From a business management perspective, we are committed to minimizing the business impacts of the pandemic by working to ensure that there are no interruptions to the operation of the supply chain that stretches from raw materials to customers. Moreover, in line with our CSR Vision, 'Together for Tomorrow!', which launched last year, we stand side by side with the communities that are struggling with COVID-19 and continue to provide support so they can overcome the crisis.

Meanwhile we remain steadfast in our efforts to contribute to the global economy by creating innovative technologies and products. The Consumer Electronics (CE) Division is enhancing customers' lifestyles with products such as QLED 8K TVs, the Sero TVs, and BESPOKE refrigerators. The IT & Mobile Communications (IM) Division has maintained its No. 1 position in smartphones by launching foldable phones, and continues to remain at the forefront of the next-generation telecommunication market by commercializing 5G for the first time in the world. The Device Solutions (DS) Division continues to lead the semiconductor industry by introducing the highest-level innovative technologies, such as the third-generation 10-nano class DRAM, the 108 million pixel image sensor, and EUV process.

Samsung Electronics celebrated its 50th-anniversary last year. As we take our first steps into the next half-century, we are acutely aware of our obligations and roles in sustainable operations. As a global corporate citizen, Samsung Electronics will continue to create environmental and social values while achieving positive economic outcomes.

To this end, we are expanding environmentally conscious investments in production facilities to strengthen our climate change response activities. We are also promoting ways to improve the Earth's environment through initiatives such as establishing the 'Samsung Particulate Matter Research Institute'. To minimize the environmental impact of our products, we will continue our efforts in extending their life cycle and reducing electronic waste.

We will be more prudent to the potential social impact of our products and services with regard to personal information protection and cybersecurity, and will strengthen our activities to protect and improve the workplace environment of our employees and those of our suppliers.

Samsung Electronics takes the responsibility of transparent corporate structure and ethical management seriously. In support of this, we appointed an Independent Director as the chair of the Board of Directors for the first time, and established a Samsung Compliance Committee with related companies. We will continually strive to operate a world-class governance and compliance management system.

Although our daily lives are undergoing rapid changes because of COVID-19, through solidarity and cooperation, Samsung Electronics will successfully overcome the challenges the pandemic has brought us. To leave a great legacy as a 'sustainable centennial company' for future generations, Samsung Electronics is dedicated to creating innovative products and services based on a bold and can-do spirit, and to contributing to the societal development as a 'sustainable first-class company'.

We thank you for your continued interest and ask for your unyielding support. Thank you.

Management Philosophy

Samsung Electronics is committed to devoting our human resources and technology to create superior products and services, thereby contributing to a better global society. To this end, we translated our five Samsung business principles into detailed action plan guidelines to establish the Samsung Electronics Global Code of Conduct to guide all of our employees. To drive our sustainable growth and define our way forward, we are guided by the following core values, which are instrumental to the way our employees conduct business.

Philosophy

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

Core Values

PEOPLE

We value our people with a strong belief in "A company is its people" philosophy and providing opportunities to perform their full potential.

EXCELLENCE

We give our best efforts with endless passion and a challenge spirit to become world best in every ways.

CHANGE

We rapidly take the initiative in executing change and innovation with risk awareness: we cannot survive if we do not constantly strive to innovate.

INTEGRITY

We act in a right and ethical way in all manners, ensuring fairness with honor and grace.

CO-PROSPERITY

We take full responsibilities as a good corporate citizen in pursuit of mutual prosperity with our community, nation and human society.

Business Principles

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

Samsung Electronics Worldwide

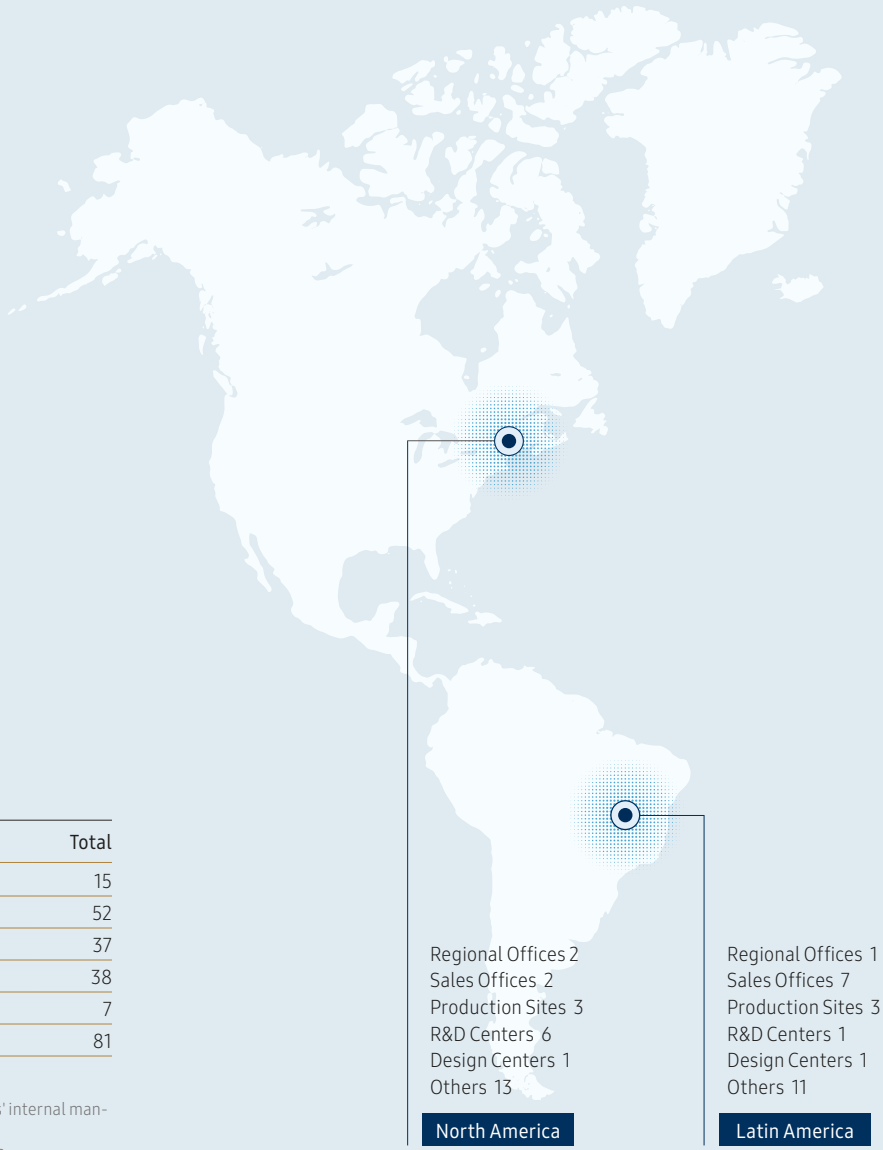
At the end of 2019, we had 230 worldwide operating hubs, including our headquarter in Suwon, South Korea, manufacturing subsidiaries, sales subsidiaries, design centers and R&D Centers, while operating 15 Regional Offices in South Korea, North America, Europe, Southeast Asia, Africa and other regions of the world.

Employees
287,439

Suppliers (First tier)
2,208

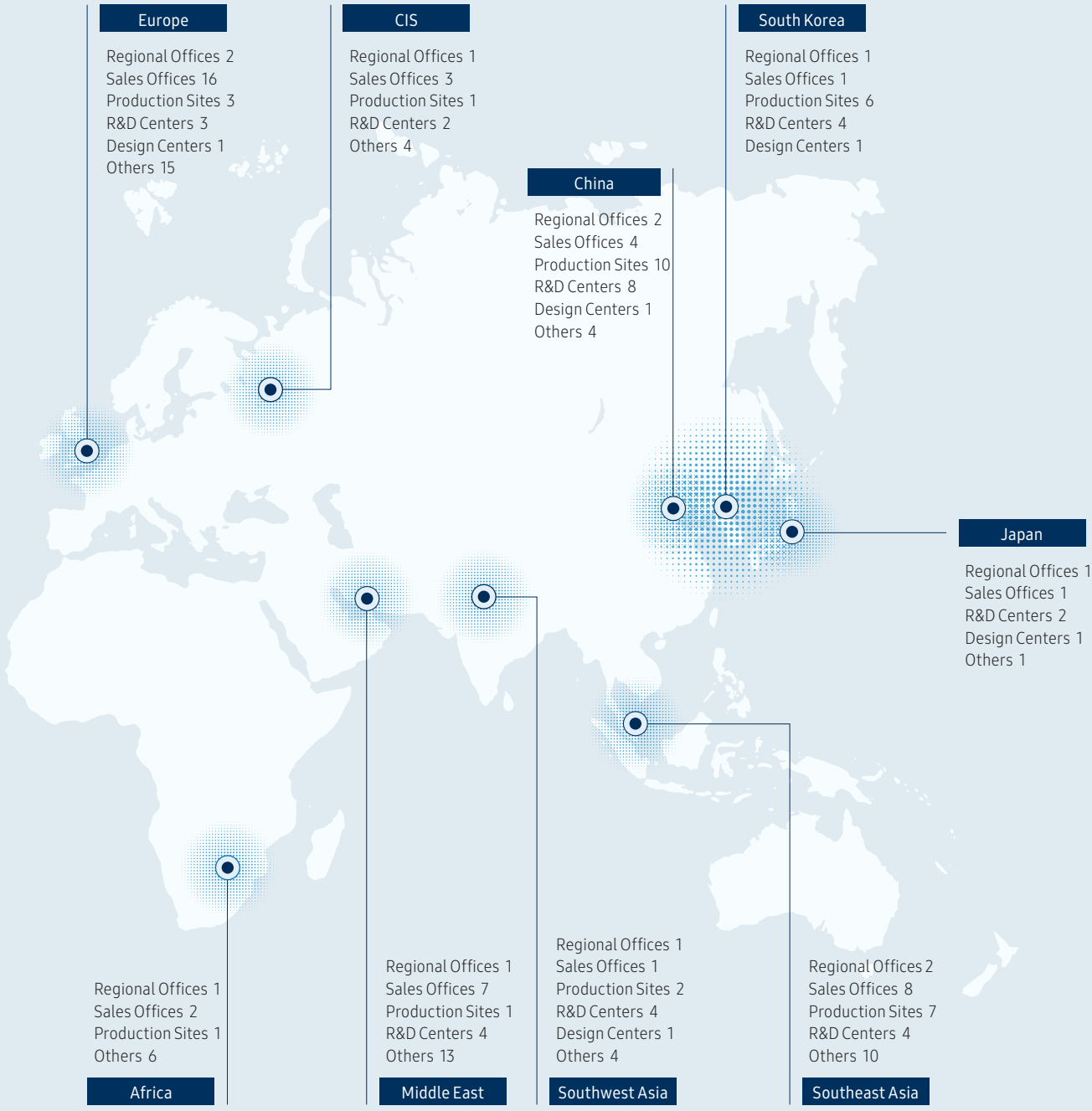
Countries
74

R&D Expenditure
20.2 KRW trillion



Category[1]	Total
Regional Offices	15
Sales Offices	52
Production Sites	37
R&D Centers	38
Design Centers	7
Others[2]	81

Footnotes:
1) Regional classification is based on Samsung Electronics' internal management criteria
2) Sales Branches, Service Centers, Distribution Bases, etc.


Europe
Regional Offices 2
Sales Offices 16
Production Sites 3
R&D Centers 3
Design Centers 1
Others 15
CIS
Regional Offices 1
Sales Offices 3
Production Sites 1
R&D Centers 2
Others 4
China
Regional Offices 2
Sales Offices 4
Production Sites 10
R&D Centers 8
Design Centers 1
Others 4
South Korea
Regional Offices 1
Sales Offices 1
Production Sites 6
R&D Centers 4
Design Centers 1
Japan
Regional Offices 1
Sales Offices 1
R&D Centers 2
Design Centers 1
Others 1
Africa
Regional Offices 1
Sales Offices 2
Production Sites 1
Others 6
Middle East
Regional Offices 1
Sales Offices 7
Production Sites 1
R&D Centers 4
Others 13
Southwest Asia
Regional Offices 1
Sales Offices 1
Production Sites 2
R&D Centers 4
Design Centers 1
Others 4
Southeast Asia
Regional Offices 2
Sales Offices 8
Production Sites 7
R&D Centers 4
Others 10

Business Overview

CE | Consumer Electronics Division

Visual Display Business

We continued to build on our leadership in the global TV market in 2019, where we have remained No. 1 position for 14 consecutive years and gained more than 30% market share for the first time. This is the result of our constant efforts to create advanced and innovative products and reflect consumer preferences.

'The Frame' features 'Art Mode', which transforms the screen into a dynamic picture frame to display artwork or photos when not in use. This advanced TV, now in its third year since the launch, uses a QLED display to realize more vivid high definition and includes a 'One Invisible Connection' that integrates all the wires connected to the TV into a single translucent optical cable. This means it can be easily positioned almost anywhere in a room. 'The Serif', first released in 2016, is designed for aesthetic value. In 2019, we added the option of larger displays, featuring 43, 49, and 55-inch models to meet the demand for larger, more immersive screens. Based on an analysis of the millennial generation's familiarity with mobile content, 'The Sero' provides a portrait mode viewing experience that is different from the traditional TV. The Sero's portrait mode viewing delivers a mobile-optimized experience, while also allowing users to rotate the screen for traditional landscape mode viewing.

TV Market Share[1)]

1st 30.9%

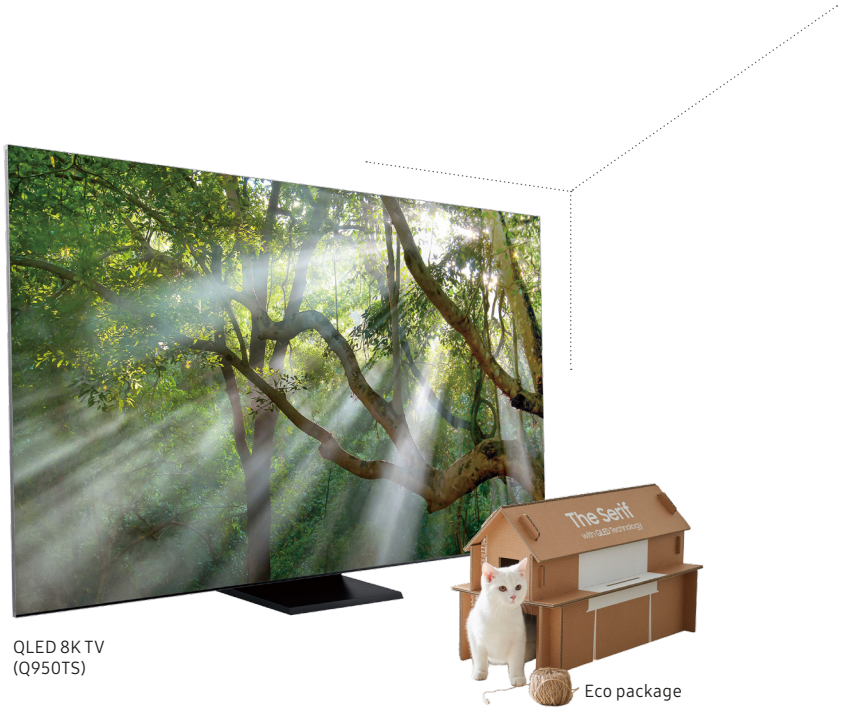
Premium TV[2)] Market Share[1)]

1st 52.4%

Improved Consumer Accessibility:
Developed accessibility shortcut functions, such as a screen reader that uses remote control buttons and multiple sound outputs[3)]

Expanded Resource Recycling:
Applied an upcycling design that can revamp TV packaging boxes into small furniture or for pet use

Minimized Environmental Impact:
Used sustainable materials such as bioplastics and sustainably-sourced paper[4)] as packaging materials



QLED 8K TV
(Q950TS)

Eco package

Footnotes:
1) Source: OMDIA, based on the global sales amount from 2019
2) TV market of products above USD 2,500
3) This function enables users to connect a TV speaker and Bluetooth audio device at the same time, allowing users with hearing impairments to adjust the volume of the Bluetooth device
4) Sustainable forest certification paper and recycled paper

Home Appliances Business

Samsung Electronics strives to consistently introduce new paradigms for home appliances through thoughtful products and services that are acutely attuned to the rapidly evolving lifestyles of consumers around the world.

In 2019, we unveiled Project PRISM, bringing forth a new philosophy in the home appliances industry and cementing our lead in a new era of personalized home appliances. Samsung's customizable refrigerator 'BESPOKE', which allows customers to customize product type, color and finish according to their personal preferences and lifestyles, changed the course of trends in the refrigerator market. 'Grande AI', a washer-dryer set powered by artificial intelligence, learns customers' usage patterns and preferences to provide an extraordinary custom-fit experience. Samsung Electronics will continue to present innovative lifestyle home appliances that reflect the unique characteristics and needs of consumers across generations.

In addition to lifestyle variations, consumers today are increasingly looking to home appliances to address environmental concerns such as dust pollution and heatwaves. Samsung is answering those concerns with products specialized to protect against dust, allergens and bacteria. This line-up includes the Wind-Free™ air conditioner, the clothing care device AirDresser, the Cube air purifier, the cordless stick vacuum cleaner Samsung Jet™, and the dust disposal solution Clean Station™.

Samsung has been at the forefront of developing Internet of Things (IoT) and artificial intelligence (AI) capabilities for home appliances through products like the Family Hub refrigerator, the industry-first IoT-enabled refrigerator that has been recognized with CES Innovation Awards for five consecutive years. We will continue to seek out IoT solutions that will maximize convenience and enrich our customers' everyday experiences.

US Home Appliances Market Share[1)]

1st 20.5%

Reduction of Greenhouse Gas Emissions:
Developed and applied eco-conscious technology[2)] that can save energy while maintaining the same performance of Grande AI washer

Reduction of Resource Waste:
Applied a modular design that can separate and combine products and replace door panels to BESPOKE refrigerator

Minimization of Environmental Impact:
Used sustainable materials such as bioplastics and sustainably-sourced paper for packaging materials

Grande AI washer
(WF23T9500KE)

BESPOKE refrigerator
(RF85T98A2AP)

Footnotes:
1) Source: TraQline, based on the sales amount of each brand in 2019
2) Grande AI's ultra-power saving mode saves 53% energy compared to the standard mode (self-evaluation)

Health and Medical Equipment Business

We develop and manufacture medical imaging equipment, such as digital X-ray devices, for customers around the world. One of our major digital X-ray devices, the ceiling-mounted GC85A, provides clear and excellent image quality using technology, such as image noise reduction. It provides greatly enhanced convenience functions, including an automatic adjustment of the shooting position according to the patient's posture. This allows medical staff to make quick and accurate diagnoses while minimizing patient discomfort. Another digital X-ray device, the premium mobile GM85, maximizes mobility and offers excellent image quality and smooth driving performance. It can take 220 images in one charge. In addition, its lightweight and compact user-centered design increases the efficiency of medical treatment. The AccE detector is a core part of our digital X-ray devices and a model with enhanced water-proofing, dust-proofing and durability in comparison to the previous models. The technology helps to prevent equipment contamination and infections in hospitals.

We continue to innovate by integrating various technologies into medical imaging equipment. Recently, we applied AI technology and image/signal processing technology, such as automatic lung nodule detection function, to equipment development to improve the accuracy of diagnosis. In addition, we have developed a Smart Center function that connects several digital X-ray devices to the network to check the status of equipment use in real time and to facilitate quick maintenance.

Design Category Winner

The 67th iF Design Award[1)]

Reduction of Greenhouse Gas Emissions:
Replaced lead-acid batteries with the industry's first Li-ion battery, which is filled with a high-efficiency material[2)]

Reduction of Resource Use:
Made the weight of mobile X-ray devices 40% lighter than previous models

Mobile digital radiography (GM85)

Footnotes:
1) AccE detector product
2) Energy efficiency has almost doubled compared to the previous product

IM IT & Mobile Communications Division

Mobile Communications Business

As the global mobile industry market leader, we strive to provide new and differentiated user experiences through innovations with purpose. Our proud heritage of over a decade of Galaxy research and development has created innovative technologies such as our foldable smartphones, Galaxy 5G, Internet of Things, as well as Samsung Knox, Samsung Pay, Samsung Health and Bixby. Building on these technologies, our smartphones, wearable devices, tablets and PCs will create new product categories, launching a new era of mobile functionality and remarkable user experiences to push the industry forward.

Based on our experience with the world's first 5G smartphone, the Galaxy S10 5G, we diversified our Galaxy 5G product offer in 2020 to include not only premium products, but also across the broader smartphone range, in order to meet the ever-changing needs of our diverse and growing range of customers and to offer the latest technology to more people. We also launched the Galaxy Fold and Galaxy Z Flip with foldable form factors, highlighting our leadership in continuously bringing the world's first and best technology to market for meaningful innovations. Through these efforts and by harnessing the power of 5G, AI and mobile security, and through open collaboration, we will pioneer a new generation of immersive, intelligent and secure experiences that reach across every device, platform and brand, while building a sustainable future.

Galaxy S20+

Mobile Phone Market Share[1)]
1st 17.5%

Smartphone Market Share[1)]
1st 20.9%

Tablet Market Share[1)]
2nd 13.6%

Smart Watch Market Share[1)]
2nd 14.2%

Minimization of Environmental Impact:
Used sustainable materials such as bioplastics[2)] and sustainably-sourced paper

Reduction of Greenhouse Gas Emissions:
Developed a high-efficiency charging technology with 86% charging efficiency

Protection of Private Information:
Developed security solutions such as Knox

Support for a Healthy Digital Life:
Applied digital well-being features such as App Timer, and Samsung Kids

Environmental Certifications

Footnotes:
1) Source: Strategy Analytics, based on the number of devices sold globally in 2019
2) Galaxy S10e

Network Business

Samsung Electronics is leading the transition to 5G technology with preemptive investments in the sector over the past ten years. We realized innovation in communication technologies and set a new direction for the next-generation services by building a global industrial ecosystem, leading the international standards, and launching pre-commercial services together with major telecommunications providers around the world. Moreover, we offer an end-to-end product portfolio for 5G commercial services, such as 5G Radio and Core network equipment, user devices, and chipsets (Modem chips, RFIC, DAFE, etc.) We are positioned as the most preferred partner for 5G service commercialization that can address detailed factors such as the spectrum environment of individual communication service providers, the penetration rate of communication technologies by generation, and future business models. Through this, we are spearheading the introduction and commercialization of innovative technologies in leading markets such as South Korea, the United States, and Japan.

Based on our advanced technology, experience, and business portfolio, we launched the world's first 5G Home service in the United States in October 2018 and commercialized the world's first mobile 5G service in South Korea in April 2019. In Japan, we played a key role in the commercial launch of 5G in March 2020, and we are actively expanding the market to North America, Oceania, Southeast Asia, and Europe, based on our experience as the first in the world to commercialize 5G with leading telecom operators.

WORLD'S FIRST 5G commercialization in South Korea (April 2019)

Supplying 5G COMMERCIAL EQUIPMENT in the U.S. (Since 2019)

Signed 5G PROVIDER CONTRACT in JAPAN (September 2019)

WORLD'S FIRST development of 28GHz 5G Access Unit with 10Gbps support (October 2019)

Reduction of Greenhouse Gas Emissions:
Applied base station energy saving technologies, including Dynamic Power Amplifier[1] and Energy Saving Mode[2]

Reduction of Resource Use:
Reduced the size of new 5G base stations by about 26% compared to the previous 5G base stations

Safe Use of Products:
Developed and applied electromagnetic field(EMF) control technologies that comply with the International Electrotechnical Commission's regulations

5G Access Unit

Footnotes:
1) Technology that reduces energy consumption by automatically adjusting the output power according to data usage within the service area
2) Technology by which the base station automatically optimizes energy consumption at times when data usage is low

DS | Device Solutions Division

Memory Business

We have led the global memory market since 1993 and have developed outstanding products in anticipation of future demands, contributing to the growth of the global IT market.

In 2019, we developed the industry's first third-generation 10-nanometer-class DRAM and sixth-generation V-NAND with a 100+ layer single-stack design, breaking through the previous limits of memory technologies.

This year, we started supplying the industry's highest-performing memory (16GB HBM2E), which can dramatically improve the performance of supercomputers and AI analytics systems. We were also the first in the industry to mass-produce the highest-speed, largest-capacity mobile DRAM (16GB LPDDR5) optimized for ultra-high-resolution, large-screen flagship smartphones; and mobile memory (512GB eUFS 3.1) with triple the write speed of the previous 512GB eUFS 3.0 memory. In addition, we are continuously expanding the premium memory market with products such as the 30.72TB NVMe SSD, which presents a new SSD paradigm with software innovations; a second-generation 3.84TB Z-SSD for next-generation supercomputing systems; and a four-bit SSD that is transforming the three-bit SSD market with improved reliability and performance.

The memory semiconductor market is expected to change rapidly with the introduction of next-generation interfaces. By developing advanced process designs and technologies ahead of time, we will continue to strengthen our leadership in the global memory market.

DRAM Market Share[1)]
1st 44%

NAND Market Share[1)]
1st 36%

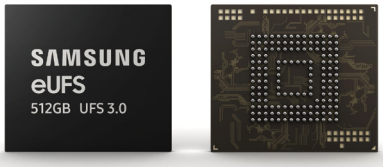
SSD Market Share[1)]
1st 43%

Reduction of Greenhouse Gas Emissions:
Applied energy-saving technologies such as low-power circuit design that reduces semiconductor chip operating voltage by 15% compared to the fifth-generation V-NAND

Reduction of Resource Use:
Applied channel-hole etching[2)] and single-step etching[3)] technologies that reduce water and energy footprint

Minimization of Environmental Impact:
Samsung's 512GB eUFS 3.0 memory was awarded the Carbon Footprint and Water Footprint Certifications from the United Kingdom's Carbon Trust for the first time in the industry

Sixth- generation V-NAND SSD
(250GB SATA PC SSD)



Fifth- generation 512Gb V-NAND
(512GB eUFS 3.0)

Footnotes:
1) Source: Yole, based on the global sales amount in 2019
2) Technology that enables making ultra-fine holes in stacked cell layers
3) Technology that enables piercing through 100 or more semiconductor cell layers in a single etching step

System LSI Business

The System LSI Business is focused on the development of next-generation products to expand technological competitiveness in the fabless (semiconductor design) field and strengthen our presence in the global market. We actively responded to the market demand for high-performance image sensors by introducing the industry's first 64-megapixel and 108-megapixel products as well as the first 0.7-micrometer-pixel sensors. Looking ahead, Samsung plans to expand its reach beyond mobile and into applications such as automobiles, security and IoT.

We supply high-performance and mid- to low-end mobile AP/modem integrated chips. The business is leading technological innovation by commercializing the world's first multimode modem that supports 2G to 5G simultaneously. In addition, we are pioneering in developing technologies and products that best address the market's demands in the low-power high-definition display driver IC, power management IC (PMIC), and security chip fields.

DDI Market Share[1)]

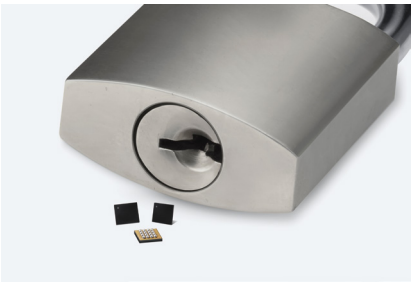
1st 24%

Image Sensor Market Share[1)]

2nd 19%

Safe Protection of Personal Information:
Released hardware security chips with the highest rating in the Security International Common Criteria (CC[2)]) and security solutions integrating security software

Reduction of Greenhouse Gas Emissions:
Developed an energy-efficient integrated power management chip that integrates a microcontroller, wireless charging/receiving chip, battery charging chip, and battery level measuring chip



Security IC for mobile device (S3FV9RR)

Integrated PMIC for wireless earphone (MUA01, MUB01)

Footnotes:
1) Source: Gartner, based on the global sales amount in 2019
2) Common Criteria

Foundry Business

We started the foundry (semiconductor contract manufacturing) business in 2005 by capitalizing on our advanced process technologies to better serve our customers with optimized products and services. In 2018, we began production of the industry's first 7nm process based on extreme ultraviolet (EUV) lithography technology. In 2019, we succeeded in developing a 5nm process that reduced the logic area and improved power efficiency through standard cell architecture optimization and process innovation.

This year, we began mass production at the V1 line in Hwaseong, South Korea, dedicated to EUV technology in response to the demand for cutting-edge process nodes such as 7nm and below. These processes are critical in various future applications that include 5G, high-performance computing, artificial intelligence and autonomous driving. In addition to reinforcing a stable production system, we plan to continue offering cutting-edge processes and optimal solutions that meet the fast-paced and diverse needs of the market.

Foundry Market Share[1)]

2nd 16%

Reduction of Greenhouse Gas Emissions:
Developed a 5nm foundry process with 20% improvement in power efficiency, compared to the 7nm process, through cell design optimization and process innovation

Foundry fab for 7nm and below process nodes in Hwaseong, South Korea

Footnote:
1) Source: OMDIA, based on the global sales amount in 2019

GLOBAL CRISIS

COVID-19 Response

The World Health Organization (WHO) declared COVID-19 a global pandemic on March 11, 2020. On May 31, WHO reported that the number of global cases had exceeded 5.9 million. It remains difficult to determine the full extent of the social and economic impacts of the outbreak and this uncertainty is expected to continue for some time to come. Over the past 50 years, Samsung Electronics has successfully navigated through countless crises together with our employees, suppliers, customers, and local communities by putting people first, and contributing to communities, nations, and humanity. Capitalizing on these strengths, we will continue to ensure the safety and well-being of our employees, and support our consumers and communities in the battle to overcome the COVID-19 pandemic.

Prioritizing Safety in the Workplace

The health and safety of our employees remain our top priority. Since the early stages of the COVID-19 outbreak, we have operated a dedicated 24-hour team responding to public health authorities' announcements with remedial measures for each country. We are also providing transparent updates to our employees on the impacts of COVID-19, including each worksites' situation and reactive measures. COVID-19 has impacted all of us, and we have adapted to this new work environment to support the safety and well-being of our employees and suppliers. Our aim is to establish a safe and efficient work environment while minimizing the disruption faced by consumers in accessing our products and services.

An Improved Work Environment for Employee Safety

Our Actions		Kim's Work Day
· 14-day self-quarantine for employees who traveled outside of South Korea on business · Offering COVID-19 testing and medical expenses for symptomatic employees · Recommendation to refrain from unnecessary domestic and international travel via text message · Applying mobile diagnosis survey	Returns from business trip	After returning from a long business trip to Europe, Kim did not commute to the office and instead worked from home for 14 days. The day before returning to the office, she took the mobile COVID-19 diagnosis survey and read the Company's precautionary advice.
· Mandating face masks when entering worksites · Operating designated test centers · Limiting passenger capacity on elevators · Placing thermal cameras · Providing emergency childcare	10:00	Kim takes advantage of the flexible working hours policy. She wears a face mask on her way to work and visits the company's dedicated test center. Before entering the office, she walks past thermal cameras that check her body temperature.
· Distribution of the CEO's message	10:05	Kim reads the CEO's message posted on the company's online bulletin that encourages employees to participate in ensuring workplace safety and overcome COVID-19.
· Thermometers and hand sanitizers in the offices · Video conferences via Samsung Wormhole · Distribution of the COVID-19 prevention guidelines and safety supplies to Contact Centers	11:00	Kim participates in a video conference to discuss the business impacts of COVID-19 via Samsung Wormhole, a global cooperation solution. She supports managing and distributing the COVID-19 prevention guidelines and safety supplies to Contact Centers.
· Social distancing in the cafeteria · Wider selection of take-out menus	12:00	As part of the social distancing campaign, Kim and her colleagues refrain from sitting across from each other while dining at the cafeteria, or take their lunch to their desks.
· Relocation of production sites utilizing the global network · Daily monitoring of all worksites against the impact · Face masks distribution to all employees	16:00	Some of the premium smartphones manufactured at the Gumi production site in South Korea will be temporarily produced at our production site in Vietnam due to COVID-19. During a video conference, production managers from the Gumi and Vietnam production sites and marketing managers for the European market share plans and discuss ways to secure flights for key engineers as well as other logistics related topics.
· Shutdown of company's sports and group activity facilities · Daily disinfection of commuter buses, elevators, and other company facilities · Text message notifications on social distancing · Mandatory face masks on commuter buses	19:00	Kim checks her text messages encouraging social distancing and decides to cancel her dinner appointment. She takes the employee commuter bus, which is disinfected daily. Public facilities including meeting rooms and lobbies are also disinfected daily after employees have gone home.

Overcoming Crisis and Recovering the Community

As a responsible global corporate citizen, we are committed to helping resolve problems faced by the communities in which we work. To this end, we allocated KRW 2.6 trillion to maintain the safety of our supply chain. We also extended our technical support and service periods to support our customers using our products and services. We provided technical support, expert personnel, knowledge, and infrastructure to the local communities, and donated USD 39 million to governments, medical, and educational facilities in areas severely affected by COVID-19.[1)]

Support for Our Suppliers

Business Funds [2)]
- Provided KRW 1 trillion business operation funds at zero to low-interest rates in line with Co-Prosperity programs, such as Win-Win funds and payment support funds
- Advanced payments of KRW 1.6 trillion for suppliers

Air Transport Costs
- Support for logistics costs in cases where air freight delivery is required for emergency materials supply

Simplified Authorization Process and Consultation Support
- Simplify parts approval process and provide consulting when diversification of raw materials and parts suppliers is needed

Suppliers

The unprecedented supply and demand pressures associated with COVID-19 caused a direct impact on thousands of our suppliers across manufacturing to customer service. We are supporting suppliers whose businesses have been affected by the pandemic by providing stabilization funds and logistics costs. We will provide ongoing support wherever needed by understanding our suppliers' difficulties through our 'Suppliers Support Center.'

Customers

We continue to help our customers use and access our products and services in a safe environment. We have developed a variety of solutions to reduce the risk of infection, such as a hand wash notification application and web meeting application. We have set up a help desk to support customers impacted by social distancing restrictions and extended the warranty on a number of our products. We have also added functions in our Global Goals application that provides consumers with accurate information on COVID-19 and to encourage participation in relief efforts.

IT Solutions for Infection Prevention

Hand Wash - Hand Wash Notification Application

Handwashing is one of the easiest methods to help prevent the spread of COVID-19. We developed and launched a Hand Wash application for the Galaxy Watch that reminds users to wash their hands regularly. The application provides notifications, urging users to wash their hands while giving prompts throughout the hand washing process: five seconds for turning on the tap and apply soap; and after 20 seconds for rinsing.

Webex on Flip - Web Meeting Application

COVID-19 can be spread through indirect contact as well as via respiratory droplets. Video conferencing helps lower the risk of infection by reducing face-to-face contact. Through a partnership with Cisco, we launched a next-generation video conference solution, Webex UX. Webex on Flip Integration offers voice and video calls and real-time screen sharing to support a smooth work experience any time and anywhere.

Footnotes:
1) As of end of May, 2020
2) Samsung Electronics, Samsung Electro-Mechanics, Samsung Display, Samsung SDI, Samsung SDS, Samsung C&T Corporation, etc.

GLOBAL CRISIS

Customer Support

With the COVID-19 continuing to spread across the world, many countries are restricting the movement of its citizens. To prevent any inconvenience in requesting and receiving repair services under these circumstances, we are operating a 24-hour help desk on the Samsung.com website. In addition, we provide a service to collect products from customers in person and deliver repaired products at locations chosen by customers in countries, including the United States, Germany, Russia, Turkey, and Thailand, which can be requested at no additional cost. The repaired products are disinfected with UV-C light and delivered to customers afterwards. Furthermore, for products whose warranty expires at times when customer service is limited due to COVID-19, we are providing a one-month extension of warranty starting from the date when customer service resumes, which may vary from country to country. Also, in countries including the United States, the United Kingdom and Spain, we are providing a designated hotline and providing a free mobile phone repair service to express our gratitude towards the medical staff fighting the COVID-19 outbreak.

Encouraging Participation in the Global Community

Samsung Global Goals – Application to Support UN's Sustainable Development Goals

Sharing information in a transparent manner and encouraging participation of global citizens is crucial in overcoming COVID-19 crisis. We added COVID-19 related information to Samsung Global Goals application that was developed to support the Sustainable Development Goals. From April 2020, users could access the COVID-19 related contents provided by the UNDP, such as news and prevention activities. Through the application, the users could also make donations directly to the World Health Organization(WHO) to participate in the relief efforts.

Footnote:
1) United Nations Development Programme

Local Community

Future Generations

We believe students and future generations should all have access to quality education. However, this access has been restricted due to school closures and social distancing policies in many parts of the world. Based on our rich experiences in corporate citizenship, we developed online education platforms and content in which students of all ages can participate. We also provided tablet PCs and other devices to make remote learning more accessible to young children and students across the world.

Online Education Support

We support bringing education online in many countries including Italy, Panama, Spain, Brazil, Chile and Russia. In Italy, we are providing training guidance and various online contents to 60,000 teachers to support remote learning. In Panama, we collaborated with the Ministry of Education and digital education NGO, FundaSTEM, to develop a home-schooling application, which enables communication between students and teachers.

Digital Devices for Online Learning

While access to online learning expanded as a result of COVID-19, children with limited access to digital devices have suffered from a lack of educational opportunities. In an effort to improve access, we supported underprivileged children with digital devices, including 30,000 tablet PCs, in South Korea and Spain.

Medical Assistance

COVID-19 has a direct and negative impact on the health of citizens around the world. To assist those affected by COVID-19 in returning to everyday lives, the medical system must be operated in a stable manner, and medical staffs should be able to conduct examinations and treatments in a safe environment. To help, we provide infrastructure and products and participate in various donation activities, such as re-donation of 50,000 masks donated by our client, to the Daegu Medical Association.

Supporting Residential Treatment Center - Yeongdeok Training Institute

We provided our Yeongdeok Training Institute to be used as a treatment facility to support Daegu and the South Gyeongsang Province, two regions in South Korea that suffered from a shortage of medical staffs and facilities due to the surge in the number of COVID-19 patients. The facility was used to treat those with mild symptoms of the virus, allowing general hospitals to focus on treating those with more severe symptoms.

Product Support - Providing Smart Devices and Medical Supplies for Medical Staff

We provide smart devices and medical supplies for medical staff to help prevent the spread of COVID-19 and to ensure the smooth operation of the health system. In particular, we provided 2,000 smartphones for medical staffs in the United Kingdom, 250 hospital beds to Tunisia, as well as ultrasound devices and other products to Argentina.

Key Activities

Vietnam
Fundraising to support people at higher risk (Employee donation + fund matching)

Mexico, India
Food package deliveries to people at higher risk

Europe
Support governments to develop COVID-19 tracing application

Preventing the Spread of the COVID-19

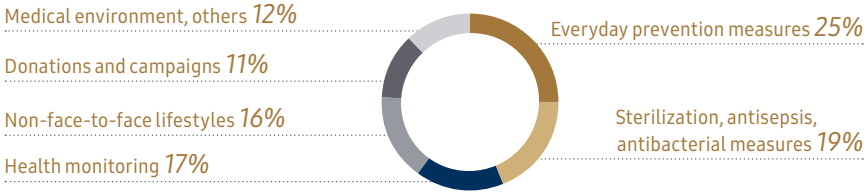
Smart Factory - Boosting Mask Production

When South Korea – which was affected in the early stage of the global COVID-19 outbreak - experienced a shortage of masks, we used our in-depth manufacturing knowledge to help local mask suppliers boost their output. Our experts improved the manufacturing process of these companies and shared our technical know-how to increase the productivity in a short time. In addition, we used our global network to support the supply of key raw materials, while producing molds ourselves and providing them to the companies. We aim to expand our support for mask manufacturing companies to Poland and other countries. At the same time, we also plan to broaden the production support program coverage to test kits.

Preparing a Better Future via Collective Intelligence

As a global IT company, we are well placed to help tackle many of the wider issues created because of the COVID-19 pandemic. By converting innovative ideas to minimize the spread of the virus and developing real-world technologies to support society, we are doing our utmost to pave the way for a successful global recovery. In order to gather ideas for solving the COVID-19 crisis, we invited employees from around the world to participate in a large scale debate held through our collective intelligence platform, 'MOSAIC'. Approximately 107,000 global employees participated in the two-week debate in 2020, the highest number ever since the MOSAIC's launch in 2014. During the event, 1,620 different ideas were presented and we expect to materialize these ideas into our products and services so that all can benefit from them.

Key Proposals



Total participants:	*Approximately 107,000 persons*
Ideas presented:	*1,620 ideas*

PRIORITY AREAS

Materiality Assessment

We identify sustainability issues that impact our business and share our progress with stakeholders in a transparent way through our sustainability report. We pool all relevant issues based on media reports, peer benchmarking, global standards and initiatives on sustainable management, and expert opinions, and then identify the most meaningful / relevant material issues through an expert review and discussion with related departments. In identifying the most important issues of 2020, we applied the sustainability management criteria for the technology and communications category specified by the Sustainability Accounting Standards Board (SASB) Materiality Map. Material issues were prioritized according to the economic, social, and environmental interests of stakeholders, as well as business impacts, such as revenue, costs, and reputation. The results of the materiality assessment are finalized after the review of experts in sustainable management and the Corporate Sustainability Management Office.

Interviews with Sustainability Management Experts

In 2019, we communicated with ESG evaluation agencies, environmental research institutes, NGOs, impact investors and sustainability experts to introduce our approach to sustainability management issues, key activities and progress, and gather feedback from stakeholders. The opinions we gathered were reflected in the materiality assessment and will be considered when planning our sustainability management activities.

-Participants: Youngjae Ryu (Sustinvest), Eunkyung Lee (UN Global Compact Network Korea), Kyung Sun Chung (Root Impact), Dexter Galvin (CDP), Michael Rohwer (BSR), Robert Lederer (RBA)

Pooling material issues

- Created a pool of material issues based on a comprehensive analysis of 1,600 news articles, peer benchmarks on 79 issues, and industry issues (UN SDGs, TCFD, GRI, SASB, WEF Sustainability Metrics, etc.)
- Selected 28 issues through interviews with sustainable management experts and relevant departments within our company

Prioritization

- Prioritized sustainable management issues according to the analysis of social impact and business impact

Social Impact

- Assessed economic, social, and environmental impacts to stakeholders (customers, shareholders, investors, employees, suppliers, local communities, NGOs, governments, and media)

Business Impact

- Assessed the impacts material issues on our revenue, costs, and reputation

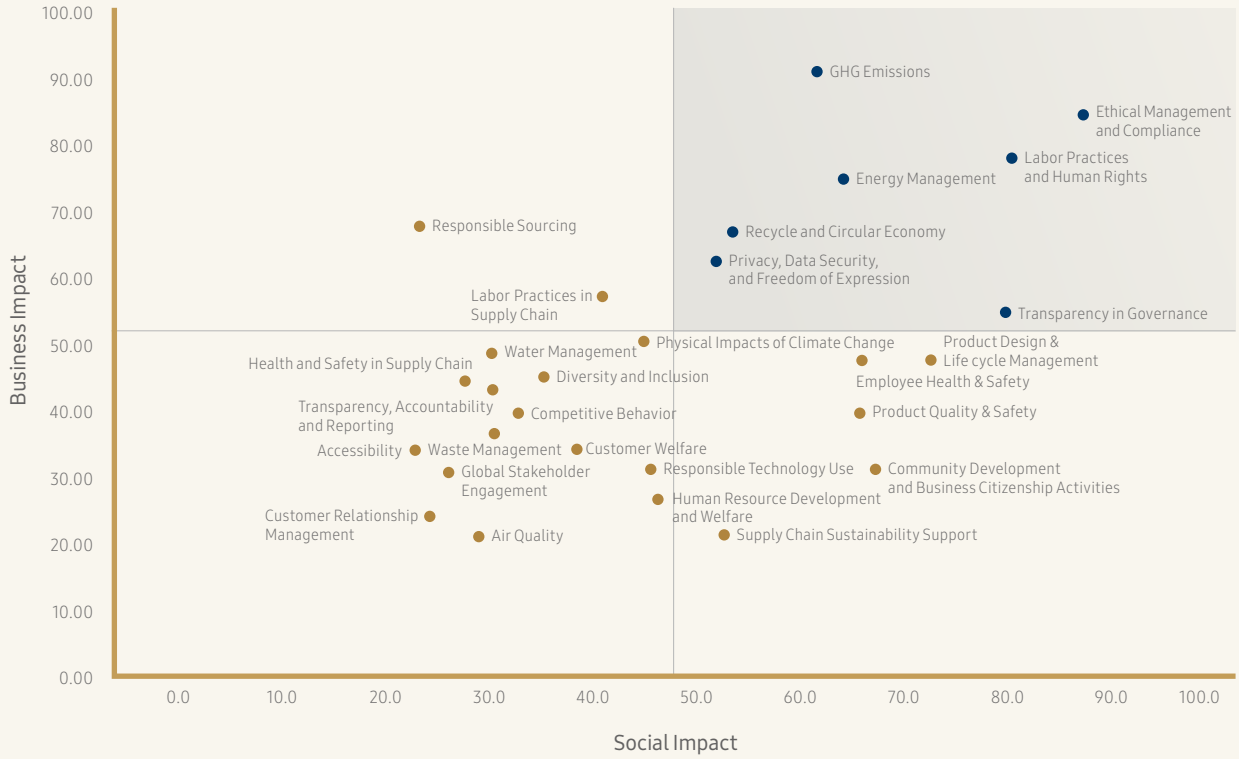
Internal and external expert review

- Reviewed by Samsung Electronics top management and Corporate Sustainability Management Office
- Material issues selected through external sustainability management expert interviews

Materiality Analysis Result

	Priority Areas	Details
01	Climate Actions	Global societies are cautioned that climate change is expected to deteriorate biodiversity, human health and food systems. Some regions are even warned that they may face unpredictable levels of crisis. Such crisis will have a significant impact on companies' activities and that global response is needed.
02	Circular Economy	As natural resources are depleted, sustainability becomes essential throughout the entire process of purchasing, developing, manufacturing, distributing, using and disposing of products. Therefore, it is necessary to move away from a linear economy that consumes and dispose resources after one-time use to a circular economy that empowers efficient use of resources by expanding the reuse of materials and recycling.
03	Labor & Human Rights	The protection, respect and remedy of human rights are essential to the sustainable development of a global society. Companies must comply with international human rights guidelines and national laws throughout their management activities, establish relevant policies, and regularly assess the status of policy compliance and improvement activities.
04	Privacy & Cybersecurity	As the damage and threats from various types of cyber attacks have increased in recent years, cybersecurity and privacy have become more important. Cybersecurity should be considered in the entire process from product development to production. Moreover, user's personal information must be thoroughly protected regardless of the purpose and method of use in various products and services in order to prevent the misuse of personal information.
05	Corporate Governance	For transparent and responsible management, the Board of Directors makes decisions on matters stipulated by laws or articles of incorporation, delegated matters from the general shareholders' meetings, and important matters related to the company's basic policy and business practice, while helping and supervising the executives' decisions.
06	Compliance	Compliance with laws and regulations is one of the most basic principles of business activities. In the case of global companies, compliance must be thoroughly followed to conduct business in accordance with the global norms and laws of each country where the business operates.

Materiality Analysis Matrix



Sustainability Issues	Our Main Activities and Results in 2019	GRI Standards	UN SDGs
Energy management GSG management	· Achieved 92% in renewable energy use rate in the United States, China, and Europe (aim to reach 100% by the end of 2020) · Received a 2019 Green Power Leadership Award for Excellence from the United States Environmental Protection Agency (EPA)	GRI 302 Energy GRI 305 Emissions	7 AFFORDABLE AND CLEAN ENERGY 13 CLIMATE ACTION
Recycling and circular economy	· Expanded the use of sustainable materials including renewable plastics, bioplastics, and sustainably-sourced papers · Expanded the application of modular design to products including BESPOKE Refrigerator and Cube Air Purifier	GRI 301 Materials	12 RESPONSIBLE CONSUMPTION AND PRODUCTION 15 LIFE ON LAND
Labor practice and human rights	· Held educational sessions on labor and human rights in hand with international organizations including the International Organization for Migration (IOM) · Held stakeholder engagement forum in Vietnam to strengthen communication with our stakeholders	GRI 402 Labor Relations GRI 407 Freedom of Association and Collective Bargaining GRI 408 Child Labor GRI 409 Forced or Compulsory Labor GRI 412 Human Rights Assessment	8 DECENT WORK AND ECONOMIC GROWTH
Privacy, Cybersecurity and freedom of speech	· Developed and released the Samsung Data Protection Guidelines · Samsung Knox platform 3.2 was rated "strong" in 27 out of 30 categories in Gartner's May 2019 report	GRI 418 Customer Privacy	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Transparency in governance	· Appointed an Independent Director as the Chairman of the Board for the first time	GRI 102 Governance	16 PEACE, JUSTICE AND STRONG INSTITUTIONS
Ethical management and compliance	· Enhanced the independence of the Corporate Compliance Team, which reports directly to the CEO since reorganization · An independent expert group, Samsung Compliance Committee, was launched to oversee business	GRI 419 Compliance	16 PEACE, JUSTICE AND STRONG INSTITUTIONS

01

PRIORITY AREAS

Climate Actions

ALIGNMENT WITH UN SDGS

[Goal 7] Ensure access to affordable, reliable, sustainable and modern energy for all

7. 2 — By 2030, increase substantially the share of renewable energy in the global energy mix
7. 3 — By 2030, double the global rate of improvement in energy efficiency
7. a — By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil fuel technology, and promote investment in energy infrastructure and clean energy technology

[Goal 13] Take urgent action to combat climate change and its impacts

13.3 — Improve education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

With the Paris Agreement, signed in Paris in December 2015, the transition to a new climate system and a low-carbon model for the world economy began. In August 2019, the United Nations Intergovernmental Panel on Climate Change (IPCC) published the 'Special Report on Climate Change and Land'. The report warned that climate change will impact biodiversity, human health and food systems to the extent that some regions will face a crisis at an unprecedented scale. The IPCC called for an urgent global response.

Samsung Electronics has been taking action to tackle the issues of climate change. We identify related issues, analyze risks, and establish and implement counter-strategies. We regularly discuss climate actions through committees and councils, and manage Greenhouse Gas (GHG) emissions (Scope 1 and Scope 2) at all worksites every month through the Global Environment, Health, and Safety System (G-EHS). Furthermore, we are working with suppliers, the Samsung institute of Safety & Environment and related departments to reduce other indirect GHG emissions (Scope 3).

Governance

Samsung Electronics management considers climate change as an important challenge. The Board of Directors – our top decision-making body – receives regular reports on issues related to climate change. Our CFO, who also serves as a Chief Risk Officer (CRO), operates risk councils with the chief executives of various functions, such as environment, public affairs, legal, and communications. The Environmental Safety Committee is held every year to review environmental management, climate change issues, and response activities. To respond to climate change, we operate a company-wide council composed of executives in the environmental sector. The GHG management Council is held twice a year and oversees the implementation of our GHG reduction projects. Moreover, an 'Eco-Council' is held twice a year and establishes strategies for energy-efficient products development.

Climate Change Strategy

To efficiently respond to climate change, we analyze related risks and opportunity factors, and design effective counter-strategies. This includes consideration of various scenarios to identify the impact of climate change on our business over time. Specifically, we use the IPCC AR5[1)] defined Representative Concentration Pathway (RCP) scenarios, the International Energy Agency's (IEA) Energy Technology Perspectives (ETP) 2016, and the Nationally Determined Contributions (NDC).

Footnote:
1) Fifth Assessment Report

The Key Impact/Risk of the 2°C Scenario[1)]

- Manufacturing costs could increase due to greater focus on GHG emissions and energy mix conversion, leading to higher electricity charges.

The Key Impacts/Risks of the 4°C Scenario[2)]

- Frequent occurrences of extreme climate and meteorological conditions such as heatwaves, droughts, floods, cyclones, and forest fires could cause disruption to manufacturing and distribution systems, leading to higher raw material prices and lower productivity.
- Extreme climate and meteorological conditions could affect economic activities, reducing product sales.

Footnotes:
1) RCP2.6 is representative of a scenario that aims to keep global warming likely below 2°C above pre-industrial temperatures.
2) Business as usual Scenario: Scenarios without additional efforts to constrain emissions ('baseline scenarios')

Climate Change Action

Climate change risks and opportunities affect almost every aspect of our business from our products and services to manufacturing processes, supply chain, research and development, and other sales activities. We expect the impact on product development and manufacturing to be especially significant. This has led us to develop energy-efficient products while working hard to reduce GHG emissions. In the short-term, we consider carbon prices (carbon credit prices), extreme weather conditions, and changes to consumer behavior as the leading potential risks, and recognize the development of energy-efficient products as an opportunity. In the mid-term, we expect changes to consumption patterns and participation in the Certified Emission Reduction market as opportunities for the company. In the long-term, we consider the efficient reduction of GHG to be critical acting as both a risk and an opportunity.

Footnote:
1) 7 major product categories - refrigerators, air conditioners, washing machines, televisions, monitors, laptop computers and mobile phones

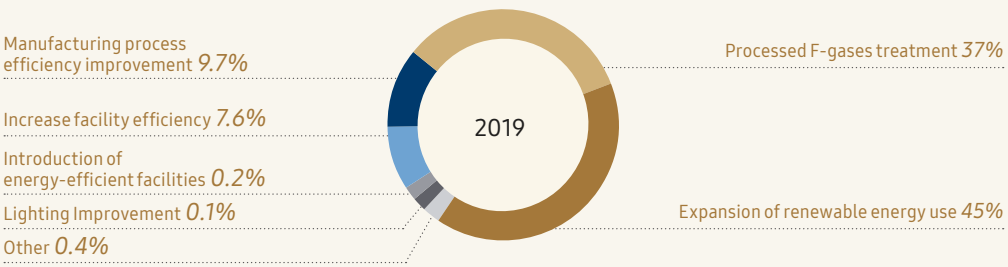
Reduction of GHG emission at worksites	Expansion of energy management	Reduction of external GHG emission
· F-gases[1] reduction facility operation in semiconductor production process · Implementation of GHG reduction projects	· Establishment of energy management system at all worksite and maintenance of certificates · Expansion of renewable energy use	· GHG reduction at the product use stage · Management of GHG emissions from suppliers, logistics and employees' business trips

Footnote:
1) Fluorinated gases

Reduction of GHG Emission at Worksites

With the recent expansion of facilities and production volume, Samsung Electronics' GHG emissions have gradually increased. We continue to improve the efficiency in gas processing and to streamline our operations, thus maximizing GHG reductions compared to forecasts while minimizing the increase in emissions. Every year, each worksite to project their GHG emissions, identifies GHG reduction tasks optimal for their manufacturing processes, and develop and promote suitable action plans. In 2019, we implemented a total of 498 GHG reduction projects, including enhancing the efficiency of F-gases processing facilities, upgrading to high efficiency equipment, and streamlining the manufacturing process. As a result, we reduced GHG emissions by a total of 5,098,000 tonnes, which is an increase of 75% compared to 2018. Such achievement was possible by increasing the reduction amount of emissions per GHG projects and actively introducing renewable energy. In 2020, we plan to reduce GHG emissions through promoting additional projects, including reduction of F-gases consumption and improvement of throughput, expansion of renewable energy use, and reduction of LNG use.

Reduction of GHG Emissions



Applying IoT technologies to Infrastructure Facilities

The Yeongdeok Training Center in South Korea and Ho Chi Minh City worksite applied IoT technologies and established the foundation for a monitoring system and an energy active control environment. Our Smart Factory technology enables optimized control of infrastructure facilities by applying energy-saving algorithms that take into account of outdoor conditions, air conditioning loads, and device performance. By applying such technologies, Ho Chi Minh City worksite was able to reduce 12.4% of energy consumed in air conditioning. We plan to expand the application of Smart Factory technologies to other worksites, including South Korea, the United States, and Southeast Asia in the future.

Expansion of Renewable Energy Use

In June 2018, we committed to sourcing renewable energy for 100% of all our worksites in the United States, Europe and China by 2020. In South Korea, we also pledged to install solar and geothermal facilities in our parking lots, roofs, and new buildings in Suwon, Hwaseong, and Pyeongtaek. To support this commitment, we established and implemented optimized regional action plans, including solar power generation facility installation, renewable energy certificate purchase, power purchasing agreements, and green pricing. In South Korea, we successfully installed solar power generation facilities at Suwon and Giheung sites at scales of 1.9 MW (2018) and 1.5 MW (2019) respectively. We are also reviewing the installation of additional solar and geothermal power facilities at other worksites including Giheung and Pyeongtaek. Furthermore, in India, we signed a renewable energy supply contract with a wind and solar power suppliers, and purchased renewable energy certificates in Mexico. Our worksites in Brazil also receive a certain percentage of renewable energy. As a result, in 2019, 92% of the electricity used in our sites in the United States, Europe, and China was generated by renewable energy, and we are on track to reach our 100% renewable energy goal in 2020. We will continue expanding the use of renewable energy in regions where renewable energy can be secured.

Target of renewable energy use in the U.S., Europe, and China

(2020) 100%

Achieved 92% by 2019

Total Renewable Energy Use

2017	2018	2019
229 GWh	1,356 GWh	3,220 GWh

Expansion of Renewable Energy Use in the United States

Recognizing our success in expanding the use of renewable energy, the United States Environmental Protection Agency presented Samsung Electronics America, Inc., Samsung Austin Semiconductor, LLC, and Samsung Semiconductor, Inc. with the 2019 Green Power Leadership Award for Excellence in Green Power Use. This award reflected a 56% increase in the use of renewable energy following the installation of rooftop solar power generation facilities and purchase of Renewable Energy Certificate (REC). Meanwhile, in November 2019, Samsung Austin Semiconductor, in partnership with Apple, eBay and Sprint, agreed to purchase 75MW of renewable energy produced by a large-scale wind farm.

Reduction of External GHG emissions

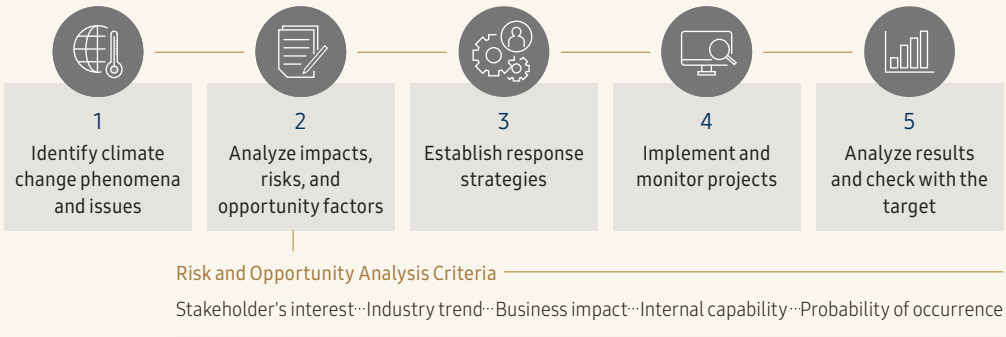
Samsung Electronics develops and launches energy efficient products to reduce GHG emissions during the product use stage. Through 25 reduction tasks implemented in relation to the products transportation, including transportation route changes, loading efficiency improvements, and transportation management efficiency improvements we reduced total GHG emissions by 1,544 tonnes in 2019. In addition, to reduce emissions generated by business travel, we increased the use of video conferencing. In 2019, we hosted almost 187,000 video conferences that led to a reduction of 3.5% in emissions generated by employees traveling from South Korea to overseas compared to the previous year. Furthermore, we also monitor and manage GHG emissions generated by our suppliers. In 2019, we joined the CDP Supply Chain Program and surveyed the status of GHG emissions and renewable energy use of our suppliers that accounted for 80% of all our business transactions. We provided incentives to suppliers who met the CDP standards for information disclosure and established GHG emission reduction goals. We will continue our efforts in working with our suppliers for GHG emissions reduction.

Risks and Opportunities

Samsung Electronics regularly monitors issues related to climate change, such as GHG and renewable energy use at worksites around the world. The person in charge at each worksite is then asked to immediately report any issue that may arise to the headquarters. Through the Environmental Safety Committee or the GHG management Council, we regularly check these issues and discuss further actions to be taken before relaying decisions to the related departments.

Risk and Opportunity Analysis

Samsung Electronics analyzes the risks and opportunities related to climate change and prioritizes issues based on materiality and impact.



Issue Identification and Risk and Opportunity Analysis

	Risks	Our approach	Opportunities
Regulations Issues	Carbon tax	Develop refrigerants with a low global warming potential	Driving a worksite CDM[1] Program Securing carbon credit
	GHG emissions trading	Establish an emission reduction system and an emission trading handling system	
	Use of renewable energy	Engage renewable energy purchase contracts, registering for green pricing, purchasing REC	Expanding renewable energy use, reducing GHG emissions
	Product energy efficiency regulations	Develop energy efficient products	Receiving sustainable certificates and energy lables
Physical Issues	Cyclone and flood	Expand investments in facilities for natural disaster damage prevention and restoration	Contribution to local communities for climate change adoption and support with technologies against climate change
	Yellow dust	Establish damage prevention and restoration scenarios and invest in HVAC facilities	Create new business opportunities for home appliances, such as air purifiers and dryers
Others	Corporate reputation	Reinforce internal sustainability activities and strengthen external communication	Enhancing the brand image
	Changing consumer behavior	Survey consumer trends and expand sustainable product development	Proactive response to consumer demand on eco-conscious products

Footnotes:
1) Clean Development Mechanism

Metrics

Samsung Electronics uses various metrics, such as GHG emissions, GHG emissions intensity(CO_2e per KRW) and energy expenditure and savings, to measure and determine risks and opportunities related to climate change. Specifically, we use the internally determined carbon price to guide our decision-making process in terms of energy efficient facilities, power generation, carbon credit settlement, and renewable energy project investment.

GHG Emissions

Our GHG emission target for 2020 is 1.55 tonnes of CO_2e/KRW 100 million, which is a 70% reduction from 5.17 tonnes of CO_2e/KRW 100 million in 2008. In order to meet this target, we expanded the implementation of emission reduction projects and the use of renewable energy. In 2019, the GHG emission intensity was 3.14 tonnes of CO_2e/KRW 100 million, a 12% decrease from 2018.

GHG Emission Trend[1)]

Unit: thousand tonnes CO_2e

Category	2017	2018	2019
Direct emissions (Scope 1[2)])	3,668	4,855	5,067
Indirect emissions (Scope 2[3)])	9,907	10,296	8,733
Total emissions[4)]	13,575	15,151	13,800

Footnotes:
1) GHG emissions calculated by measuring the total amount of renewable energy used
2) Fuel use, gas emissions from semiconductor processing, and LPG & LNG use, etc.
3) Consumption of purchased electricity, heat or steam
4) GHG emissions (location based) that do not take account of renewable energy usage was 13,585,000 tonnes CO_2e in 2017, 15,173,000 tonnes CO_2e in 2018, and 16,065,000 tonnes CO_2e in 2019

Climate Change Adaptation

When we consider the construction of new worksites or large-scale facilities, we evaluate the risk of extreme weather conditions as well as risks of storms and floods that can be caused by climate change, and reflect the learnings to the design of the worksites facilities. Since 2012, we have conducted about 20 cases of risk assessments and consulting on storm and flood damage. For the worksite in Vietnam, we analyzed rainfall and water level changes in recent years as well as flood risks caused by heavy rainfalls during the flood tides and reflected the results in the site design. As a result, we designed the worksite to be located higher than the surrounding land, while also installing storm water pipes and drainage facilities. Meanwhile, the new worksite located on the east coast of the U.S. also analyzed the recent impact of hurricanes in the region, and supplemented the standards for buildings and facilities in consideration of potential future risks of heavy winds.

02

PRIORITY AREAS

Circular Economy

ALIGNMENT WITH UN SDGS

[Goal 12] Ensure sustainable consumption and production patterns

12.2 — By 2030, achieve the sustainable management and efficient use of natural resources
12.5 — By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

[Goal 15] Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

15.2 — By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

Circular Economy Principles

As natural resources run out and consumers' demand for sustainable products rise, sustainability across all stages is becoming increasingly important, from materials purchasing, development, and manufacturing to logistics, use and disposal. We need to make the transformation from a linear economy that consumes resources only for single-use, to a circular economy in which we close the loop and expand the reuse and recycling of our resources.

We have established circular economy principles to minimize social and environmental impacts and to use resources efficiently throughout the entire product life cycle. Based on these principles, we developed mid-to long-term goals for 2030 and are making all efforts to achieve them.

Our Circular Economy Principles

1. Expanding the purchase and use of sustainable resources at the materials selection and product design stage, while minimizing the use of unnecessary raw materials
2. Working towards maximizing the product lifespan by designing products based on end customers' needs and rigorous quality testing
3. Minimizing use of raw materials by creating compact product designs and packaging, and by maximizing transportation efficiency
4. Reducing the use of virgin natural resources and raw materials by maximizing reuse of post-industrial materials from the manufacturing stage
5. Extending the product lifespan and increasing customer satisfaction through systematic product management geared by a professional service network

Our Circular Economy Goals

Use of sustainably-sourced paper in packaging[1)]	Use of recycled plastic[2)]	Amount of e-waste take-back[2)]
By 2020 *100%*	By 2030 *500,000 tonnes*	By 2030 *7,500,000 tonnes*

Footnotes:
1) Sustainable forest certification paper and recycled paper (for Consumer electronics and IT & Mobile communications products)
2) Accumulated amount since 2009

Actions for Circular Economy

We strive to carry out various circular economy activities at every stage of our product's lifecycle, such as use of sustainable materials, minimizing the use of resources, extending product longevity, and e-waste take-back and recycling.

Use of Sustainable Materials

Bioplastics

Bioplastics are produced from renewable biomass sources and have a reduced environmental impact compared to petroleum-based plastics. In cooperation with our bioplastics suppliers, Samsung Electronics is developing sustainable materials to apply to products and packaging materials. In 2019, bioplastics containing 37% of biomass were used in part of the front casing of the Galaxy S10e.

Eco-conscious Packaging Materials

We are gradually replacing product packaging materials with sustainable materials such as paper instead of plastic, vinyl, and other disposable materials. We plan to fully convert paper for packaging and user manual into sustainably-sourced paper by 2020. Plastic containers and vinyl packaging used for mobile product packaging are being replaced by pulp mold and paper, while vinyl wrappings for earphones and cables are being replaced with sustainable materials. Also, we plan to gradually replace all vinyl packaging materials for home appliances with sustainable materials.

Minimal Use of Resources

Recycled Plastic

In 2009, we set a goal to increase our use of recycled plastic to reach 500,000 tonnes on a cumulative basis by 2030. To achieve this goal, in 2019, we used recycled plastics in products ranging from refrigerators, washing machines, air conditioners, TVs, monitors, to mobile phone chargers. In addition, some 30,000 tonnes of recycled plastics, including Post Consumer Materials (PCM) plastics recycled from e-waste, were used in our product manufacturing.

Sustainable Display Kit for Mobile Phone

Recycled plastics are used not only in our products, but also in the materials used at our stores. In 2019, we developed a recycled plastic material that can be used in mobile phone display holder (visual merchandising) at retailers and used it when exhibiting the Galaxy S20. The holder is designed to be re-used for new smartphone models by simply replacing a small number of parts, thus contributing to the efficient use of resources.

Modular Design

The BESPOKE refrigerator incorporates a modular design that allows customers to switch door panels without disposing of the refrigerator, thus creating new designs while reducing the use of resources. Cube Air Purifier enables users to configure units depending on their needs and for desired capacity. Additional units can be purchased if necessary, contributing to the efficient use of resources.

Extending Product Lifespan through Repair Service and Improved Durability

Accurate diagnosis and quick repair of products can extend their lifespan and maintain performance, while improving resource efficiency. At Samsung Electronics, we strive to increase customers' accessibility of our services by operating both globally-run and country-optimized service channels, and by providing digital technology applied service.

To enhance the durability of our products, we perform rigorous endurance tests to measure strength, drop resistance, waterproof capacity, and lifespan that satisfy international standards. We also carry out our own durability tests, including free-fall tests against various types of floor materials from different angles and various waterproof conditions tests.

Expanding Take-back and Recycle of E-waste

We have established an e-waste take-back system to expand the efficient recovery and recycling of e-waste. As a result, we globally run various collection and recycling activities such as self-collection, consignment collection, and stakeholder collaboration, all of which are customized to regional characteristics. The Re+ Program is our most representative e-waste recycling program, through which end-of-life electronics products are collected through our stores and service centers across the globe. The collected e-waste is recycled using responsible methods, and recovered materials are reused as resources to reduce virgin feedstocks. Of these, mobile phone batteries are processed through the four steps of drilling, dipping in salt-water, drying, and crushing to extract rare metals such as cobalt and nickel, to increase resource recycling. Since 2009, we have established and operated 'Samsung Requirements for Waste Electrical and Electronic Equipment (WEEE) Managing', which includes compliance with environmental, health and safety laws, management of suppliers, and prohibition of illegal export of waste.

From 2009 to 2019 we have collected a total of 4.03 million tonnes of e-waste. In 2019, the Asan Recycling Centre, our recycling facility in South Korea, collected 24,524 tonnes of valuable resources including copper, aluminum, steel and plastic. Some 1,882 tonnes of recycled plastics collected from e-waste were used in product manufacturing. Through these efforts, we continue to reduce the plastic waste and the use of petrochemical raw materials needed to manufacture new products.

Re+ is Samsung Electronics' signature recycling program, meaning "Re+ makes 'PLUS' to the environment", designed to increase resource efficiency.

Earth Day Campaign - Take-back and Recycling of E-waste

Starting from 2015, our employees have celebrated Earth Day on April 22 with consumers to promote a range of sustainability campaigns. In South Korea, we have collected unused mobile phones to extract and reuse materials such as metals and plastic, or to upcycle some of the units. In 2019, we expanded this program to other countries including the United States, Spain, and Russia. In addition, we gave away plant pots, eco-conscious souvenirs, and brochures on environmental awareness to customers at 25 our service centers around the world.

Galaxy Clean-up Partnership - Used Mobile Phone Collection and Recycling in Africa

In emerging countries, including many African nations, mobile phone recycling infrastructure is scarce, so most of the wasted phones are often discarded in landfills. To minimize the environmental impact, we launched the Galaxy Clean-up program in the Netherlands in partnership with T-Mobile and social enterprise Closing the Loop. Under this program, together with our partners, we buy, collect and recycle two scrap phones from Africa for every Galaxy S10e sold to a consumer through T-Mobile. As of end of 2019, more than 10,000 used mobile phones were collected and recycled through this partnership.

Galaxy Upcycling - Used Mobile Phone Turned to IoT Device

Galaxy Upcycling is a program that transforms Samsung Galaxy phones that are no longer in use into Internet of Things (IoT) devices that can contribute to the environment and society. Since 2017, we have supported the development of a medical device that can screen for eye diseases, which resulted in the production of a medical device which costs only 10% of the price of the commercial device. In 2019, a total of 90 devices were distributed in Vietnam, enabling preemptive eye check-ups for more than 14,000 people.

Kvadrat Phone Case - Plastic Waste Turned into Smartphone Case Cover

Under a partnership with premium Danish textile brand Kvadrat, we developed a special Galaxy S20+ case cover, made up of recycled plastic waste. Two phone cases can be created from the yarns made from just one 500ml plastic bottle. Through this, we minimize environmental impacts by reducing plastic bottle waste, and encourage upcycling by creating new products. In addition, Kvadrat's recycled materials production process consumes less energy than conventional materials production processes, reducing CO_2 emissions from the manufacturing process.

As part of our support for the United Nations Sustainability Development Goals, we have donated a portion of the revenue from these case sales to the United Nations Development Program Programme(UNDP).

03

PRIORITY AREAS

Labor & Human Rights

ALIGNMENT WITH UN SDGS

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

8.5 — By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

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

Samsung Electronics respects the freedom and fundamental rights entitled to all people. We ensure equal opportunities for all employees and job applicants, and do not tolerate discrimination of any kind. We also respect the freedom of association of all our employees. Furthermore, we embed and integrate the respect for human rights throughout our business to protect and promote the rights of employees of our company and of people in our supply chain.

Our Approach and Actions to the UN Guiding Principles on Business and Human Rights

	Approach	Actions
Labor and Human Rights Policies and Education	· Compliance with international human rights guidelines such as UN Guiding Principles on Business and Human Rights and RBA Code of Conduct as well as local laws and regulations · Raising employee awareness on compliance to labor and human rights policies and procedures	· Respect employees' labor and human rights in accordance with Samsung Electronics' Global Code of Conduct and Business Conduct Guidelines · Establish policies in accordance with international human rights guidelines as well as local laws and regulations to protect employees' labor and human rights · Execute worksite-specific labor and human rights obligatory training programs
Labor and Human Rights Adverse Impact & Risk Management	· A system to identify the adverse impact on labor and human rights as well as potential risks · An implementation assessment process to minimize adverse effects on labor and human rights	· Operate various types of channels in and outside the company to identify adverse impacts on labor and human rights · Establish evaluation and inspection system for risks and adverse impacts on labor and human rights · Periodically assess compliance with the labor and human rights policies, the status of internal management, external environmental risks, and additional evaluation for high-risk situations · Consistently monitor labor and human rights impact assessments and seek improvements
Stakeholder Engagement	· Committed to active communication with stakeholders to improve and strengthen labor and human rights	· Communicate with employees through in-house channels such as works council to protect employees' rights and improve working conditions · Communicate with external stakeholders through various channels such as multistakeholder forums and investor roadshows to discuss external stakeholders' point of interest in labor and human rights
Grievance Resolution	· Grievance system to detect hidden risks and adverse impacts on labor and human rights · Prohibiting disadvantageous treatment to those who file complaints and ensuring transparency of grievance procedure	· Develop and operate Grievance Resolution Channels tailored to the characteristics of each worksite in accordance with Samsung Electronics' guidelines · Offer various grievance channels that are easily accessible to external stakeholders as well as employees · Ensure transparent disclosure of grievance resolution process, prohibition of disadvantageous treatment for those who file complaints, and protection of employees' actual and procedural rights in the grievance resolution process

Labor and Human Rights Policies & Education

Labor and Human Rights Policies

We have established a robust set of labor and human rights policies based on: Universal Declaration of Human Rights, the United Nations Guiding Principles on Business and Human Rights (UNGPs); Organization for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises; UN Convention on the Rights of the Child (UNCRC); International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work; the ILO Core Conventions. We abide by the Code of Conduct of the Responsible Business Alliance (RBA) and comply with the laws and regulations of the countries where we conduct our business.

To protect labor and human rights, we have established various policies and regularly evaluate our compliance status and explore ways to enhance our policies. In addition, we strive to protect the human rights of vulnerable groups, such as children and juvenile workers, migrant workers, and apprentices. Furthermore, in the United Kingdom, we comply with the United Kingdom's Modern Slavery Act 2015 and issue a dedicated statement of compliance every year. We are also taking reference to this law to prevent forced labor and human trafficking at our and our suppliers' worksites and strengthening our managerial system and stakeholder engagement in other countries as well.

Labor and Human Rights Training

To comply with our labor and human rights policies and raise employees' awareness, we have developed training programs tailored to the characteristics of workplaces and are strengthening our regular training for our employees every year. In 2019, 96% of employees at overseas production subsidiaries and 100% of employees in South Korea completed training programs.[1)] We especially strengthened our training program in South Korea with modules on anti-discrimination, bullying, and sexual harassment in the workplace. In cooperation with external stakeholders, we provided special training on protecting vulnerable groups such as migrant workers. In 2020, we will launch a new developed labor and human rights training program in collaboration with Business for Social Responsibility (BSR) for all our employees, including those in production worker, supervisors, and management. This training contains different content according to employee job position and function, but all programs aim to address all labor and human rights topics including what labor and human rights employees naturally have, why labor and human rights matter to business, what our company's and employees' responsibilities are for respecting labor and human rights, and how to bring labor and human rights into practice.

Footnote:
1) 125,081 overseas employees, 98,513 employees in South Korea

Ethical Recruitment Training Program with International Organization for Migration (IOM)

In Malaysia and Hungary, together with the International Organization for Migration (IOM), we trained our human resource personnel, as well as those from our suppliers and recruitment agencies, on the ethical recruitment of migrant workers. Through this, we were able to raise awareness on protecting the rights of migrant workers and share the importance of eradicating forced labor.

Contents of Training

- Understanding modern slavery and migrant workers
- Laws and regulations related to migrant workers in each country
- Management policies for migrant workers in worksites
- Corporate efforts to eradicate forced labor
- Measures to end forced labor and remedies for victims

STEM[1)] Capability Development Training with Indonesia Business Coalition for Women Empowerment (IBCWE)

As a global company, we seek to continuously strengthen the capabilities of female employees. In Indonesia, along with the Indonesia Business Coalition for Women Empowerment (IBCWE), an implementing partner of ILO, we provided female employees with the Mind-Set training module of STEM education program developed by ILO to strengthen their capabilities.

Contents of Training

- Vision Setting
- Critical Thinking
- Teamwork
- Time Management
- Problem Solving

Footnote:
1) Science, Technology, Engineering and Mathematics

Labor and Human Rights Impact & Risk Management

Our Global Labor Issues (GLI) Committee manages the impacts and risks on labor and human rights. The GLI Committee, which convenes bi-weekly to discuss labor and human rights issues, consists of executives and working-level employees from five functions (Human Resources Team, Legal Office, Partner Collaboration Center, Global Public Affairs Team, Global EHS Center). Any important matters are escalated to the Sustainability Council, which consists of key executives, and then reported to top management.

Labor and Human Rights Impact & Risk Identification

We operate a system that identifies and monitors factors that can affect employees' labor and human rights through a range of internal and external channels.

Worksite Monitoring System

Our worksite monitoring system supports the enforcement of labor and human rights and compliance management in areas such as working environment, workplace culture, operation of representative bodies, and management of suppliers. The system, provided in 12 languages, including English, Chinese, Vietnamese, and Spanish, evaluates 55 items in seven areas[1)] every year, and is instrumental in identifying worksites that need in-house expert consultation to strengthen capacity and make improvements.

Footnote:
1) Communication, Organization Management, Employee Relationship Capacity, Employee Committees, Training, Compliance, Supplier Management

Listening to Employee Opinions

We listen to our employees and understand their needs and concerns about labor and human rights through a variety of communication channels. In 2019, for example, we held 30 top management-led Townhall meetings, which were attended by 14,260 employees[1)] in South Korea. Attendants were informed of business updates and participated in a question and answer session with the management on various agenda including work environment and benefits. Outside of South Korea, heads of subsidiaries hosted 236 similar sessions, where 77,329 employees attended. In addition, we encourage our department heads to meet frequently with team members to discuss matters related to their work relationships and career development. A total of 766 meetings were held and 21,182 employees attended[1)].

Footnote:
1) Including duplicate attendees

Listening to External Stakeholders

To identify labor and human rights risk factors that could impact our worksites around the world, it is also important to engage with our external stakeholders. To do this, we engage in regular dialogue with governments, academia and civil society. In 2018, we hired international experts in human rights to identify key issues in labor rights while listening to independent specialists' advice, which further strengthened our stakeholder communication.

Labor and Human Rights Impact & Risk Assessment and Audit

We periodically evaluate the level of labor and human rights compliance and monitor improvement activities.

Samsung Electronics Internal Risk Assessment

Every year we use our workplace monitoring system to identify those worksites which are considered high-risk and then conduct a detailed analysis of each of them. In 2019, we performed assessments in six locations, including two in Southeast Asia and one in Europe. As a result, a total of 99 tasks that required improvements were identified, of which 82 tasks (82.8%) were completed.

Process of Samsung Electronics Internal Risk Assessment

Steps	Description
Select assessment targets	· Based on assessment result of the worksites monitoring system, select two to three worksites every six months that require capabilities enhancement and general improvements
Audit team set up	· Each business division to select six experts in labor and human rights[1)]
Self assessment	· Self assessment of sites based on the inspection checklist
On-site audits	· On-site audits based on 139 criteria using RBA standards[2)] and Samsung Electronics' standards[3)]
Follow-up management	· Share inspection results with the management team of respective worksite · Establish future improvement plans and measures to prevent recurrence within one week from the completion of inspection · Implement improvement tasks by forming a task force consisting of experts in human resources and environmental safety · Monitor progress of improvement tasks on a monthly basis via worksite monitoring system

Footnotes:
1) Employees trained in the RBA methodology
2) 51 items in the fields of labor and human rights, health and safety, environment, and business ethics
3) 27 items in human rights and legal compliance; 41 items in human resources policy, employee representative bodies, etc.; 10 items in infrastructure; 10 items classified as 'other'

Responsible Business Alliance Audit Management System

As a member of the Responsible Business Alliance (RBA), we apply their Code of Conduct across our businesses and our supply chain. We use the RBA on-site audit protocols to identify the working environment risks in labor, health and safety, environment, business ethics, and management system so we can implement corrective action plans.

In 2019, we worked with RBA approved auditing firms to assess compliance with local labor laws and RBA assessment standards at ten production sites in four countries. As a result, two worksites in Brazil - Campinas and Manaus - received the RBA "One Star" Award for the first time among our production sites. Three requirements for the Award are a minimum of silver grade[1)] from an RBA-VAP (Validated Assessment Program) on-site audit, a fully functioning workers forum operated by the worksite, and having trained one or more RBA Certified Factory Lead.

Footnote:
1) For factories with a minimum VAP score of 160 and all Priority findings closed

Stakeholder Engagement

Samsung Electronics communicate with stakeholders through various channels, addressing our position on their interests as well as our major activities. As well as hosting multi stakeholder forums in Vietnam, we actively participate in initiatives such as the Responsible Labor Initiative (RLI) from the RBA, and communicate with investors through IR ESG (Environmental, Social, Governance) roadshows. We communicate with our employees to ensure that we respect employees' rights and improve employees' working conditions. We also engage in continuous dialogue to seek mutual solutions and detect and prevent potential risk factors.

Human Rights Impact Assessment (HRIA) Communication

From 2018 to 2019 in Vietnam, we conducted the Human Rights Impact Assessment (HRIA) based on the three principles of UNGPs: Protection, Respect, and Remedy. For an objective review, we identified potential labor and human rights risks with expert support of BSR through employee interviews, document reviews and stakeholders engagement. While we did not detect any human rights violations in need of immediate action, we established remediation and mitigation measures for areas where further progress could be made, using recommendations from BSR. As part of our continuous improvement efforts, we share our findings, recommendations, and multiyear action plan with the stakeholders involved and interested in our HRIA.

Multistakeholder Forum

Since 2018, we have hosted multistakeholder forums in Vietnam. In 2019, we discussed women's rights and women's empowerment in the Vietnam with Vietnam General Federation of Labour (VGCL) and the Center for Studies and Applied Sciences in Gender - Family - Women and Adolescents (CSAGA). Various stakeholders, including the Vietnamese government, over 200 guests from various NGOs, media, academia and experts, participated to share research findings and opinions. The forum opened up a discussion on corporate policies, practices and implications on preventing sexual harassment, women leadership, and women's empowerment.

Global Investor Communication

We hold IR ESG roadshows in North America, Europe, and Asia for global investors to share our sustainability management performance and plans, and had a question and answer session on topics such as our Human Rights Impact Assessment (HRIA). We reflect investors' opinions in our sustainability management plan and activities and will continue to strengthen investor communication using various channels.

Works Council

A total of 42 worksites around the world operate works councils in accordance with the laws of the respective countries and the requirements of each site. Employees elect their own representatives under the principle of direct and anonymous voting.

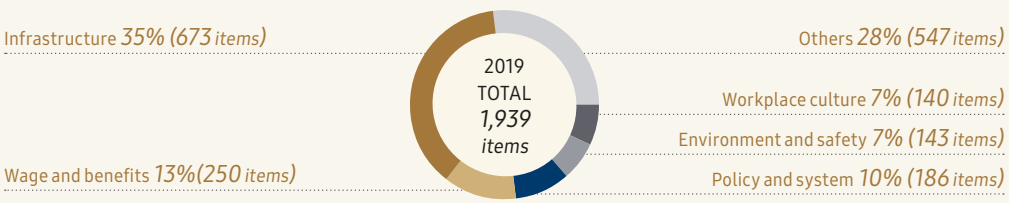
Works Councils by Region (2019)

Category	Works Councils (number)	Members of the Works Councils (person)	Represented Employees (person)
South Korea	7	190[1)]	100,454
China	10	130	18,300
Southeast/ Southwest Asia and others	14	261	113,743
Europe[2)], North America, Central/Latin America	11	120	22,467
Total	42	701	254,964

Footnotes:
1) Appointment of workers' members under the applicable laws from among all consultative members (3 to 10 by workplace)
2) European Works Council was established in 1996

The works council of each worksite holds regular meetings to discuss various agenda items to improve the working conditions of employees, including wages and welfare. In 2019, a total of 2,165 items were proposed, of which 1,939 (89.5%) items were resolved. The results of consultations are disclosed to all employees through internal communications channels.

Works Councils Agenda in Worksites (2019)



Grievance Resolution

We recognize that a grievance, understood as a perceived injustice evoking an individual's or a group's sense of entitlement according to UNGPs, can be any kind of proposal or claim raised by our employees, including complaints about their working environment.

Channels and Status

Based on our Grievance Resolution Guidelines, we operate four types of grievance resolution channels[1]: hotline, online, offline channels, and Works Councils. The channels are provided in the various languages. In addition, worksites employing migrant workers provide information on grievance resolution channels in their native languages to enhance employee accessibility and grievance channel effectiveness. Furthermore, we operate Samsung Electronics' Global Business Ethics & Compliance system[2], corporate hotline[3], and email account[4] to listen to the opinions of various external stakeholders.

Footnotes:
1) 300 channels at 29 worksites, as of March 2020
2) https://sec-audit.com
3) https://www.samsung.com/sec, +82-2-2255-0114
4) civilsociety@samsung.com

Grievance Report Ratio by Resolution Channel (2019)

A total of 11,828 grievances were reported in 2019, out of which all grievants were addressed within our grievance handling timeline. Details of the resolution were also provided. The number of grievances has declined over the past three years. In particular, the number of grievances regarding working environment decreased by 1,462 (33%) from 4,403 in 2017 to 2,941 in 2019. As part of our efforts to provide a better working environment in 2019, we established of a healthcare center in Vietnam, installed reflectors for worksite safety in Brazil, expanded resting spaces and remodeled restrooms in Slovakia, and upgraded the company's cafeteria in Russia. In addition, grievances relating to workers right have resulted in improvements of policies, internal processes and increased capacity building efforts throughout the entire organization.

Grievance Reports and Types

Unit: No. of reports

Types of Grievance	2017	2018	2019
Work conditions	3,894	4,467	4,015
Work environment	4,403	4,165	2,941
Interpersonal relationships	2,414	2,362	2,910
Health and safety	1,755	1,184	1,350
Work change	550	440	456
Organizational change	139	115	71
Harassment	64	63	68
Discrimination	36	18	17
Total	13,255	12,814	11,828

Procedure

Our grievance resolution procedure is based on the "Effectiveness criteria of non-judicial grievance mechanisms" as stipulated by the 31st clause of the UN Guiding Principles on Business and Human Rights. Anyone can raise their concerns, free from any discrimination and retributions, and can expect the procedure to be fully transparent and protect the human rights of the involved throughout the entire process. If we decide that discipline is deemed necessary after a thorough review of the reported grievance, we provide fair chances for the accused to appeal against the findings. Our disciplinary actions comply with the laws and regulations of the respective countries and also with the policies of each worksite. We evaluate our procedure periodically to make improvements to the procedure.

Grievance Resolution Procedure

	1 Grievance Report	2 Grievance Confirmation and Review	3 Results Notification	4 Grievance Resolution
Description	·Employees and external stakeholders report all grievances related to the company ·A case manager is designated	·Confirm details and facts of reported grievance ·Listen to grievant about desired measures ·Review remedial measures according to confirmed details	·Deliver results of review and gather feedback from grievant	·Grievance is resolved through measures such as training, disciplinary action against the accused, providing useful information or support, and improving infrastructures, related policies and procedures
Time frame[1)]	Notification of receipt within 24 hours	Within 5 days of receipt	Within 7 days of receipt	Varies by case

Footnote:
1) If each step is not processed by the time frame due to reasonable reason, the grievant will be notified of specific reason

Grievance Case

Our grievance procedure applies to our suppliers as well as our employees. In 2019, one of our employees was dissatisfied with the security screening process required for entering the worksite and spoke abusively to a security company employee. His case was handled as follows:

STEP 1 Grievance Report	STEP 2 Grievance Confirmation and Review	STEP 3 Results Notification	STEP 4 Grievance Resolution
· Security company employee filed grievance (Security company employee in charge → security company manager → worksite security manager → worksite grievance resolution manager)	· Identified facts and reviewed remedial measures after conducting interviews with grievant, accused, and witnesses	· Notified plan for measures to grievant and gathered grievant's opinion	· Disciplinary action and training to perpetrator to prevent recurrences

04

PRIORITY AREAS

Privacy & Cybersecurity

ALIGNMENT WITH UN SDGS

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

9.c — Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020

Privacy

To protect consumers' personal data, we introduced the Samsung Data Protection Guidelines and operate local policies that reflect relevant laws and regulations of each country. Moreover, we are consistently providing training to our employees through our Data Protection Handbook, Privacy Policy on Data Sharing with Third Parties, and other personal data protection guidelines. We will continue to support our employees to recognize the importance of personal data protection and to apply related polices and regulations to their practices.

Personal Data Protection Principles

Samsung Electronics respects and protects users' personal information when they are using our mobile phones, smart TVs, and various other products and services.

Users' Right of Choice

Samsung Electronics respects the users' right to make choices on the use of their personal data. Therefore, we let users decide on whether to allow us to collect, use, and share their data with third parties when using our products and services.

Better User Experience

Personal data is used to provide a more customized experience for consumers when they use Samsung Electronics' diverse products and services lines.

Ensuring Stability

Personal data collected during the use of our mobile phones, smart TVs, other products and services is safely protected through measures such as encryption. For instance, we designed and applied the fingerprint and face recognition technology on our mobile phones so that customers can use their phones and access their personal data safely.

Organization for Personal Data Protection

Global Privacy Office

- Establishes strategies, policies, and relevant processes to protect personal data
- Provides legal advice and support on issues related to personal data
- Examines and takes measures to prevent security issues related to our products and services
- Provides employee trainings to raise awareness

Privacy Steering Committee

- Makes decisions on important policies and protection measures associated with personal data protection
- Shares agenda set by each products and business divisions and discusses solutions

Privacy Offices in Business Divisions

- Conducts audit on personal data protection and provides training to business divisions
- Promptly responds to issues

Privacy Offices in Regional Offices

- Conducts audit on personal data protection and provides training to the headquarters of the regions
- Promptly responds to issues

Management Process for Personal Data Protection

1 Sensing

Monitor personal data protection global trends by analyzing related laws and regulations and by joining international associations[1)]

2 Policies Set up and Training

Set up personal data protection policies, personal data processing outsourcing guidelines, and a data breach response process while providing training to employees

3 Programs Operation

Operate personal data protection programs by business divisions and regions

4 Audits and Improvements

Conduct audits on the implementation of personal data protection policies and operations

Guide action items for improvement based on the findings

Footnote:
1) Samsung Electronics joined the International Association of Privacy Professionals (IAPP) in 2015

Personal Data Protection Training

All employees including our top management are required to take mandatory training on personal data protection every year. In addition, we provide a specialized offline training curriculum for employees who handle personal data during their daily tasks.

Privacy Legal Management System (PLMS)

To comply with the related regulations on personal data, we operate a Privacy Legal Management System (PLMS). In conjunction with the Product R&D and Product Life-cycle management system, PLMS examines the security risk of personal data protection at each stage of the products' and services' life-cycles from planning, development, operation, to discontinuation, and prevents them in advance. In addition, we regularly provide news updates and reference materials so that employees can stay up to date with the latest trends in personal data protection.

Samsung Privacy Portal

We respect our customers' right to make choices on the use of their personal information. In 2019, we launched Samsung Privacy Portal[1)], a dedicated website that gives a comprehensive overview of how we manage personal data. On this site, customers can check the status of devices and services linked to their Samsung account, and view our latest privacy policy.

Footnote:
1) Samsung Privacy: https://privacy.samsung.com/#/

Personal Information Protection Training Status[1)]

Unit: person

82,744

Footnote:
1) Scope: All employees in South Korea

Cybersecurity

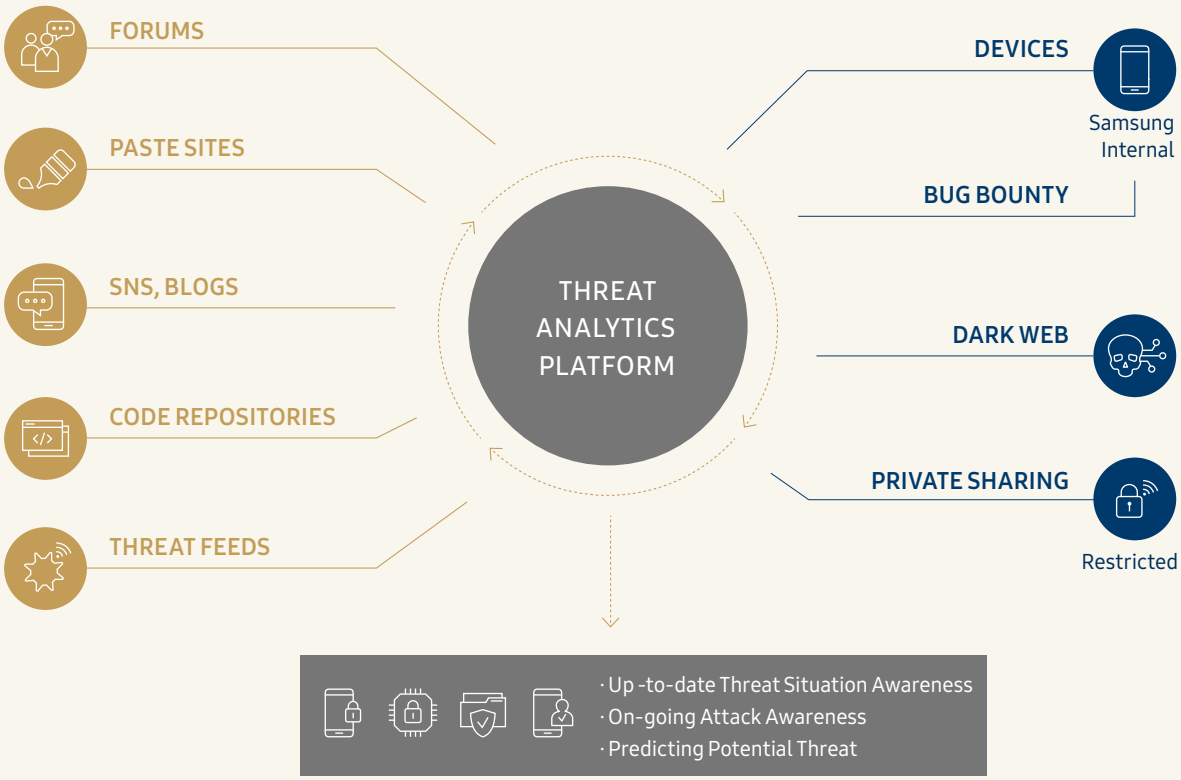
With the number of cyberattacks continuing to rise, cybersecurity remains a key focus for us. Protecting the integrity of our systems, safeguarding personal data, and protecting our reputation is imperative. As a leader in the mobile, TV, and consumer electronics industries, we are committed to a significant investment in the highest level of security in our products and services. We comply with international regulations related to cybersecurity and protect our customers' fundamental rights.

Actions for Cybersecurity Enhancement

We have established a process of detection, analysis, prevention, and protection as the four core actions for cybersecurity. We design products and implement security solutions based on these four areas.

Detection

Potential cybersecurity threats can be reduced through proactive detection. We operate an AI-based cybersecurity threat analysis solution that continually scans for malicious and suspicious cyber activities. The solution collects and analyzes public security vulnerabilities and gives early warnings to relevant departments on potential security threats.



Analysis

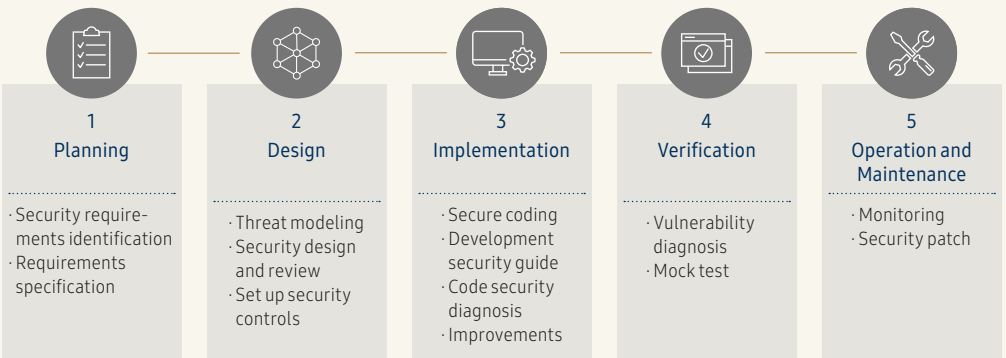
To automatically analyze and systemically manage known security vulnerabilities, such as the information from Common Vulnerabilities and Exposures (CVE), we developed the AI-enabled vulnerability analysis system. Through this system, we are efficiently preventing known vulnerabilities to enter into our products.

In addition, we actively engage with external developers to create more reliable security systems. One example is through our bug bounty program, which rewards developers who detect security vulnerabilities in our products and software and offer suggestions to resolve the issues.

Prevention

We are committed to protecting our products against cybersecurity risks, any security vulnerabilities, and potential threats detected throughout the product design and production stages. To support this goal, we standardized our process and developed a security implementation program, Security Development Life cycle (SDL). It eliminates the potential security vulnerabilities in the product throughout all phases of the software development process, including planning, design, implementation, verification, operation, and maintenance. We implement the security development management system based on SDL to efficiently perform overall security tasks from diagnosing the security of products to mitigating vulnerabilities and security check data control.

Security Development Life cycle Process



Protection

If personal data such as credit card transactions, passwords, and health information stored on electronic devices leaks, it can severely jeopardize the safety of individuals and their property. To safeguard personal information from cybersecurity risks, we developed a military-grade security platform called Samsung Knox. Our Knox security platform consists of highly secure multilayer defense and security mechanisms that can protect data from malicious software and threats. It also complies with the nine principles of data protection we have already established. The platform has successfully met the rigorous security requirements set by governments and major enterprises around the world, providing business users with a robust mobile security solution. We are gradually expanding the range of Knox security platform coverage from smart phones, tablets and smart TVs to smart home appliances, IoT and 5G devices.

The Basic Principles of Knox Security Platforms

- Hardware Root-of-Trust
- Protected Communication
- Authentication
- Protected Storage
- Device Integrity Protection and Detection
- Validated Cryptography
- Hardware Backed Security
- Disable Backdoors
- Secure Firmware Update

Knox Certifications

Common Criteria	DISA	FIPS 140-2	FIPS 140-2	NCSC	ASD
ANSSI	CCN	AIVD	Traficom	ISCCC	STRK

05

PRIORITY AREAS

Corporate Governance

ALIGNMENT WITH UN SDGS

[Goal 16] Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

16.6 — Develop effective, accountable and transparent institutions at all levels

Under the principle of transparent and responsible business practices, our Board of Directors operate to support our management to lead the company in an innovative and proactive manner. The Board of Directors helps management to make right decisions by reviewing and resolving matters stipulated by law or the Articles of Incorporation, matters delegated by a general meeting of shareholders, and important matters related to our fundamental business policies and operations, as well as supervising the management's actions. The composition and operation of the Board of Directors are determined by our Articles of Incorporation and the Regulations of the Board of Directors, which are stricter than the standards stipulated by the Commercial Act of South Korea. This enable us to enhance the independence, transparency, expertise, and diversity of the Board.

Board Composition

The Board of Directors can be composed of three to fourteen members in accordance with Article 24 of the Articles of Incorporation. Although Article 383 of the Commercial Act stipulates that the Board only needs three or more members, we allow up to fourteen members considering the scale of our business, and the need to increase the efficiency of operations and decision making. As of March 31, 2020, our Board of Directors consists of eleven members, six of whom are Independent Directors, in accordance with Article 542-8 of the Commercial Act, which requires a company to have at least three Independent Directors who constitute more than half of the total number of Directors. The Board composition, as of end of March, 2020, is as follows.

Board Composition

● CHAIR, ○ MEMBER

Name	Title and Roles	Management Committee	Audit Committee	Independent Director Recommendation Committee	Related Party Transactions Committee	Compensation Committee	Governance Committee
Jae-wan Bahk	Chairman of the Board & Independent Director		●		○	○	●
Kinam Kim	Vice Chairman & CEO (DS)	●					
Hyun-Suk Kim	President & CEO (CE)	○					
Dong-Jin Koh	President & CEO (IM)	○					
Jong-Hee Han	President & Head of Visual Display	○					
Yoon-Ho Choi	President & CFO	○					
Sun-Uk Kim	Independent Director		○		●		○
Byung-Gook Park	Independent Director			○		●	○
Jeong Kim	Independent Director			●		○	○
Curie Ahn	Independent Director			○			○
Han-Jo Kim	Independent Director		○		○		○

Independence and Transparency of the Board

The majority of our Board of Directors is composed of Independent Directors, and the position of CEO and Chairman of the Board have been separated since 2018 to ensure stronger independence and transparency. In 2020, we appointed an Independent Director as Chairman of the Board for the first time to bolster responsible management centered around the Board of Directors to further improve our corporate governance.

The Chairman of the Board listens to the opinions of the Executive Directors and the Independent Directors and acts as an intermediary so that he can supervise the company's management activities more objectively. The Independent Directors hold separate meetings where they can freely exchange their opinions on a wide range of business matters, including how to enhance shareholders' value.

Directors are appointed by a resolution of a general meeting of shareholders in accordance with Article 382 of the Commercial Act. Executive Directors are elected from among the candidates recommended by the Board, while Independent Directors are appointed from among the candidates recommended by the Independent Director Recommendation Committee pursuant to Article 542-8 of the Commercial Act. According to the same Article, the majority of the Independent Director Recommendation Committee must be composed of Independent Directors. Following the Article, our Independent Director Recommendation Committee consists entirely of Independent Directors and nominates candidates through fair procedures.

Expertise and Diversity of the Board

We believe a Board with a diverse array of skills and expertise is a powerful enabler in making important strategic decisions in a rapidly changing business environment. Our three main business divisions-Device Solutions (DS), Consumer Electronics (CE), and IT & Mobile Communications (IM)-are run by our best experts in the field, who participate in the Board's activities as both CEOs and Executive Directors to practice responsible management.

Our Independent Directors are appointed from various fields, such as finance, legal, engineering, IT, public administration, and EHS. They are chosen regardless of nationality or gender to provide their diverse view in Board discussions. This composition ensures the Directors can discuss the Board's agenda from a variety of perspectives and to supervise and advise the management both objectively and professionally.

Characteristics of The Board

Independence

Those who are full-time employees, affiliated to the company's largest shareholder or has important interests linked to the company itself, or recently worked at the company within the past two years are prohibited from serving as Independent Directors

Transparency

All Directors are appointed by a resolution of a general meeting of shareholders

Expertise

Independent Directors are appointed from among individuals with extensive knowledge and experience in the fields of management, economics, finance, accounting, legal, technology, sustainability, etc

Diversity

Candidates for the Board of Directors are not discriminated according to religion, race, gender, nationality, or field of expertise

Board Operation

The Board holds seven to eight regular meetings each year to discuss matters, such as approving quarterly financial statements and convening the AGM and calls extraordinary meetings when deemed necessary. Pursuant to Article 30 of the Articles of Incorporation and Article 8 of the Regulations of the Board of Directors, the Board meeting is convened by the Chairman, who notifies all Directors of the date, time, venue, and agenda of the meeting at least 24 hours prior to the meeting. Each Director has the authority to request the Chairman to convene a meeting for reasons deemed necessary after sharing the agenda item and the reason behind the request. If the Chairman rejects a request for a meeting without a valid reason, the Director who made the request may convene a meeting directly.

In accordance with Article 31 of the Articles of Incorporation and Article 9 of the Regulations of the Board of Directors, a resolution of the Board is approved by a majority of the votes cast by the Directors present at the meeting, with more than half of all the Directors in attendance, unless otherwise stated in the relevant laws. Under Article 391 of the Commercial Act, the Board may adopt a resolution without all or some of the Directors being present at the meeting in person, provided that they attend the meeting by means of a remote communications system that enables the simultaneous transmission and receipt of the voices of all the Directors. Directors who participate in the meeting through this method are counted as present. Pursuant to Article 9 of the Regulations of the Board of Directors, we limit the voting rights of any Director who has a special interest in the agenda in order to systemically eliminate potential conflicts of interest.

Board Committees

The Board of Directors delegates specific responsibilities to six committees to ensure efficient operation in accordance with Article 28-2 of the Articles of Incorporation and Article 11-2 of the Regulations of the Board of Directors. The six committees are the Management Committee, Audit Committee, Independent Director Recommendation Committee, Related Party Transactions Committee, Compensation Committee, and Governance Committee.

The Management Committee is composed of five Executive Directors, to whom the Board of Directors has delegated authorities for the purpose of making prompt decisions on business matters. The other five committees are composed entirely of Independent Directors in order to ensure their independence. The organization, operation, and authority of each committee are set forth in the Regulations of the Committees approved by the Board.

All Directors are notified about any agenda passed by a Board Committee. Any Director may call on the Chairman to hold another Board meeting to put an approved item to another vote, when deemed necessary. However, items approved by the Audit Committee are excluded from revoting to ensure its independence.

The Roles and Composition of the Board Committees

Management Committee

· Deliberates and decides on matters related to business management, finance and other matters delegated by the Board of Directors

Audit Committee

· Supervises matters concerning the overall management, including the company's financial status
· Composed of three Independent Directors

Compensation Committee

· Ensures the objectivity and transparency of decisions related to directors' compensation
· Composed of three Independent Directors

Governance Committee

· Ensures that the company fulfills its corporate social responsibility and enhances shareholder value
· Composed of six Independent Directors

Independent Director Recommendation Committee

· Recommends candidates for independent directorship by assessing their independence, diversity and capabilities
· Composed of three Independent Directors

Related Party Transactions Committee

· Enhances corporate transparency by voluntarily complying with fair transaction regulations
· Composed of three Independent Directors

External Contributions

Contribution	Amount	Details	Date of Approval
2019 Social Contribution Fund	KRW 11.73 billion	· The Social Contribution Fund consists of voluntary contributions by employees and matching funds raised by the company. In 2019, the company matched the employees' donation of KRW 11.73 billion. · The contribution is used for domestic and overseas volunteer programs as well as local social contribution activities.	January 31, 2019
Samsung Dream Scholarship Foundation	KRW 1.12 billion	· The contribution was made to support the education of low-income high school students.	
Sponsoring the WorldSkills Competition	EUR 1.5 million (approximately KRW1.95 billion)	· The contribution was made to WorldSkills International as the top sponsor of WordSkills Kazan 2019.	February 26, 2019
Donation to Chungnam Samsung Institute	KRW 2.991 billion	· The contribution was made to improve the educational environment of the region.	
Contribution to the Korea Occupational Safety & Health Agency	KRW 31.0 billion	· The fund was used for an occupational safety and health center and related infrastructure for workers in the electronics industry.	April 30, 2019
Performance incentive to suppliers of the DS division	KRW 77.45 billion	· The contribution was provided to 296 primary and secondary suppliers of the DS division to prevent work accidents, improve productivity, and promote co-prosperity of the company and its partner companies.	
Financial Support for start-up program at Daegu, Gyeongbuk Creative Innovation Center	KRW 12.0 billion	· Vitalize start-up ecosystem and contribute to job creation to nurture start-ups in South Korea. · Donation to Daegu Gyeongbuk University Start-up. ※ Daegu Gyeongbuk University Start-up established a fund with the donation from Samsung Electronics.	July 31, 2019
Donation to Heemang 2020 Nanum Campaign	KRW 31.0 billion	· The contribution was made to the Community Chest of Korea to fulfill corporate social responsibilities and help the marginalized.	November 29, 2019

06

PRIORITY AREAS

Compliance

ALIGNMENT WITH UN SDGS

[Goal 16] Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

16.3 — Promote the rule of law at the national and international levels and ensure equal access to justice for all
16.5 — Substantially reduce corruption and bribery in all their forms

Compliance with laws and ethical standards is the top priority of our business principles. We have established a compliance management process to operate our business guided by the laws and regulations of each country in which we do business.

Compliance Management Process

1 Prevention
- Employee training, region-specific guidelines, systematic self-audit, help desk, sensing and management of new or revised laws and regulations

2 Monitoring
- Regular and ad-hoc monitoring by dedicated team or staff

3 Follow-up management
- Analysis of root cause of issues, countermeasures and preemptive measures such as education and training

Our Compliance Team, previously under the Legal Office, now reports directly to the CEO and the head of Compliance Team attends all board meetings to support important decisions made by the board. We operate dedicated organizations at each business division and overseas regional offices to manage compliance issues pertaining to each business and region. We operate the Compliance Program Management System (CPMS), which is an IT system designed to manage compliance-related risks. It provides employees with detailed compliance policies related to specific fields, as well as information on regional issues and updates on regulatory trends. In 2020, we revised the global anti-corruption and bribery policy and prepared detailed guidelines for employees to refer to when performing their duties, including the external sponsorship guideline. If employees have questions about work or require assistance determining the legality based on the guidelines, they can seek 1 on 1 consultation from experts at the help desk available through CPMS. We also operate a whistle-blowing system within the CPMS and website, in accordance with the principles of identity protection and prohibition of providing disadvantages to whistle-blowers. Relevant departments support together the company's compliance-related activities across fields including ethics management, privacy protection, intellectual property, human resources, environment, trade, and more.

Compliance Management System by Field

System	Field	Functions	Responsible Units
CPMS	Overall compliance	Compliance violation reports, help desk, self-monitoring, manuals and guidelines	Compliance Team
Ethics Management System	Ethics management	Business principles and misconduct reports	Corporate Auditing Team
PLMS[1)]	Privacy protection	Protection and management of personal data in products and services	Global Privacy Office
IT4U	Intellectual property rights	Prohibition of illegal software use	Corporate IT Strategy Group
GHRP[2)]	Human resources	Compliance with labor standards, provide human resources regulations	Corporate HR Team
G-EHS[3)]	Environment	Environmental safety of worksites and products	Global EHS Center
TCS[4)]	Trade	Strategic use of materials and conflict minerals	Compliance Team
GPPM[5)]	Others	Standardization of global business process	Corporate Management Team
Contract Management System	Others	Standardization of global business process	Corporate Legal Office

Footnotes:
1) Privacy Legal Management System 2) Global HR Portal 3) Global Environment, Health & Safety System 4) Trade Compliance System
5) Global Policies & Procedures Manual

Major fields of Compliance Management

Compliance Training

In an effort to minimize the risk of violating laws and regulations, we provide customized training that reflects the regulatory trends and business environment of each worksite. The training program which includes customized training for each department, training for employees before dispatch, self-training for overseas worksites, among others, is designed for each employee's level of awareness on related topics, position, and regional characteristics. We also distribute compliance guidelines that employees can refer to in their everyday tasks.

Compliance Training

Method	Topic	Description	Target
Offline	Basic Compliance Training	Compliance guide and key regional issues	New employees and career changers
		Global regulatory trends and Samsung Electronics' major issues	New subsidiary leaders, foreign employees, prospective regional experts, prospective expatriates, etc.
	Advanced Compliance Training	Area-specific compliance training considering job characteristics such as fair trade, trade secrets, personal data, intellectual property rights, anti-corruption, and advertising	Key managers of each department, employees who requested special training
Online[1)]	Compliance training on anti-corruption, fair trade, and trade secrets	Introducing South Korean and international laws and regulations on anti-corruption, fair trade, and trade secrets	All employees in South Korea
		Work precautions	

Footnote:
1) The topic of online training varies each year.

Samsung Compliance Committee

Samsung Compliance Committee (the 'Committee') was officially launched on February 5, 2020, with the purpose of implementing 'Integrity' management, the core value of Samsung, by strengthening the compliance and control functions of Samsung's seven affiliated companies.[1)]

The Committee was established as an independent organization separate from Samsung Electronics to ensure independence and autonomy and is led by the chairman, Kim Ji-Hyung, a former Supreme Court Justice, who is well-reputed in the society. The Committee consists of five external members, including the chairman and one internal member. The external members of the Committee were appointed in consideration of their fields of expertise and experience in law, accounting, economics, administration, and other professional fields in corporate compliance.

The Committee may review Samsung Electronics' external sponsorship expenditures and internal transactions, and present its opinions to the company, such as to the Board of Directors, and if the Committee detects a risk of compliance violation by the top management, it may notify the Board of Directors and provide opinions. The Committee may also make appropriate recommendations regarding the establishment of the compliance monitoring policies and plans, compliance monitoring programs and system improvements. In addition, the Committee can directly receive reports on compliance violations by the top management, and if a risk of compliance violation is detected, the Committee may require the compliance officer to investigate, report the results of the investigation, and take corrective measures. If the Committee believes the investigation was inadequate, it may conduct its own investigation on the matter. The Committee holds regular meetings once a month, and additional meetings as necessary, and is actively operating by such as receiving reports on compliance violations via the Committee's website.

The Committee will continue to operate in an independent position without interruption to ensure that compliance becomes deeply rooted in Samsung's culture. Samsung Electronics will secure more advanced compliance monitoring systems as a global company, and thoroughly manage the risk of compliance violations by the company and the top management. Samsung Electronics will continue to put its best efforts to implement its core value, Integrity management, and to become a company that is trusted and respected by society.

Footnote:
1) Samsung Electronics, Samsung C&T, Samsung SDI, Samsung Electro-Mechanics, Samsung SDS, Samsung Life Insurance, and Samsung Fire & Marine Insurance


12:45
Feb 11
Pictures
Selina Greene

SUSTAINABILITY PILLARS

SUSTAINABILITY PILLARS

COMMITMENT TO THE ENVIRONMENT IN OUR OPERATIONS

We are committed to reducing the environmental impact of our business. We focus on 3R activities - Reduce, Reuse and Recycle – to use less and recycle more of our water resources. We also operate a management system to treat pollutants by appropriate processes and are engaged in a range of activities designed to help preserve biodiversity in the regions where we do business.

ALIGNMENT WITH UN SDGS

[Goal 6] Ensure availability and sustainable management of water and sanitation for all

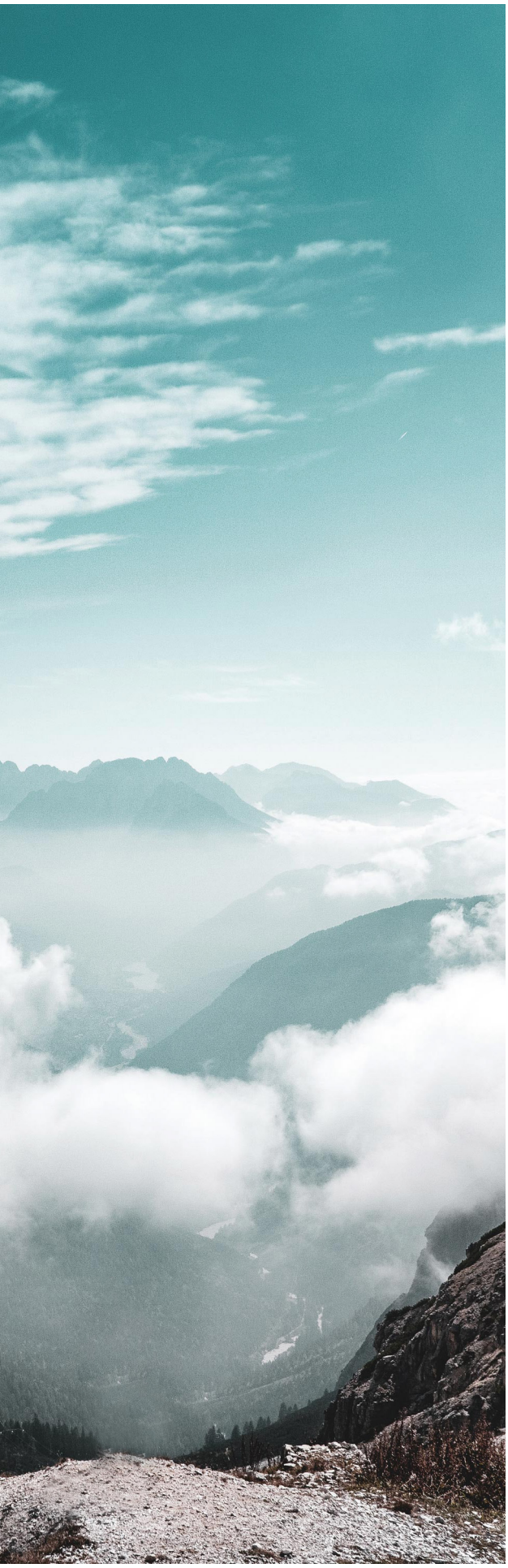
6.3. — By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

[Goal 12] Ensure sustainable consumption and production patterns

12.5. — By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

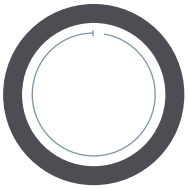
[Goal 15] Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

15.5. — Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species



2019 HIGHLIGHTS

Percentage of EHS Management Systems Certification[1)]



100 %

Percentage of Waste Recycled

95 %

Water usage

67 tonnes/ KRW 100 million

Footnote:
1) Scope: Production sites across the globe

Green Management

Samsung Electronics engages in a variety of environmental protection activities at all our worksites, as well as with our suppliers and local communities all over the world. We comply with 'Environmental Safety Policy' and manage the workplace environment sector based on the Environmental Management System (ISO 14001) and Energy Management System (ISO 50001). We have established four major KPIs in EHS management, GHG emissions, water resources, and waste management, and track our progress and performance.

Our Philosophy

We contribute to the preservation of human life and the global environment through business practice that respects people and nature.

Vision

We provide new sustainable experiences to customers through innovative environmentally conscious products and technologies and lead the sustainable future of the global society

Planet First

1. A slogan that expresses our commitment to corporate social responsibility and sustainability management through business practices that prioritizes environment protection

2. The circular shape of the logo stands for the earth and a new beginning, and the green and blue colors represent a fertile earth and water that will last generations

Key EHS Performance Indicators

EHS management systems[1] (%)

GHG emissions[2]
(tonnes CO_2e/ KRW 100 million)

Water usage[3]
(tonnes/KRW 100 million)

Waste recycle rate[4] (%)

Footnotes:
1) Percentage of ISO 14001, OHSAS 18001 certified manufacturing sites across the globe
2) Total emissions ÷ global revenue
*excluding display sales, applying price index (2005=1)
3) Total usage ÷ global revenue
*excluding display sales
4) Total recycled amount ÷ Total waste generated X 100

Water Resource Management

Water resource management is an integral part of protecting the environment surrounding our worksites and at the same time, an essential part of the product production process. We focus on the 3Rs – Reduce, Reuse, Recycle – in managing water resources. Each of our worksites sets a water consumption target considering the water resources situation in the region as one of our KPIs.

Water Resource Policy

Our Philosophy

We recognize the importance of water in sustainable, social, and corporate management and fulfill our responsibility as a global corporate citizen to protect water resources.

Action Guidelines

Minimize water resource risks in business management

Evaluate the impact of our business activities, such as production on water resources, to minimize risks while continuing to explore and introduce new technologies

Recognize the importance of water resources as part of our corporate culture

Establish the preservation and sustainability of water resources as part of our corporate culture; help employees understand their responsibility for water resource management and consider the impact of our operations on local communities and environment as a top priority

Actively cooperate with external policies on the protection of water resources.

Based on guidelines on water resources, actively cooperate with local and central governments as well as international organizations, to establish and execute policies aimed at protecting and conserving water resources

Disclose our water resource policies and activities

Ensure clear and transparent disclosure of corporate policies and activities regarding the use of water resources to our stakeholders, including local communities

Water Withdrawal by Region

Of all the countries where we operate in globally, five are identified as water-stressed countries, where a total of twelve worksites are based.

Unit: thousand tonnes

Category	Number of worksites	Withdrawal	Discharge	Remarks
Total	36	134,479	108,460	South Korea (7), India (2), Poland (1), Egypt (1)
Water-stressed regions	12	100,307	79,745	South Africa (1)

Water Management Strategy

We use water management tools developed by the Food and Agricultural Organization (FAO) to identify whether our worksites are located in water-stressed regions. To determine water stress of each water basin and the water-related risks for every ten years, we utilize the tools developed by the World Business Council for Sustainable Development (WBCSD) and the World Resource Institute (WRI). We also use CDP's Water Guidance to subdivide the water risks at our worksites located in water-stressed regions and respond with risk-specific strategies.

Water Risk Assessment and Strategy by Region

Country	Type		Strategy
South Korea	Physical risk	Floods	· Build wetlands and dikes to protect worksites from flooding of nearby rivers · Renew catastrophe insurance each year and regularly check flood control equipment
India	Physical risk	Degradation of water quality	· Increase frequency of on-site water quality analysis and improve the efficiency of water treatment facilities
Poland	Physical risk	Floods	· Establish an emergency response system and conduct regular drills in preparation for wastewater leaks caused by river-flooding around the worksites
Egypt	Physical risk	Drought	· Install water storage tanks capable of operating production facilities for an average of one day
South Africa	Regulatory risk	Discharge	· Treat sewage and wastewater from worksites in the terminal treatment facility within the industrial complex (no in-house sewage/ wastewater treatment facility in operation)
All regions	Physical risk	Degradation of water quality	· Secure water quality through the pre-intake water treatment process
	Physical risk	Water outages	· Install dual water intake facilities and water collection facilities to prevent production delays
	Regulatory risk	Regulatory change in water use and discharge	· Abide by in-house criteria that are stricter than the legal discharge standards in each countries
	Regulatory risk	Efficiency-based legislation	· Review water efficiency when building new facilities and invest in improving the water efficiency of existing facilities
	Regulatory risk	Uncertainty over new regulations	· Continuously monitor global environmental regulations
	Reputational risk	Lawsuits related to wastewater	· Continuously monitor effluent discharge · Promptly build an environmental management system for new manufacturing sites

Water Resource Management Activities

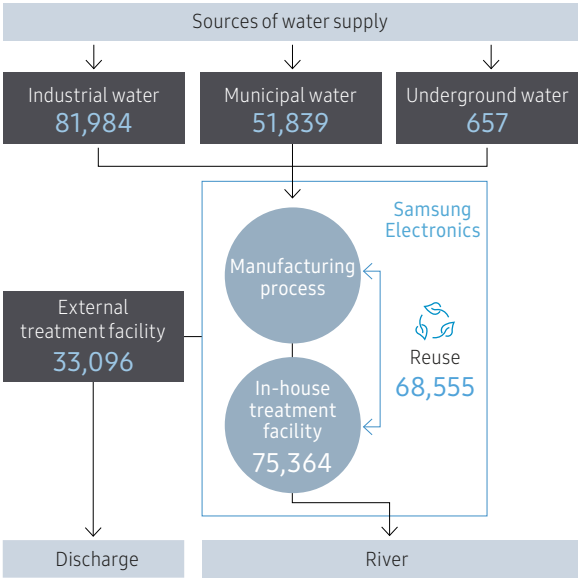
We strive to minimize the amount of water used in the manufacturing process, while maximizing wastewater purification and its subsequent reuse. We classify water resources into four categories: sewage, wastewater, industrial water, and ultra-pure water. In order to increase water reuse at each regional subsidiary, the amount of water reused in each category is managed and measured through the Global Environment, Health & Safety System (G-EHS system) every month. We have installed underground water pollution prevention facilities where required, and discharged water is safely treated using internal and external treatment facilities. When discharging used water directly into a stream through our in-house treatment facilities, we apply in-house standards that go beyond the required legal standard.

Water Use Reduction Activities

We maximize wastewater reuse rates through everyday reduction efforts, such as optimizing our worksites, replacing old valves and improving operation standards. We also pursue structural improvements, such as improving our manufacturing processes and establishing recycling systems. As a result, we reused 68,555,000 tonnes of water in 2019, up 10% from the preceding year. At our semiconductor plants that show high water usage, we changed the process control values, switched wastewater treatment methods, and optimized operations and as a result, achieved daily water savings of 4,461 tonnes, exceeding our savings target. In addition, the Pyeongtaek site, which had installed large-scale new water facilities over past few years, set mid- to long-term water reduction targets, optimizing facility operation efficiency and applying existing saving measures.

Water Resource Flow

Unit: thousand tonnes



Water Reuse Rate Trend

Unit: %

	2017	2018	2019
Water reuse rate	47	46	51

2019 World Water Day Celebration

To celebrate World Water Day each year, our manufacturing sites across the globe carry out river and marine ecosystem conservation activities together with local governments, civil organizations and nearby schools. In 2019, more than 5,000 employees from 26 worksites in countries including South Korea, Mexico, and Vietnam, took part in volunteer activities to help preserve ecosystems near worksites. These activities included cleaning up nearby streams, conducting water preservation education initiatives and campaigns, and other water resources CSR activities.

Waste and Pollutant Management

In an effort to minimize waste generated during manufacturing processes, we developed and mange process-specific waste control systems, including a product design and manufacturing process that considers resource efficiency. All our global worksites monitor the amount of waste generated and recycled every month in order to achieve a waste recycling target of 95%. Worksites that fail to meet their target are encouraged to improve the recycling rate by analyzing the waste disposal methods.

Waste Management

Waste Management Plan

Product Development	· Operate an eco-design evaluation process · Evaluate eco-friendliness in the development phase (resource efficiency, environmental hazardousness, energy efficiency)
Waste Discharge	· Set waste recycling rate targets · Strengthen environmental impact reduction activities (develop and switch to low-toxic substances, neutralize toxic substances, etc.)
Waste Transport	· Comply with conventions on the border control of hazardous wastes · Monitor the routes of waste-carrying vehicles
Waste Treatment	· Visit waste treatment service providers and check their compliance level on a regular basis · Perform annual environmental assessments on treatment service providers (operational capability, environmental management, etc.)

Zero Waste to Landfill

To promote a resource circulation system with zero waste to landfill sites, we strive to develop waste disposal technologies and increase waste separation. In 2019, we developed and applied a recycling technology that extracts copper from copper sludge and produces crude copper (97% copper). In addition, we improved recycling levels by separating and disposing of waste synthetic resin that was previously incinerated. In recognition of such effort, our Hwaseong worksite in South Korea received the Presidential Citation at Leading Companies in Resource Recirculation in September 2019 from the Korean Ministry of Environment.

Pollutant Management

As part of our effort to reduce emissions of air pollutants, we introduced a nitrogen oxide (NOx) reduction system, a catalytic oxidation process, and electric dust collector facilities. In accordance with the Montreal Protocol, all our worksites are also expanding the use of refrigerants that have less impact on ozone depletion in freezers, air conditioners and other appliances. Furthermore, in 2019, we reduced the discharge of water pollutants by 98% at our South Korea worksites by optimizing the operation of wastewater treatment facilities.

Nitrogen Oxide (NOx) Reduction Activity

We increased our efforts to reduce nitrogen oxides, a major component of fine dust, through new technology development and high-efficiency treatment facilities. At those worksites that produce NOx emissions, we installed ultra-low NOx burners in the boiler facilities and managed to reduce NOx emissions by 90%. At semiconductor plants, we improved the efficiency of NOx emission reduction through the optimization of primary emissions control equipment operation used at the final stage of the treatment process. We have established plans to reduce NOx emissions at all worksites in South Korea by 2023 and established the Samsung Particulate Matter Research Institute to seek a technological solution applicable to products and manufacturing process.

Biodiversity Conservation

Biodiversity Conservation Policy

With the principle of preserving biodiversity, we have created action guidelines and have reflected them in our business plans. At the same time, we are continuing to raise employee awareness about biodiversity conservation.

Our philosophy

We recognize the benefits and effects of the ecosystem and biodiversity. We endeavor to minimize negative impacts on biodiversity and actively promote ecosystem conservation initiatives.

↓

Action Guidelines

Value Recognition

All employees recognize biodiversity conservation activities as an important value of green management.

Impact Assessment and Minimization

We evaluate, analyze and strive to minimize the negative impacts on ecosystems and biodiversity throughout the entire product life-cycle

Biodiversity Conservation Activities

All worksites place priorities on areas with high biodiversity value and engage in activities to preserve biodiversity according to regional characteristics.

Communication

We continuously communicate with stakeholders including employees, local communities, and NGOs, and contribute to improving biodiversity conservation in local communities.

Endangered Species across Worksites in South Korea

Unit: no. of species

Habitat	Suwon	Yongin	Hwaseong	Gumi	Gwangju	Asan
Mammal	-	-	-	1	2	-
Bird	-	-	13	1	1	5
Fish	-	-	-	1	1	-
Amphibian	1	2	2	-	-	2
Insect	-	1	1	1	1	-
Plant	-	-	2	2	2	-
Others	-	-	-	1	-	1

River Biodiversity Improvement Activities

Our worksites in South Korea periodically measure water quality indicators, such as chemical oxygen demand (COD), biochemical oxygen demand (BOD), and acidity (PH), to monitor ecological effects in surrounding streams. We also promote habitat protection activities to save endangered species nearby. Furthermore, we carry out river ecosystem conservation activities with environmental organizations, as well as family members of our employees and local students.

Ecological Impact Analysis on Nearby Streams

1 Wonchenri Stream, Hwaseong

Measurement Authority Kyunghee University
Fish 1,493 individuals from 12 species (carp 88%, mudskipper 5%)
Ecosystem Benthic invertebrates were observed (insects 45%, dominant species: Diptera 40%)
Ecotoxicity No impact on the stream was found in effluent

2 Osan Stream, Giheung

Measurement Authority Korea Ecology & Environment Institute (KEEI)
Fish 169 individuals from 14 species (crucian carp 36%, carp 16%)
Ecosystem Benthic invertebrates were observed (insects 64%, dominant species: Cheumatopsyche 12%)
Ecotoxicity No impact on the stream was found in effluent

3 Seojeongri Stream, Pyeongtaek

Measurement Authority Pyeongtaek University
Fish 195 individuals from 10 species (Dominant species: crucian carp, subdominant species: carp)
Ecosystem Benthic invertebrates were observed (dominant species: red midge, subdominant species: tubifex)
Ecotoxicity When assessed discharged water, no impact on the stream detected

Improving the Ecological Environment – Reviving Osan Stream

Osan Stream, a 15km-long national river that flows from Yongin to Pyeongtaek used to be known as one of the most deteriorated streams with lack of water. Local communities, environmental groups, and Samsung Electronics have gathered to save Osan Stream, and since 2007, we have purified water used in the semiconductor manufacturing process more strictly than the water quality standards guided by the government. We have released an average of 45,000 tonnes of water into Osan Stream per day, and as a result, the ecological environment of Osan Stream was greatly improved to the extent that rare otters, wild animals that only inhabits in clean rivers, were found.

SUSTAINABILITY PILLARS

PRODUCT STEWARDSHIP

We practice product stewardship to minimize our environmental impact throughout the entire process of product planning, development, use, and disposal. Based on our vision of 'differentiated customer experience through product quality and service innovation', we make various efforts to extend product life through enhanced durability. We have also established a common customer service across the globe, customized services by country, and differentiated services.

ALIGNMENT WITH UN SDGS

[Goal 12] Ensure sustainable consumption and production patterns

12.2. — By 2030, achieve the sustainable management and efficient use of natural resources
12.5. — By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

[Goal 13] Take urgent action to combat climate change and its impacts

13.3. — Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

2019 HIGHLIGHTS

GHG Emissions Reduction in the Product Use Phase[1)]

270
million tonnes CO_2e

(Target in 2020: 250 million tonnes CO_2e)

Customer Satisfaction[2)]

85.4 points

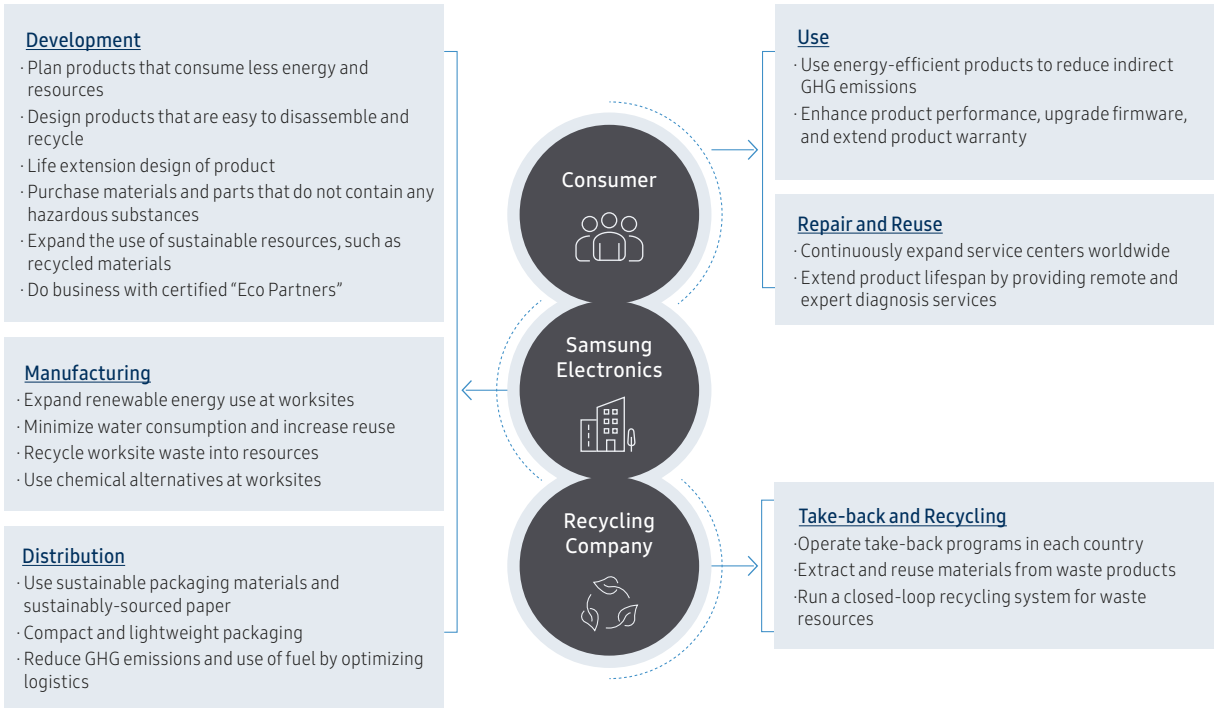
Footnotes:
1) Accumulated amount since 2009
2) Source: Ipsos

Eco-conscious Products

Eco-conscious Product Policy

We strive to enhance product stewardship to minimize the environmental impacts throughout the entire product life cycle – from purchasing raw materials, to development, manufacturing, distribution, usage, and disposal. From the product design stage, we apply our Eco-Design Process to assess the level of resources and energy we use, as well as harmfulness of raw materials used in products. This enables us to plan and develop products that have greater energy efficiency, use fewer resources, and do not include hazardous substances.

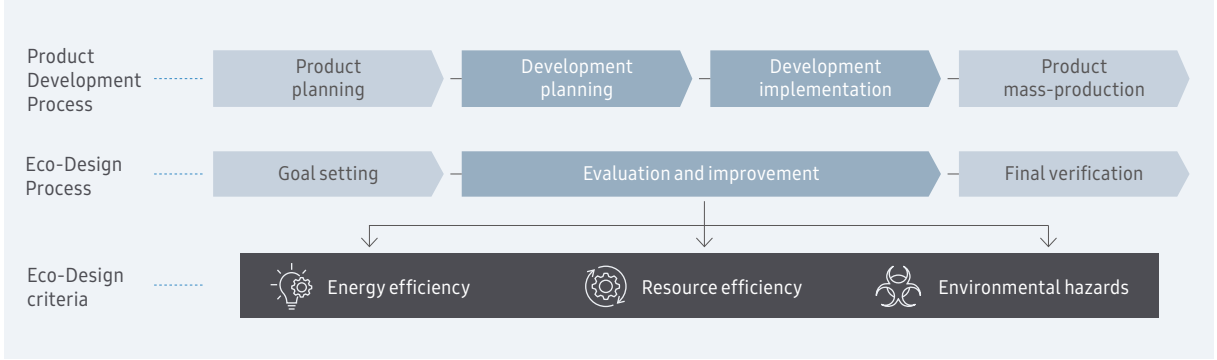
Our Product Stewardship System



Eco-Design

From the product design stage, we use our own environmentally-focused evaluation system called Eco-Design Process to assess the environmental sustainability of products. We also refer to credible eco-certification standards, such as the Eco-Label in South Korea, the Electronic Product Environmental Assessment Tool (EPEAT), and the American Association of Home Appliance Manufacturers (AHAM)'s sustainability standards. We use our Eco-Design Process to ensure that each product development project establishes eco-conscious goals, which is followed by evaluation and improvement, and determines product production with final verification.

Eco-Design Process



Product's Environmental Information - Life Cycle Assessment

We perform a Life Cycle Assessment (LCA) to analyze the environmental impacts of the entire life cycle of our products across product manufacture, use, and logistics stages and reflect the results in our product development. In 2019, for example, we performed an LCA on a 24-inch monitor (model: S24E650PL) during which we attained an Environmental Product Declaration (EPD) from Underwriters Laboratories (UL). We analyzed the impact of monitor products on global warming by evaluating them through 12 environmental impact categories[1)] in the process of pre-manufacture, manufacture, distribution, use and disposal. As a result, we saw that the 'use' phase had the largest impact at 76% out of all stages. This is because a large amount of greenhouse gas is emitted in the process of producing the electricity consumed during the 'use' phase. Based on these results, we will try to minimize the power consumption and standby power of monitors by reflecting these results from the development stage.

Footnote:
1) 12 major environmental impact categories: Global warming, acidification, eutrophication, ozone depletion, formation of photochemical oxidants, human toxicity, freshwater ecotoxicity, seawater ecotoxicity, soil ecotoxicity, primary energy consumption, water consumption, and waste generation

Results of global warming impact assessment of a 24-inch monitor (S24E650PL)

Category	Pre-manufacture	Manufacture	Distribution	Use	Disposal
Global Warming	21.7%	0.3%	0.7%	75.6%	1.7%

Energy-efficient Products

Our environmental experts share trends in energy-saving technologies and environmental regulations through the company-wide Eco Council and working-level committees to support the development of energy-efficient products. In 2019, we applied various energy-saving technologies to our products, including a high-efficiency compressor for refrigerators and a high-efficiency heat exchanger for air conditioners. As a result, we were able to reduce annual energy consumption by an average of 42% compared to 2008.[1)] We also established greenhouse gas emissions caused by energy consumption during product use stage as a major KPI.

Footnote:
1) Scope of data collection: 7 major product categories - refrigerators, air conditioners, washing machines, televisions, monitors, laptop computers and mobile phones

Efficient Use of Resources

We remain focused on making products and packaging materials smaller and lighter. For the Galaxy S10 released in 2019, we reduced the use of disposable plastics through an improved packaging design. As a result, the weight was cut by about 30 grams per unit and also lowered the logistics costs.

Chemical Substances Management

We conduct rigorous pre-inspection and follow-up management for parts and raw materials that contain substances of concern. We especially ensure the highest level of control through the 'Standards for Control of Substances used in products', which incorporates international environmental regulations, including the EU's Restriction of Hazardous Substances (RoHS) and the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). In addition, we have committed to reducing the use of substances of concern, such as polyvinyl chloride (PVC), brominated flame retardants (BFRs), beryllium, and antimonides. We also operate the Environment Chemicals Integrated Management System (e-CIMS), designed to determine the existence of restricted substances in the parts and products of our suppliers, to ensure that our products do not contain any. Furthermore, we have established an environmental analysis laboratory that can analyze RoHS regulations (6 items and Phthalate) to strengthen our internal monitoring process. In 2019, our environmental analysis laboratory was credited with the Korea Laboratory Accreditation Scheme (KOLAS) certification, adding reliability to our data analytics and experimental capability.

Chemical Substances Management History

2005	· Established a technical-tree to reduce the use of BFRs[1)] (supply chain improvement) · Banned the use of BFRs in packaging materials
2006	· Set out plans to reduce the use of BFRs and PVC[2)]
2008	· Released mobile phones free of BFRs/PVC (some models) · Banned the use of PFOS[3)] and antimony compounds
2010	· Released newly developed mobile phone/camera/MP3 player products free of BFRs/PVC · Banned the use of cobalt chloride
2011	· Released mobile phones free of beryllium compounds
2012	· Banned the use of chlorinated flame retardants in mobile phones and MP3 players · Released PVC-free products (laptops, TVs, monitors, and some home theater components)
2013	· Released products free of phthalates or antimonides (laptops, TVs, monitors, and some home theater components)
2015	· Banned the use of HBCD[4)] and nonylphenol
2016	· Banned the use of four types of phthalates for new components (DEHP[5)], BBP[6)], DBP[7)], DIBP[8)])
2018	· Banned the use of four types of phthalates (DEHP, BBP, DBP, DIBP) for all components
2019	· Banned the use of an additional eight types of phthalates (DINP[9)], DIDP[10)], DnOP[11)], DnHP[12)], DMEP[13)], DIPP[14)], nPIPP[15)], DnPP[16)]) from July 2019 · Banned the use of sterilizers/anti-corrosion agents (PHMG[17)], PGH[18)], PHMB[19)], CMIT[20)], MIT[21)] for products with filters (air conditioners, air purifiers)

Footnotes:
1) Brominated Flame Retardants 2) Polyvinyl Chloride 3) Perfluoroctanesulfonate 4) Hexabromocyclododecane 5) Bis (2-ethylhexyl) phthalate 6) Butyl benzyl phthalate 7) Dibutyl phthalate 8) Diisobutyl phthalate 9) Diisononyl phthalate 10) Di-isodecyl phthalate 11) Di-n-octyl phthalate 12) Di-n-hexyl phthalate 13) Bis(2-methoxyethyl) phthalate 14) Di-iso-pentyl phthalate 15) n-Pentyl-isopentyl phthalate 16) Di-n-pentyl phthalate, 17) Polyhexamethyleneguanidine hydrochloride 18) Oligo(2-)ethoxy ethoxyethyl guanidine chloride 19) Polyhexamethyleneguanidine hydrochloride 20) Chloromethylisothiazolione 21) Methylisothiazolinon

Progress in Eco-conscious Products

Global Environmental Certifications

Eco-Label and Environmental Product Declaration

We seek to develop eco-conscious products certified by eco-label and environmental product declaration. In 2019, we acquired a total of eight eco-certifications by countries and institutions, including the Eco-Label in South Korea, the China Environmental Labeling in China, UL in the United States and TCO in Sweden, and about 900 certification models. We also obtained environmental product declaration including the Carbon Trust[1)] in the United Kingdom, Water footprint[2)] in South Korea, and the UL Environmental Product Declaration(EPD)[3)] in the United States.

Footnotes:
1) Mobile phone products including Galaxy S20, 5th Generation 512Gb V-NAND memory product
2) SSD 850 EVO 250G memory product
3) Display products including S24E650PL

Eco-Label

Asia
South Korea, China

North America
United States, United States

Europe
Sweden, Northern Europe, Russia

Central/ Latin America
Brazil

Environmental Product Declaration

United Kingdom
Carbon Trust

South Korea
Water Footprint

United States
UL EPD

Green Technology Certification

As of end of 2019, we have obtained nine green technology certifications from the Korean Ministry of Environment, including monitor standby power reduction technology.

Sector	Green Technology Areas	No. of Certifications
Home appliances	Improved efficiency of the air conditioning indoor unit, washing machine tub cleaning technology, monitor standby power-saving technology, etc.	8
ICT	Automated power-saving wireless LAN technology	1

Environmental Activities Recognition Awards in 2019

The development of high energy-efficient products and sustainable packaging, as well as our take-back and recycling schemes have helped garner praise from a range of government agencies and independent organizations. We are particularly proud to have received the Partner of the Year – Sustained Excellence Award recognition by the US EPA seven times in total since 2013, and the Energy Winner Award of the Year in South Korea every year since 2015.

Category	Country	Name of Award	Organizer	Time	Description
Company	United States	ENERGY STAR Award	United States Environmental Protection Agency	April	Partner of the Year – Sustained Excellence Award
		SMM Electronics Challenge Award	United States Environmental Protection Agency	November	'Gold Tier' for leadership in e-waste collection and recycling
	Canada	ENERGY STAR Award	Ministry of Natural Resources Canada	May	Manufacturer of the Year - Appliances
Product	South Korea	Korea Star Awards, Future packaging technology	Ministry of Trade, Industry and Energy Korea Institute of Industrial Technology Packaging Technology Center	March	Prime Minister's Award for non-plastic packaging in Galaxy S10
		Energy Winner Awards of the Year	Ministry of Trade, Industry and Energy Consumers Korea	July	8 products (Wind-free air conditioner, induction range, monitor, laptop, refrigerator, drum washing machine, dishwasher, system air conditioner)
		Green Product Awards of the Year	Korea Green Purchasing Network	July	5 products (Galaxy S10, T9000, induction range, Wind-Free Gallery, AirDresser)
	United States	SMM Electronics Champion Award	United States Environmental Protection Agency	November	Galaxy Upcycling's eye diagnosis camera (Cutting-Edge Award)

Sustainability Highlights in Our Products in 2019

LED TV (UN65RU7100)

- 1st grade energy efficiency in South Korea
- Eco-sensor, Energy Saving mode
- Screwless design (productivity↑, recyclability↑)
- Use of sustainable materials (biomaterials: accessories bag)
- Use of sustainable forest certification papers (packaging, manual, wrapping paper)

Smartphone (Galaxy S10+)

- High-efficiency charger (charging efficiency: 86%, no load power: 0.02W)
- Use of sustainable materials (bioplastic: earjack housing, recycled plastic: charger housing, polyketone: camera module)
- Use of sustainable forest certification papers
- Korea Star Awards, Future packaging technology

Pen S (NT950SBE)

- Reduced yearly energy consumption by 31% (compared to NT940X3M)
- Battery life increase 3x with the application of 'Smart charging' technology
- Energy Winner Awards of the Year, ENERGY STAR Award

Wind-Free™ Cube Air Purifier (AX90R9980SSD)

- 99.999% removal of 0.3μm dust
- Reduces power consumption by 30% compared to Samsung AX7500 air purifier
- Extends filter life twofold with Filter Saver
- Non-chemical electrostatic active filter sterilization
- Applies Cube Design

BESPOKE Refrigerator (RF85R96A1AP)

- 1st grade energy efficiency in South Korea
- Customizable door colors/material combination
- Triple cooling system
- The Plasma Ionizer cleans 99% of bacteria inside
- Precise cooling technology

Wind-Free Air Conditioner Gallery (AF25RX975CAR)

- Wind-free cooling mode reduces energy use by maximum 90% compared to Max cooling mode in wind-free cooling mode
- Large Capacity air purifier (114m²)
- e-HEPA filter collects 99.95% of 0.3um dust
- Filter can be washed with water
- Filters sterilize 99% of bacteria

QuickDrive™ Washing Machine (WW80M6450PW)

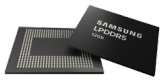
- QuickDrive™ technology which combines main drum with rotating plate
- Cuts washing time by up to 50% without compromising cleaning performance
- Highest Energy-efficiency class in Europe with A+++(-40%)
- Completes washing to drying within 3 hours

Airdresser (DF10R9700CG)

- Saves water and detergent usage by reducing the frequency of dry cleaning and washing
- High energy efficiency heat pump clothing care technology
- Uses filters designed for removing dust and odor
- Removes 99.9% of virus and harmful bacteria

* Filter function can vary by model/region

Mobile DRAM (12Gb LPDDR5)



- Offers industry-leading speed
- Features 30% higher power efficiency compared to LPDDR4 DRAM
- Designed with new low-power circuit structure

Server SSD (30.72TB PCIe Gen4 SSD, PM1733)

- Offers fastest read (7GB/s) and write (3.8GB/s) speeds to date
- Allows 13X faster speed than SATA SSD
- Provides competitive durability and product lifespan (1 drive write per day)

Customer Service

Customer satisfaction is one of the most important factors in securing competitive advantages. We are committed to delivering an outstanding customer experience at every contact point and have developed a customer-centric approach under our customer service vision, 'Differentiation of customer experience through product quality and service innovation'. This ensures our customers have a consistent, high-quality experience at every stage of their journey, from product purchase and use, to any subsequent interactions.

Customer Service Vision and Objectives

Vision

Differentiation of customer experience
through product quality and service innovation

Goals

- Introducing innovation to the service process from the customer's perspective
- Reinforcing and enhancing communication with customers
- Enhancement of customer service value through the provision of differentiated services
- Prompt handling of customer requirements using digital technology

Customer Service Channel

We strive to provide a consistent high-quality experience for all our customers no matter where they are in the world. This is achieved through a global service channel, supported by local customized expertise at a regional level. We also strive to enhance customer convenience by providing special service channels using the latest digital technology.

Globally Operated Service Channel

Service Centers

As of end of 2019, we are operating 15,866 service centers in 197 countries for the convenience of customers. Expert service center managers and repair engineers strive to provide the service to customers in accordance with our Service Process Guide. We also operate training programs such as product use guides and introduction of new product functions to our customers.

Country Optimized Service Centers

Extended Service Center Hours during Ramadan in the Middle East

During Ramadan, we offered customized services and extended our opening hours to cater to the needs of customers in the Middle East. During fasting, we also provided a delivery service for repaired products so customers did not need to wait in the service center.

Smart Service Booth during Lebaran in Indonesia

During Lebaran, one of the major national holidays of Indonesia, we operated smart service booths at airports and highway rest areas, where customers could have their products checked and software upgraded.

Differentiated Service Channels

Visible Remote Consulting (Visual Support)

In 2019, we began operating Visual Support which allows contact center agents to directly observe the product and its use environment in which it is used. Customers can seek assistance conveniently through a link via SMS, without having to install an application. The agents can provide immediate assistance or initiate a repair process. As a result, our customers can save both time and costs. We are offering Visual Support in 30 countries, including the United States, the United Kingdom, Spain, India, and Brazil.

24/7 Always-On Contact Center

We operate the 24/7 Always-On Contact Center to respond to inquiries from our mobile phone customers even during the nighttime or on public holidays. As of 2019, the Always-On Contact Center is available in 127 countries.

Mobile Van Service

To further enhance our customer experience, in 2019 we introduced Mobile Van Service in countries including the United States, the United Kingdom, and Germany. Instead of our mobile phone customers having to take time out to visit a service center, we come to their doorstep. We plan to extend the service across a wider footprint.

Mobile Phone Rental Service

We provide a rental mobile phone to our customers to minimize inconvenience during the repair period. As of 2019, this service is available in 68 countries.

Service Quality Management

Standardized Service Operation and On-site Audit

We establish service standards and guidelines for service centers and contact centers, and distribute them across the company through a standardized system. Each subsidiary conducts training based on a localized version of the global guide and we share the manual through the internal Customer Service Portal. In addition, we conduct periodical on-site visits to check if service is provided according to the standardized process and make improvements as necessary.

Service Skills Training

We offer training programs for our service center managers and repair engineers for new product repair techniques and customer response. We offer remote video or collective training according to the characteristics of the country and product. Managers and repair engineers can access training material and video clips via an online system at any time.

Customer Communication and Performance in Customer Satisfaction

Integrated Voice of the Customer (VOC) Management System

We collect VOC feedback about purchase, repair, and the use of our products through various channels, such as the company's contact center, website, and applications. Together with each division, we analyze the data collected through the integrated management system to better customers' needs and improve the customer experience.

Customer Satisfaction Survey

We have conducted periodic customer satisfaction surveys since 1994 and we share the results with the relevant departments. Using the results, we are making improvements in areas where customers are less satisfied with.

The Results of the Products/Service Satisfaction Survey in South Korea in 2019

Index	Presented by	Award-winning products
Korean Customer Satisfaction Index (KCSI)	Presented by: Korea Management Association Consulting	TV, refrigerator, washing machine, air-conditioner, kimchi refrigerator, smartphone, PC
Korean Standard - Quality Excellence Index (KS-QEI)	Presented by: Korean Standards Association	TV, refrigerator, drum-type washing machine, kimchi refrigerator, System air-conditioner/heater, smartphone, tablet PC, Laptop PC
Global Customer Satisfaction Index (GCSI)	Presented by: Global Management Association	TV, refrigerator, washing machine, vacuum cleaner, kimchi refrigerator, drier, air cleaner, air-conditioner, smartphone, PC
Korean Standard Service Quality Index (KS-SQI)	Presented by: Korean Standards Association	Aftersales service for computers, household appliances, and mobile phones
Korean Standard Contact Service Quality Index (KS-CQI)	Presented by: Korean Standards Association	Household appliances and mobile phones
Korean Service Quality Index (KSQI)	Presented by: Korea Management Association Consulting	[Customer contact sector] Aftersales service for household appliances and mobile phones [Call Center sector] call center related to household appliance service
Korean Standard Well-being and Environment Index (KS-WEI)	Presented by: Korean Standards Association	Washing machine, air-conditioner, kimchi refrigerator, laptop PC, smartphone
National Customer Satisfaction Index (NCSI)	Presented by: Korea Productivity Center and Chosun Ilbo	Award-winning products: TV, refrigerator, air-conditioner, smartphone, PC

Achievements in Customer service-related Award in 2019

Nations	Awards
Germany	German Service Award (February) · Jointly presented by: DISQ and n-tv · Award: Four-times winner of the award (2013, 2014, 2018, and 2019)
Mexico	Mexico Customer Satisfaction Award (March) · Presented by: IMT (Instituto Mexicano de Teleservicios). · Award: Winner of the Best Customer Experience Strategy (Gold), Best Omni Channel & Multichannel Strategy (Gold), and Best Customer Service Strategy (Bronze)
Poland	Poland Star Quality Service Award (March) · Jointly presented by: JAKOSC OBSLUGI, Gazeta Wyborcza (a newspaper company), Wroclaw Economic College · Award: First place in Customer Service in Electronics Industry (TV, home appliances, mobile phone), Became the first company to win the first place for six consecutive years in Poland (2014~2019)
Russia	Russia CX World Award (April) · Presented by: CX World Forum · Award: Grand prize in the Best Offline CX, Excellence award in the Best Innovation in CX, Excellence award in the Best CX Online Involvement
Canada	National People's Choice Award (May) · Presented by: GTACC (Greater Toronto Area Contact Center) · Award: Canada's Favorite Customer Service
Germany	Service Champion Award (May) · Presented by: WIWO (WirtschaftsWoche: a major weekly business magazine published in Germany) · Award: Two-times winner in 2018 and 2019
Austria and Switzerland	TOP Service Award (June) · Jointly Presented by: Emotion Banking, Die Presse, and Mannheim University · Award: Three-times winner (2017-2019) in Austria, first time in Switzerland
Spain	BEST Customer Service Award of the Year (October) · Presented by: Sotto Tempo Advertising (market research company in France) · Award: Best Customer Service Business in three sectors (mobile phone, TV, and home appliances)
Columbia	Top 5 Customer Service Businesses (November) · Presented by: El Tiempo/Portafolio (most influential daily newspaper in Columbia) The most honorable award in Columbia, presented and congratulated by the president · Award: The only electronics company among the five award winners (the others being: energy, fast & beverage, shopping and beauty care businesses)

SUSTAINABILITY PILLARS

CORPORATE CITIZENSHIP

In 2019, we marked our 50th anniversary and established a new corporate citizenship vision entitled 'Together for Tomorrow! Enabling People'. Under this new vision, we provide a variety of programs that cater for local needs, in order to empower and provide future generations around the world with equal opportunities for quality education.

ALIGNMENT WITH UN SDGS

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

4.4. — By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

4.B. — By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries

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

8.5. — By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

8.6. — By 2020, substantially reduce the proportion of youth not in employment, education or training

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

9.2. — Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries

9.C. — Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020

[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

2019 HIGHLIGHTS

Total Hours of Employee Volunteering

878,448 hours

Accumulated Number of Beneficiaries of Major Corporate Citizenship Activities

Samsung Solve for Tomorrow

1,693,535 people

Samsung Smart School

3,825,864 people

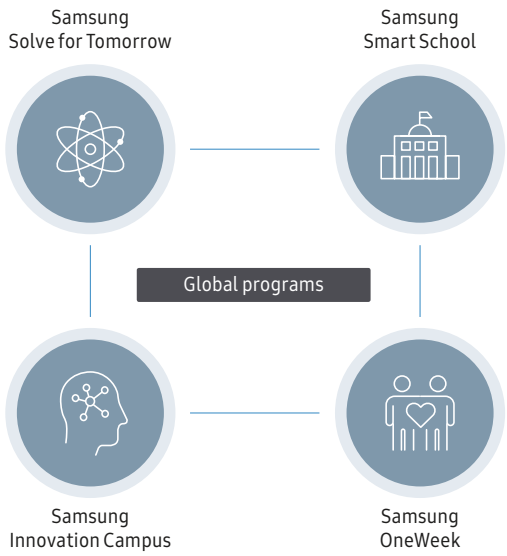
Together for Tomorrow! Enabling People

In 2019, we celebrated our 50th anniversary by announcing a new global vision for our corporate citizenship: Together for Tomorrow! Enabling People. The new vision draws on our core values, People, Co-prosperity, and Change, and encompasses our promise to cultivate talented individuals for shared growth while pursuing innovations that will help make the world a better place.

Under the vision Together for Tomorrow! Enabling People, we seek to empower future generations to achieve their full potential, enabling them to pioneer positive social change and build a better world for all. Our programs focus on providing quality education to future generations around the world with equal opportunities for quality education.

Global Programs

Our global citizenship programs harness the power of our collective expertise, technology, experience, and resources. Our programs around the world are customized according to the country's characteristics to achieve maximum effect.

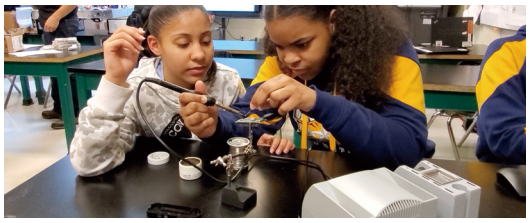


Samsung Solve for Tomorrow

Samsung Solve for Tomorrow, designed to raise awareness of STEM (Science, Technology, Engineering, Math), is a creativity contest that encourages students to address local societal issues through creative solutions based on STEM that began in 2010. Over the past 10 years, more than 1.69 million students from more than 20 countries participated in Samsung Solve for Tomorrow, spreading the culture of innovation and creativity among schools and the community.

Smart Bicycle Helmets in the United States

Students at the Gregorio Luperon High School for Science and Math in New York, the United States developed a smart bicycle helmet that provides real time information to cyclists about their immediate surroundings using sensors. The school was shortlisted to be one of the national finalists and the team plans to continue to work on this project and test different materials for the helmet.



High Efficiency Wind and Solar Power Generator Solution in Argentina

In 2019, five students from the northern Argentinian province of Salta won the top prize for developing a high-efficiency wind and solar energy generator solution for underprivileged students in underdeveloped areas deprived of electricity. The project aimed to improve the educational environment of indigenous children of Salta and will be reviewed for application to homes and public facilities in energy-deprived regions.

Special-use Vests for Outdoor Workers in the UAE

The Samsung Solve for Tomorrow competition was held for the first time in the UAE in 2019. Two students developed a special vest filled with an ethylene glycol mixture that lowers body temperature. In the UAE, there are many casualties each year of outdoor workers including construction sites due to the continuous heatwaves and temperatures of more than 50 degrees Celsius and humidity of 80% in summer. The idea of making a special vest to lower body temperature is expected to be used for the safety of low-income outdoor workers in the future.

AI Reading Helper for the Visually Impaired in China

Students in Beijing, China, designed an artificial intelligence (AI) reading helper for the visually impaired, based on their personal experiences of volunteer work helping the visually impaired. The device, which prints braille by combining AI software technology with open source hardware and auxiliary circuits, helps blind people read traditional paper books.

Samsung Smart School

Samsung Smart School is a series of educational initiatives that uses our digital device and contents. In 2019, we offered quality digital education to more than 3.8 million students around the world who have limited access to education resources. We intend to provide digital education to elementary and middle school students and contribute to bridge the educational gap.

Cheontae Elementary School in South Korea

Cheontae Elementary School is a small school of just 24 students in a rural area. In 2019, it was selected as a Smart School and we provided digital devices so that students could produce their own video content to express their ideas and communicate with the world through digital technology.

Energy in Schools Initiative in the United Kingdom

Samsung Electronics UK and Samsung R&D Institute UK developed energy monitoring software based on our SmartThings platform. We provided the software to 23 elementary, middle, and high schools across the country to educate students on the importance of reducing energy consumption and carbon emission. Through IoT coding classes, students also learned how the SmartThings platform is programmed and used for energy and environmental data management.

Samsung Innovation Campus

Samsung Innovation Campus, launched in October 2019, is a technological education program created for the youth entering the job market for the first time. It builds on the success of the Samsung Junior Software Academy, Samsung Software Academy for Youth, and Samsung Tech Institute, which together educated more than 200,000 in around 30 countries from 2013 to 2019. Samsung Innovation Campus provides classroom education as well as hands-on training in skills that technology-related job positions require, such as AI, IoT, and data analysis.

Samsung OneWeek

Samsung OneWeek is our international employee volunteer program, during which we work collaboratively with local communities to support young people by providing education programs that address their unique needs. Since it was launched in 2010, more than 2,000 employees of 59 teams have volunteered to help 10,000 participants in over 30 countries. In 2019, around 200 employees participated in customized education programs in Cambodia, Kazakhstan, Indonesia, Thailand, Nepal, and Hungary for one week.

Coding and Programming Education in Thailand

In Thailand, we held coding and programming training with the Thai government's future generation education policy, 'Thailand 4.0'. The program provided students with 60 hours of intensive training for 10 days, giving them basic to intermediate coursework.

"I think the greatest advantage of Samsung Innovation Campus is that it offers plenty of hands-on experience opportunities. We learned about topics and principles on coding and how it can be used for controlling devices. Yet, we had plenty of freedom to experiment with them in our exercises and project."
(Perapun Chittansakul)

IoT Education in Turkey

In Turkey, we offer IoT education in cooperation with the UNDP, Istanbul Technical University, and Turkish Informatics Foundation and students learn technology and skills for IoT field.

"I was not able to participate in a job training program because of the burden of fees. Through Samsung Innovation Campus, I was able to get hands-on project opportunities in using software and hardware, free of charge. I was able to gain confidence and expertise that I could not learn from school."
(Ebrar Omer)

Training for Female Small Business Owners in Indonesia

In July 2019, 29 Samsung employees and six undergraduate student volunteers provided education programs in entrepreneurship, digital marketing, and photography for 84 female small business owners in Indonesia. Through a week-long training course, volunteers provided them with the expertise and know-how for successful business growth.

Local Programs

We also operate tailored country-level programs and collaborate with governments, policymakers and institutions to provide a wide variety of engaging learning opportunities.

Samsung Dream Class in South Korea

Launched in 2012, the Samsung Dream Class is a program where undergraduate mentors teach English, math, and computer software to middle school students who lack access to educational resources. The aim is to improve academic performance through three types of programs, including weekday, weekend classes and camps during the vacation. So far more than 80,000 students and 22,000 undergraduate students participated in the Samsung Dream Class. Since the launch of the program, more than 100 participating students have returned to the program as mentors to middle school students, creating a virtuous cycle. In 2019, 7,900 middle school students, 2,300 undergraduate mentors and 44 employees participated.

Samsung Software Academy for Youth in South Korea

We launched the Samsung Software Academy for Youth together with the Ministry of Employment and Labor in 2018. To increase the competitiveness in job seeking, we provide training on theories and practices for one year to those who wish to become a software developer. Trainees can strengthen basic software skills such as algorithms, coding programming languages and databases, and develop their software skills by using technologies such as AI and IoT as part of an advanced curriculum. More than 350 of the first 500 trainees were employed by IT companies and financial companies. As of 2020, 1,250 people are attending the academy.

Samsung Junior Software Academy in South Korea

The Samsung Junior Software Academy educates students on problem-solving skills using software and helps them develop skills in logical thinking and design skills. We provide free software convergence program training to around 10,000 elementary to high school students and operate a separate training program for teachers. In 2019, 310 teachers and 9,932 students participated.

Samsung Semiconductor Science Academy in South Korea

The Samsung Semiconductor Science Class is aimed at middle school students in the local community and taught by Samsung Electronics employees. It explores the essentials of semiconductors and is designed to spark their interest in the science and technology fields and help them to become future scientific talents. In 2019, 2,817 employees trained a total of 6,155 students at 50 schools.

Samsung Hope School in Vietnam

We opened the first school in Bac Ninh in 2013, the second school in Thai Nguyen in 2018, and plan to open the third Hope School in Bac Giang in 2020. Samsung Hope School provides underprivileged students in the region with after-school courses in English and physical education, facilities and free evening meals.

Samsung Technical School in India

We operate 35 technical schools in collaboration with the Indian Ministry of SMEs and Startups (MSME) and the Ministry of Education in 11 states of India. We help low-income youth in India learn the technology of repairing Samsung Electronics' IT devices and gain practical experience to succeed in finding jobs. Samsung Technical School also operates scholarship funds to young women and people with disabilities, so that all youth with various disadvantages receive equal learning opportunities. From 2013 to 2019, 7,400 students graduated from the program and 45% found jobs at the Samsung Service Centers.

Samsung Hope for Children in Russia

The Samsung Hope for Children provides a digital education for children in long-term hospital care to enable them to continue formal education. Using digital devices, children can participate in regular curricula online and interact freely with their parents, teachers and friends. More than 10,000 children have benefited annually since it was launched in 2014. Building on the success of the program, we plan to expand the initiative to all regions in Russia as well as neighboring countries such as Kazakhstan.

SUSTAINABILITY PILLARS

TECHNOLOGY FOR GOOD

We nurture creative ideas to promote an ecosystem where startups can flourish, while also providing support for the advancement of the basic sciences. We embed an increasing variety of accessibility features in our products and services to make it easier for everyone to access and use, while we are developing digital well-being features that encourage consumers to use their devices in a balanced way. We also focus on the ethical use of fast-growing AI technologies.

ALIGNMENT WITH UN 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

9.c. — Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020

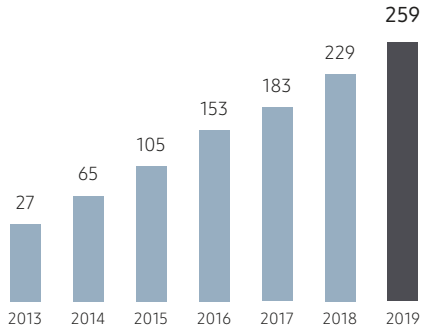
[Goal 17] Strengthen the means of implementation and revitalize the global partnership for sustainable development

17.17. — Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries

2019 HIGHLIGHTS

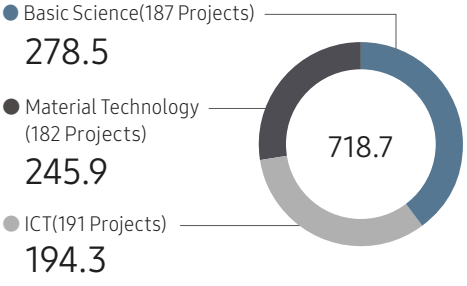
Number of Ideas Adopted through C-Lab

Unit: no. of tasks



Accumulated Amount of Investment in Research Fund for Future Technology Program[1)]

Unit : billion KRW



Footnote:
1) As of December 2019

Inspiring Creativity and Innovation

C-Lab (Creative Lab)

We operate a program called C-Lab to develop creative ideas into business opportunities and stimulate the start-up ecosystem in South Korea. Since we began C-Lab as an in-house idea incubation program in 2012, we have expanded its operation to outside of the company via C-Lab Outside since 2018.

C-Lab Inside

C-Lab Inside is an internal idea incubation program designed to help employees realize their creative ideas and encourage a spirit of challenge throughout the organization. Through C-Lab Inside, we aim to uncover new areas of business that can fuel our future growth. The program enables employees to assimilate the research culture of start-ups and promote innovation after they return to their jobs.

C-Lab participants make autonomous decisions on team organization, budget, and scheduling, and work in a horizontally structured work environment that is relatively independent from job title or seniority. The program does not ask employees to take responsibility in case of failure, which enables them to take on bold challenges. Over the past seven years, more than 7,000 different ideas have been presented, and as of end of 2019, 259 of them were adopted and implemented as C-Lab tasks, in which a total of 1,060 employees took part.

"One year at C-Lab will help your dream come true!"

Jeong Won-seok, a participant of the invisible keyboard 'Selfie Type' Project

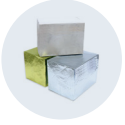
C-Lab is where my dream came true. I was finally able to achieve what I used to consider just a possibility. To me, C-Lab is a boot camp where people learn to make their dreams a reality. It helped me to open the next chapter of my life and discover a "Better Version of Myself". By putting myself in several roles simultaneously, such as planning, design, engineering, and usability evaluation, I could learn how to efficiently operate a project. Being given an ownership role was particularly a valuable experience for me.

In 2015, we initiated the C-Lab Spin-off Program to nurture high-potential ideas and help to establish them as an independent business. Spin-offs received support such as seed funding, mentoring, and consulting and more. Those who left to start a spin-off can choose to return to the company within five years. This encourages participants to try to start a business without the fear of failure. As of end of 2019, 147 people have set up 40 companies through the program, providing a significant contribution to job creation.

Achievements of C-Lab Spin-off Program

LINKFLOW 360-degree wearable camera

- Within three years of the spin-off, the company value has increased by 30 times, attracting KRW 22.3 billion in investments globally.



AIMT Vacuum insulation material

- Supplies eco-cool boxes for sustainably packaging fresh food to large South Korean distribution companies.
- Recorded KRW 5 billion in revenue in 2019

EVAR Corp. Autonomous robotic charger for electric vehicles

- Raised KRW 2 billion in investment in 2019
- Selected as an electric vehicle charger service provider for Jeju City, which is designated as a regulation-free zone for more convenient electric vehicle (EV) charging services by the South Korean government. It plans to conduct a two-year demonstration project starting in 2020

CES Innovation Awards won by C-Lab Inside Companies

2019

MOPIC
Snap3D

LINKFLOW
FITT360

Lululab Inc.
LUMINI

2020

LINKFLOW
FITT360

Lululab Inc.
LUMINI

WELT
Smart Belt

Linkface
Dear

C-Lab Outside

Our C-Lab Outside program supports promising start-ups in South Korea. Our target is to select 300 start-ups from 2018 to 2022 and use our successful experiences and know-how to invigorate them and guide them to success. Through this program, we encourage potential entrepreneurs to start a business without worries, and provide chances for shared growth in partnership to companies that can collaborate with us.

As of end of 2019, we have supported 122 external start-ups through C-Lab Outside. In addition, we held a Demo Day in November 2019 to showcase the progress achieved by the start-ups we have supported during the past year and provide opportunities in collaboration.

"Thanks to the C-Lab Outside,
we became a surplus company!"

**Fernando Moon, CEO of Eggbun,
a chatbot language tutor application company**

The C-Lab Outside program looked into the very essence of our business and then provided assistance. We were able to focus solely on our business, as we were provided with not only customized programs like 'Growth Hacking' and expert training, but also with the essentials to run a company, like workspace and food.

In the beginning, like most start-ups, we were losing money, but after participating in this program, we started making a profit. Sales analysis consulting was particularly helpful. With the active support from Samsung Electronics, we got the opportunity to create contents with famous YouTube influencers, which I think would have been difficult for Eggbun to pull off alone.

C-Lab Outside Support Categories

Financial aid	· Financial aid of up to KRW 100 million
Infrastructure	· Dedicated workspace at Samsung Electronics, cafeteria, shuttle bus, and other services for convenience
Mentoring, consulting	· Meetings and training sessions with experts in technology, business, and marketing
Exhibitions	· Opportunities to attend Samsung Electronics' internal exhibitions and global IT exhibitions (e.g. Consumer Electronics Show)
Partnership opportunities	· Consideration of possible business partnerships with Samsung Electronics

Achievements of C-Lab Outside Start-ups

**Smoothy -
A Group Video Call Application that Supports
Simultaneous Video, Voice, and Text Chat**

Smoothy is a group video call application that allows users to use videos, voices, and text messages on one screen. Smoothy, which has expanded its reach to Android and iOS since its launch in 2018, has already accumulated more than 850,000 users as of January 2020. Smoothy starts silently when connected for the first time and video calls are possible even when voice calls are difficult because it also supports real time texting written on the video. The main target for the application is Generation Z, who want to be connected by video at all times, at home, on the streets, and even while studying.

**Circulus -
Companion Robot Pibo Equipped
with Interactive Technology**

Pibo communicates with humans. Unlike other devices that are activated only when you talk to them, Pibo can initiate a conversation when you get close to it. In addition, it can share memories with users through voice diaries or photos, and after reading the mood through their facial expression or tone of voice, it can provide quotes or play music that best suits the situation. Based on its natural language recognition technology, the robot gradually improves its performance on its own. The longer you talk to it, the better it understands you.

Samsung NEXT

Samsung NEXT operates in Silicon Valley, New York, Europe, Tel Aviv and South Korea and brings together experts from various fields, such as engineers, investors, strategists, and business developers. The team works with start-ups and entrepreneurs developing world-changing software and services, and helps to fuel innovation by providing funding, partnership opportunities, merger and acquisitions, in-house product development and more. Two focus areas NEXT is pursuing include Consumer Empowerment and Health & Wellness.

Consumer Empowerment – Scroll

Samsung NEXT invests in technology and business models that enhances consumer experience. Samsung NEXT invested in Scroll, which partners with digital media to create a fast and convenient user experience by eliminating advertisements and log in.

Health & Wellness – Whisk

We invest in companies with digital technologies that can reduce costs and increase accessibility to healthcare. In March 2019, we acquired Whisk, which offers millions of online recipes with leading food companies around the world and provides 500 million food recommendations each month.

Whisk's core technology, the 'Food Genome', helps consumers improve their eating habits by providing nutritional information from an analysis of their ingredients and food consumption patterns. Whisk's Food AI brings together user preferences, intent, and context to deliver personalized cooking experiences. Samsung Family Hub refrigerator powered by Food AI recognizes what's inside the fridge and recommends a curated feed of recipes, enhancing the user experience.

Research Funding for Future Technology Program

We launched the Research Funding for Future Technology Program in 2013 to provide investment in basic science initiatives that would build strong, long-term foundation for positive human and industrial development. Under the principle of 'high risk, high impact', we will provide KRW 1.5 trillion to support leading research projects in basic science, material technology and ICT sectors by 2022.

As of 2019, we have funded a total of KRW 718.7 billion to support 560 research projects. Of these, 187 were in basic science, 182 projects used material technology, and 191 projects involved ICT. 10,821 professors and experts from 74 renowned institutions and universities, including Seoul National University, KAIST (Korea Advanced Institute of Science and Technology), POSTECH (Pohang University of Science and Technology), KIST (Korea Institute of Science and Technology), and KIAS (Korea Institute for Advanced Study) are participating and generated 773 patent applications in total.

We also provide a mentorship program for patent registration, a consultation for starting a new business by experts, and R&D exchange opportunities between researchers and industry experts.

Process of Research Funding for Future Technology Program

Research Proposal	90 panels select presentation candidates
Presentation and Q&A	Presentations and discussions for 150 panels
Research Support	R&D exchange conference, mentoring for patent registration, expert consulting for business launch Research Support Presentation and Q&A Research Proposal IT

Major Projects for Research Funding for Future

Basic Science	Identifying the principle of storing light on the single atomic layer and controlling it
Material Science	Predicting the point of material destruction through data shape analysis.
ICT	A bandpass analog-to-digital converter-based radio frequency integrated circuits (RFIC) architecture for ultra-small and low-power 5G communication hardware.

Digital Responsibility

Accessibility

All of our products, content, and services are built around a human-centered philosophy that recognizes diversity and embraces difference. We seek technological innovation to allow equal and convenient access to our products and services to all consumers. We apply the 4C Accessibility Design Principles to the development of all products and services. Using these principles, we developed the 'Accessibility User Experience (UX) Design Guidelines' and monitor how the accessibility principles are intuitively followed.

4C Accessibility Design Principles

Consideration	Comprehensiveness	Coherence	Co-Creation
Consider details from the user's perspective.	Create non-discriminatory designs that suit everyone.	Provide the same accessibility without distinction for the entire product line-up.	Create together.

User Experience Design Guidelines per Special Needs

Vision	Hearing	Dexterity/ Mobility	Cognition
· Provide for basic accessibility in device use · Improve voice feedback · Ensure features enhance users' awareness of their surroundings while walking · Allow users to enjoy pleasant experiences such as movies, music, and games	· Enable smooth communication and full expression of feelings · Facilitate communication through text messages · Ensure features that enhance users' awareness of surroundings · Provide feedback for accessing information devices	· Allow for one-handed operation · Ensure clear and easy operation methods · Accurate interaction	· Enable smooth communication and full expression of feelings · Allow for diminished attention and concentration capacities

Accessibility Feature Highlights

TV

We are proactive in implementing accessibility features in TV products. 'SeeColors' application, co-developed with Budapest University of Technology and Economics, checks color blindness and adjusts the screen for those who have difficulty detecting. It also provides a feature that allow users to enlarge the sign language screen by up to 200%, and the Multi-Output Audio functionality that allows multiple viewers to simultaneously watch TV at different volume levels. Such efforts have been recognized through innovation awards at the CES, the world's largest consumer electronics trade show, for four consecutive years in accessibility category.

Home Appliances

We strive to improve accessibility in our home appliances through innovative technologies designed to enhance the key features of each product. From 2017 to 2018, we formed an advisory group with the Korea Blind Union, Korea Association of the Deaf, and Korea Association of Persons with Physical Disabilities to develop and improve the accessibility of home appliances. One of our employees with visual disability directly participated in the development process by testing the products at his own home for 3 months. As a result, Samsung Family Hub refrigerator is equipped with various accessibility features, such as 'Greyscale/Negative Color' that inverts screen colors or switch to greyscale for image enhancement, an 'Accessible Screen' that helps wheelchair users to access the product, and 'Side Navigation' in which the main control is located on the side, allowing users to adjust its height. Grande AI washers and dryers upgraded visual aid features by introducing and adopting a braille label based on the usability evaluation by visually impaired and accessibility sound.

Mobile

Mobile devices that users carry and use at all times require more detailed accessibility features. The Samsung Supporters program promotes 'Co-creation' using accessibility design principles to communicate with users with disabilities and enhance their experience. Samsung Supporters participate in the development phase of mobile products to increase product accessibility and contribute in the development of new designs and functions. For example, the Galaxy S20 includes a variety of additional functionality to help users. These include the ability to pair a hearing aid to the device via low-power Bluetooth; a scene commentary for visual aid; a direct reading and color detection function; a function to prevent repeated key input; and fixed key feature for users with physical disabilities. We have been holding the 'Galaxy Accessibility Briefing' every year since 2013 for the people with disabilities and their families. From 2014, we have hosted the 'Smart Angels' program which educates visually impaired people on smartphone use.

Digital Well-being

The importance of digital devices in consumers' lives is on the rise with the increase of consumer convenience led by the improvement of information and communication technology. However, the high dependence toward digital devices is also causing social phenomena such as 'Smombie (Smartphone Zombie)' and 'Nomophobia (No-mobile-phobia)'. We have therefore developed five digital well-being values to help users enjoy a healthy and balanced digital lifestyle: Digital Detox, Balance, Guard, Wellness, and Safety.

Five Digital Well-being Values

1 Digital Detox	Create an environment where a user can focus on the present, stepping away from excessive use of digital devices	**Digital Detox - 'Focus Mode'** 'Focus Mode' allows users to pause or silence notifications from selected applications temporarily when you want to focus on a task at hand. This feature is especially handy to cut out distractions while reading or studying, or simply when you want to have conversations with friends and family or just want to take a personal break.
2 Balance	Assist in building a balanced lifestyle by forming positive digital usage habits	**Balance - 'App Timer'** With the 'App Timer', users can limit excessive usage of an application by being notified of actual time spent on an application against the target usage time. If the application usage time is below the time recorded on the previous day, the notification message will appear in the header to encourage the user the reach the target.
3 Guard	Help children to safely enjoy the digital realm	**Guard - 'Samsung Kids'** 'Samsung Kids' helps to create a safe environment for children to explore, play, and develop good digital habits. Users can easily activate the service by tapping on the 'Samsung Kids' button on the quick panel to enable access to a variety of content to fuel their imagination. Through 'Parental Control' in 'Samsung Kids', users can set limits on playtime as well as give access to specific contacts and applications.
4 Wellness	Minimize health risks that can be caused by excessive use of digital devices and provides health care features	**Wellness - 'Wind Down'** 'Wind Down' was developed to reduce eye strain before going to sleep and improve sleep quality. The blue light filter adjusts the light on the screen to avoid straining vision, and the dark mode lets the user to see the screen more comfortably in dark places. Once the user sets the bedtime schedule, the screen will fade to greyscale as the time to sleep approaches to further protect eyes and encourage users to refrain from using their phones before sleep.
5 Safety	Protect personal information through features on digital devices	**Safety - 'Find My Mobile'** We help users find their phone in the event it gets lost or misplaced and provide a service to protect the information stored. The 'Find My Mobile' service tracks the location of the lost phone, tells the user where it is, locks the device and makes it easier for a user to locate it if it is nearby by providing the 'ring my device' feature. Users can delete their data such as messages and photos, or protect their personal information by uploading it to Samsung Cloud. It also allows users to share their location when necessary.

AI Ethics

We believe in devoting our human resources and technology to develop the best products and services while making a positive and lasting contribution to society. One of our goals is to develop and connect AI services across our diverse product portfolio to benefit all of humanity. Based on this, we established an AI vision which puts our users first. We are committed to developing devices that are 'User Centric', through AI technology that are 'Always There', 'Always Safe', 'Always Helpful', and 'Always Learning'.

AI technology has enormous positive potential but we believe in taking a robust social and ethical approach that implements the technology in a sustainable and ethical way. To support this, we have established a set of AI ethics principles, 'Fairness', 'Transparency' and 'Accountability'. These principles are designed to fulfill our social and ethical responsibilities as well as to comply with applicable laws. We have also set up AI ethics guidelines for our employees to ensure that we put our AI ethics principles in practice. We also plan to promote employee awareness of AI ethics through training programs.

Principles for AI Ethics

Fairness

- We will apply the values of equality and diversity in AI throughout its entire life cycle.
- We will not encourage or propagate negative or unfair bias.
- We will endeavor to provide easy access to all users.

Transparency

- Users will be aware that they are interacting with AI.
- AI will be explainable for users to understand its decision or recommendation to the extent technologically feasible.
- The process of collecting or utilizing personal data will be transparent.

Accountability

- We will apply the principles of social and ethical responsibility to AI
- AI will be adequately protected and have security measures to prevent data breach and cyberattacks.
- We will work to benefit society and promote corporate citizenship through the AI system.

Efforts towards a Responsible AI

Samsung Electronics is pursuing various stakeholder engagement activities to enhance understanding of the social impact of AI and to utilize AI technology in a sensible and ethical manner. In 2018, we joined PAI (Partnership on AI), an international consultative body for AI ethics, and are participating in various subject-specific expert group discussions, striving to prepare for responsible AI and create best practices in AI technology. In addition, we participated in the Public-Private Council on User Protection in Intelligent Information Society in South Korea and strive to communicate with users, experts, and related companies on the need and direction of protecting users of intelligent information services such as AI.

AI R&D Capability Enhancement

As part of our dedication to expanding the capabilities of AI research, we have seven global AI centers in five countries: South Korea (Seoul), the United Kingdom (Cambridge), Canada (Toronto and Montreal), Russia (Moscow), and the United States (Silicon Valley and New York). We will continue our efforts in building open R&D on AI technologies to engage and collaborate with various experts.

Samsung AI Forum

We invite AI scholars to 'Samsung AI Forum' an annual event where we share the latest research trends and explore future innovation strategies. At the third forum in 2019, the world's most renowned AI experts participated and shared recent trends in AI technology research and progress, including deep learning.

SUSTAINABILITY PILLARS

INVESTING IN OUR EMPLOYEES

Samsung Electronics support the development of competencies of our employees based on one of our core values, 'people first'. We also respect the value of diversity and inclusion in our organizational culture and conduct a yearly employee satisfaction survey to assess our strengths and find out how and where we can make improvements. Furthermore, we also assess our safety culture, improve our work environment, and operate a chemicals management system to ensure safety in the workplace.

ALIGNMENT WITH UN 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 5] Achieve gender equality and empower all women and girls

5.1. — End all forms of discrimination against all women and girls everywhere

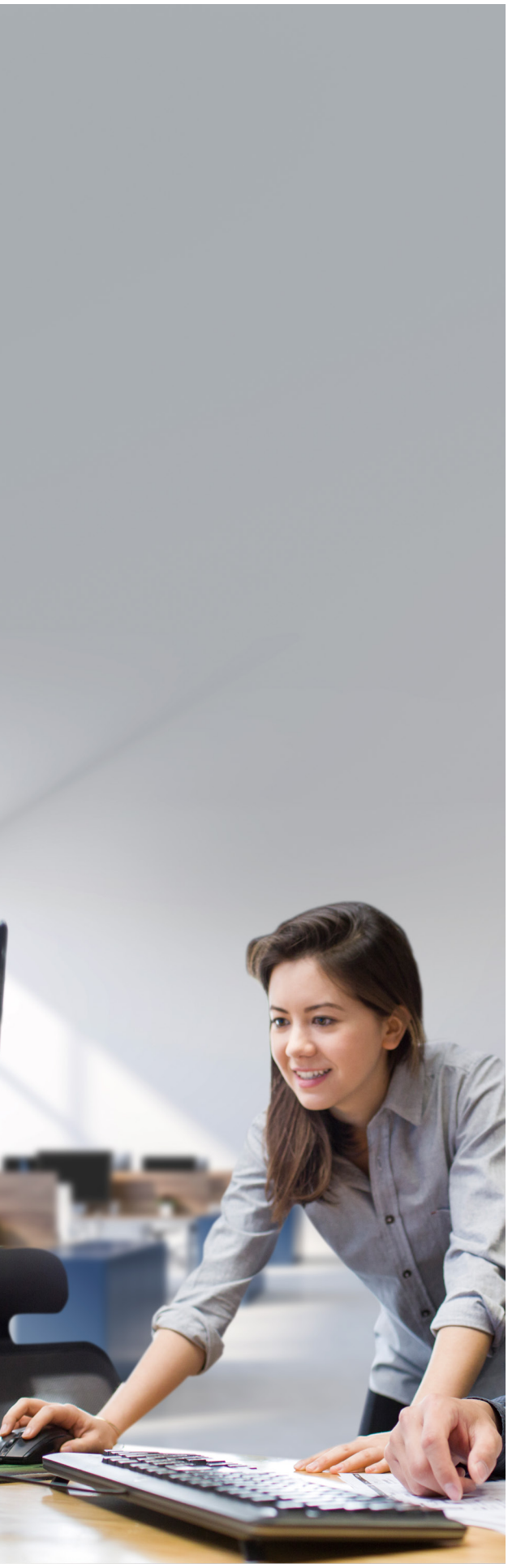
5.5. — Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision making in political, economic and public life

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

8.5. — By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

[Goal 10] Reduce inequality within and among countries

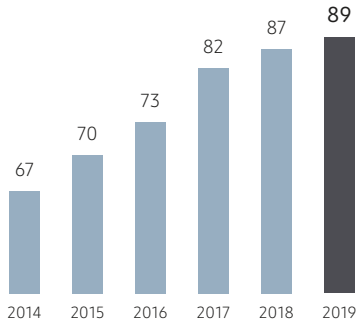
10.2. — By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status



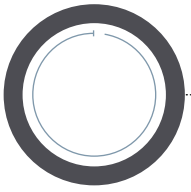
2019 HIGHLIGHTS

Samsung Culture Index Score

Unit: %



Health and Safety Management System Certification[1)]



100 %

Footnote:
1) Scope: Production sites across the globe

Career Development Program

We believe that everyone has unique talents, competencies and the potential to become a driving force for change and improvement. This is why our management philosophy has always been to put people first. We are committed to nurturing skills and capabilities in order to unlock the best in our employees, and therefore drive creativity and innovation that will contribute to our long-term sustainable growth. We provide a range of leadership and functional expertise programs to help our employees achieve excellence in their respective fields and other programs that enable them to prepare for the future and their extended careers.

Samsung U

Samsung U provides digital learning resources based on individual employee needs. Through a machine learning algorithm, Samsung U tailors its recommendations for each employee by considering a variety of factors such as the employee's job role and preferences. Overall, it helps employees become experts in their respective fields through online modules accessible worldwide on one platform.

STaR Session[1]/ IDP[2),3)]

STaR Session is a process where we support our employees design their career path and growth. STaR Session offers a variety of development opportunities encompassing career and academic training programs including MBA degrees, academic training, and expert training that can be customized depending on each participant's career stage and development needs.

Job Posting[3)]

Employees are provided with potential opportunities to move to different positions within the company through our Job Posting program, which is available based upon needs. This program follows a systematic in-house process, including posting jobs, receiving applications, screening papers, and interviewing applicants. Over the past three years, a total of 1,548 employees were able to move to their desired positions through the Job Posting program.

Life Design Training[3)]

This course allows our employees to plan their future in preparation for an extended retirement age and aging society. Each year, eligible employees are offered an opportunity to design their future. The course aims to help employees remain productive at work while effectively dealing with the anxiety associated with their respective life/career stages.

Career Consulting Center[3)]

We actively support retirees, and current employees, to prepare for the future through our Career Consulting Center. We provide programs such as career consulting for current employees, life coaching for retirees, career change training, as well help with external job matching. So far we have helped more than 7,319 people, and a total of 6,432 employees have successfully transitioned into a new career as a result.

Footnotes:
1) Samsung Talent Review Session
2) Individual Development Plan
3) Operates in South Korea only

Diversity & Inclusion

We believe that true innovation and growth are built on a culture that respects diversity and inclusion. We aim to create a culture in which people with diverse backgrounds and ways of thinking can maximize their capabilities. We do not discriminate on any grounds, including gender, race, nationality, or religion.

We constantly improve the company's systems, promote region-specific programs, and develop products and services based on these principles. Furthermore, we continuously seek opinions on diversity and inclusion from all stakeholders, including consumers, shareholders, and investors.

As a result, we have been certified as a family-friendly company by the Korean Ministry of Gender Equality and Family (MOGEF) since 2013. In the United States in 2019, we received the highest achievable score of 100 on the Corporate Equality Index by Human Rights Campaign (HRC) Foundation in recognition of our inclusivity policies for LGBTQ employees. Meanwhile, results from the Samsung Cultural Index (SCI) showed that there has been an increase in the level of satisfaction with respect to diversity and inclusion among employees and executives.

My manager respects different values and personalities in my team.

90%

My team members respect each other.

93%

Diversity & Inclusion Programs

The human resources team at our headquarters and the diversity and inclusion managers at each division have implemented a variety of initiatives, including those with a focus on women, people with disabilities, generational gap, culture, education, and more.

Women

Stronger Presence in Leadership

We are committed to ensuring that women participate in the decision-making process and have equal opportunities in leadership. To nurture the next generation of women leaders, we have increased the number of female executives and managers, and enhanced leadership training and mentoring programs to provide further support. As a result, we saw a ninefold increase in female executives and a twofold increase in the manager level over the past ten years.[1)]

Footnote:
1) Female executives: 0.76% in 2009 to 6.53% in 2019
Females in manager level and above: 7.49% in 2009 to 14.67% in 2019

Work Support

We have established various policies and facilities related to childbirth and childcare to help female employees maintain a productive work-life balance. In South Korea, we provide parental leave, subfertility leave, extended childcare leave, and offer reduced work hours for childcare – all of which are greater than the national legal requirements.[1)] As well as running in-house daycare centers, we have set up maternity lounges at worksites and designated seats for pregnant women on commute buses. We also hold roundtable discussions led by our human resources team for parents to voice their concerns and opinions. We require all our sites to install rest areas to protect the health of pregnant women and their babies as well as a place for breastfeeding. The Vietnam subsidiary operates 22 Mommy Rooms with in-house obstetrics and gynecologists. In China, we run a postpartum return program to support female employees returning to work after maternity leave.

Footnote:
1) **Paternity Leave**: (Legal requirement) Up to 10 days → (Samsung Electronics) Up to 20 days for multiple births
Parental Leave: (Legal requirement) Up to 1 year per child → (Samsung Electronics' SET Division) Up to 2 years per child
(Legal requirement) Children under 8 years old or 2nd grade in elementary school → (Samsung Electronics) Children under 12 years old or 6th grade in elementary school
Infertility Leave: (Legal requirement) None → (Samsung Electronics) Maximum of three times up to 1 year
Extended Childcare Leave: (Legal requirement) None → (Samsung Electronics, DS Division) Up to 1 month between March and July when child enters elementary school (Unpaid)
Reduced Working Hours for Infant Care: (Legal requirement) Up to 1 year → (Samsung Electronics' SET Division) Up to 2 years
* Up to 3 years if combined with working hours during infancy/early childhood
(Legal requirement) Children under 8 years old or 2nd grade in elementary school → (Samsung Electronics) Children under 12 years old or 6th grade in elementary school

Support in Technology

We have been expanding women's employment in various sectors. The percentage of women in the R&D sector has been increasing, and the percentage of women at the manager level and above in the R&D sector has increased twofold in the past decade.[1)] This has contributed to developing products and services that embrace diverse views and opinions. We hold a number of events designed to help women to develop their skills and capabilities in the field of technology. In 2019, we hosted the 'Samsung Tech Forum for Women' for female undergraduate and graduate students in South Korea, providing an opportunity to develop their vision and goals as engineers. The event offered sessions to showcase our women-friendly organizational culture and systems, provided opportunities for women engineers to share their experiences, and offered mentoring and the chance of job experience sessions. In Spain, we hosted a developer program on training on artificial intelligence (AI), the Internet of Things (IoT), and programming for young females. More than 1,000 women participated in this program to improve their technology expertise.

Footnote:
1) Females in manager level and above: 6.13% in 2009 to 11.36% in 2019

Employee Networking and Communication

We are proud to promote events and gatherings for female employees to create a culture that promotes women's rights. Our employees have voluntarily formed Employee Resource Groups (ERGs) dedicated to D&I and strive to enhance the networking opportunities of female employees. In the United States, we hold a 'Seoul Sisters Conference' to support and benchmark various D&I programs. On International Women's Day, there were a series of events, such as talks with female leaders, volunteering, and a health promotion program.

Persons with Disabilities

Work Support

We provide an environment in which individuals with disabilities can realize their potential to the fullest. We place our employees with disabilities in positions based on individual needs and their competencies and hold regular sessions to relieve their work and life difficulties and help them stay productive. We provide convenience facilities to minimize the discomfort that employees with disabilities may experience. We introduced Samsung Barrier Free (SBF), our internal facility certification system, to evaluate the accessibility of our buildings and facilities. Since 2011, we have reviewed the accessibility of all our major buildings and facilities and have implemented and improved accessibility facilities such as elevators, specialist restrooms, and low-floor buses for people with disabilities. In Mexico, we developed braille business cards for the visually impaired and boosted employee awareness and a culture of respect through a variety of workshops and conferences.

Technological Support for Individuals with Disabilities

For customers with physical disabilities, we apply accessibility technologies, such as visual, hearing, and physical aid features. We are committed to promoting inclusion in our products and services, such as the launch of the audio-visual aid application 'Samsung Good Vibes'.[1)]

Footnote:
1) Two-way communication application that utilizes haptic features and Morse code to allow the deafblind to send and receive messages using simple touch motions

Generational Gap

Communication and a Culture of Mutual Respect

We have a variety of programs to improve understanding between generations. In South Korea, as part of Culture Innovation, we introduced a new system based on career development rather than hierarchy in 2016 to nurture a culture that allows employees to freely share ideas between generation. In 2019, we hosted the 'Culture Members Program', where employees of various ages and work experiences gathered to discuss ways to enhance our organizational culture.

Generational Diversity Program

To create more effective communication with young employees, we created a Millennial Committee in South Korea. The committee seeks insights and opinions from millennials in order to apply them to the company's vision, products, and design. We also operate a reverse mentoring program where the millennials share the culture and trends of their generation with senior management. We also execute programs to close the generational gap in digital capabilities for the elderly. In Italy, we run 'SAVE for Seniors' program, through which we provided education to hundreds of elderly citizens who are not familiar with digital devices. We educated them on how to use smartphones and tablets, as well as basic IT knowledge and cybersecurity tips.

Culture

Cultural Interaction and Respect

We are building a corporate culture that share and respect each other's culture through diverse events. To support this, we celebrate a wide range of events, such as Heritage Day Celebrations in Africa, and Korean Culture Day in Latin America.

Support for Intercultural Adaptation

We offer a range of programs to support employees working in a different culture. In South Korea, we operate a Global Help Desk to provide foreign employees with information and services necessary for life, such as visa issuance. We also provide an English translation of internal systems, as well as providing Korean language courses and other clubs for employees from overseas. In addition, we host events for foreign employees that encourages them to bring their families to the worksites.

Employees dispatched to overseas offices as well as new employees receive a cross-cultural adaptation assessment on three criteria: intercultural adaptability, cultural aptitude, and global leadership. For employees dispatched to overseas offices, we offer additional training based on the assessment results to boost respect and understanding of diverse cultures.

Training

We provide and encourage participation in training programs so that employees can practice the culture of diversity and inclusion.

	Build Awareness	Reframe Mindset	Practice
	Understanding the importance of D&I	Recognizing diversity at the individual and organizational level	Improving and executing core skills
Personal	Introduction to D&I	Fundamentals of D&I	Cultural Intelligence Generational Cohesion Women & Leadership
Leader		Inclusive Leadership	Equitable Leadership Millennials in Leadership
Team		D&I Team Dynamics	

Samsung Culture Index (SCI)

We conduct an annual employee survey, Samsung Culture Index, to identify our strengths, and highlight areas for improvement in our corporate culture. The SCI survey is comprised of the core values of our culture: Work Smart, Think Hard, and Build Trust. In 2019, approximately 260,000 employees in 124 locations participated in the survey.

The SCI score has been on a steady rise since we introduced the SCI survey. In 2019, the overall score was 89, two points higher than the year before. This score indicates that 89% of our employees across the world are satisfied with our corporate culture.

SCI Score

Unit: %

Year	2014	2015	2016	2017	2018	2019
SCI Score	68	71	74	82	87	89

Work Smart – Performance-oriented Working

Work Smart is an activity that aims to cultivate a working culture that focuses on performance rather than time input and physical presence. The approach is designed to nurture a work-life balance, efficient time management, and constant improvement in working style, and also encourage employees to achieve their work goals.

Unit: %

Key Questions	2014	2015	2016	2017	2018	2019
My work-life balance has improved by Work Smart Initiatives.	63	67	74	80	85	86
The productivity of my company has benefited by Work Smart Initiatives.	67	71	77	83	87	87

Work Smart Best Practice Contest

Our annual Work Smart Contest rewards employees who have voluntarily taken steps to become more efficient in their role and have improved their performance. In 2019, a total of 782 best practices were submitted, 12 of them were selected and rewarded, and improvement know-how and best practices were shared internally.

Think Hard – Promoting Creativity and Innovation

Think Hard is an activity that encourages employees to consider innovative ways to improve the way we work, promoting a proactive approach to enhancing working methods and practices rather than passively accepting traditional ways. We support our employees' innovative activities and challenging spirit based on an efficient management system and infrastructure.

Unit: %

Key Questions	2014	2015	2016	2017	2018	2019
This company provides a supportive environment for employees to develop creative ideas.	70	72	77	83	88	88
This company takes employees' ideas and suggestions for improvement into consideration.	69	71	76	83	88	89

'What Samsung Electronics does well' – Answered by Employees

"Our company is always striving to create new and original products that reflect the latest technology and trends."

"Samsung Electronics is globally renowned brand with tremendous opportunities and I work with talented and smart colleagues here. Samsung Electronics always supports employees' creativity in innovative ways."

Build Trust - Driving Respect and Consideration

Build Trust is based on the idea that we can drive larger success through mutual communication and cooperation. When employees share their ideas and respect each other's performance with mutual respect and consideration, we can maximize our success as a company.

Unit: %

Key Questions	2014	2015	2016	2017	2018	2019
My colleagues respect and treat each other with care.	79	79	80	87	92	93
I take pride as a member of our company.	79	80	83	88	92	93

Most Improved in Satisfaction in 2019 – Disclosure of Information Regarding the Company's Goals and Strategies

For active communication between the company and employees, we regularly share the company's management philosophy and performance through townhall meetings, business briefings, and letters from the CEO. In the 2019 SCI, an increased number of employees said we had been fully aware of the company's goals and strategies. The score jumped by six points from 88 points in 2018, the largest increase to date.

Health and Safety Management

Workplace Safety Management

As part of our commitment to achieving a world-class safety culture, we are operating a company-wide safety management index, evaluating our safety culture, creating a safer working environment, and strengthening safety capabilities. All of our worksites have received certification on Health and Safety Management System, and we are doing our best to ensure safety in the workplace by evaluating all worksites for potential risks and dangers.

Safety Culture Index

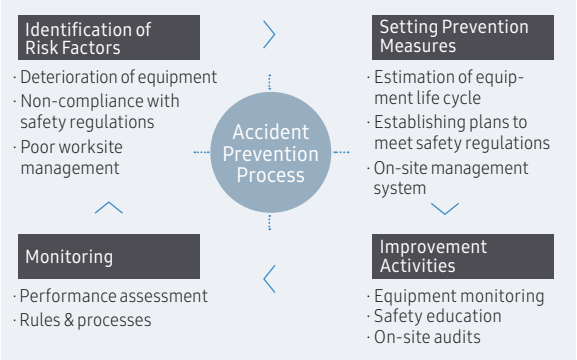
We are making efforts to establish an advanced safety culture in our workplaces. In 2019, more than 130,000 employees from 36 sites in South Korea (including those dispatched from suppliers) and manufacturing sites worldwide participated in the safety culture level evaluation. The safety culture evaluation assesses items such as the management's commitment, roles and responsibilities, risk management, communication and participation, environmental safety capabilities, compliance, cause analysis and corrective measures, monitoring and performance management. In 2019, the level of safety awareness at our worksites improved slightly compared to 2018, which means that employees' voluntary participation in safety activities is gradually increasing.

Creating a Safe Working Environment

In order to prevent potential accidents, we identify risk factors such as outdated facilities, noncompliance with safety regulations, and inadequate on-site monitoring in advance and create countermeasures. In 2019, we established a Facility Life Management System (FLMS) that can manage the entire process of procurement, repair, replacement, and disposal of equipment to prevent risks related to infrastructure facilities in the workplace. The FLMS system manages all levels from registering infrastructure facilities and materials information, devising prevention plans and recording assessment results, and an analysis based on big data. In addition, we conduct training on compliance with safety regulations and response system per accident types and examine the on-site management system periodically.

Environment & Safety Research Center

In 2019, our Semiconductor division established the Samsung Environment & Safety Research Center to secure future technologies for infrastructure such as smart safety, green management, and overall safety management. The institute is conducting research on unmanned technology to eliminate risk factors for accidents in the workplace, as well as eco-conscious technology for responding to environmental regulations and minimizing pollutants. It is also doing research to promote safety in new products, processing, materials, and facilities.



Eliminating Risk Factors in Facilities – On-site Inspections Using Drones

Since 2018, Samsung Electronics has used drones to conduct inspections on locations and facilities that are difficult to access or can be dangerous to examine in proximity. In 2019, we introduced drones to our worksites in Vietnam to check corrosions, damages and cracks in our facilities. In addition, we also developed a technology that can collect and analyze the conditions of facilities automatically and implemented it to the Semiconductor division's worksites in South Korea.

Accident Response Process

Occurrence of accident
- Dissemination of information on the accident.
- Identification of type of accident and analysis of crisis phase.

Emergency actions
- Activate the emergency management committee.
- Take emergency evacuation and first-aid steps.

Investigation
- Cause analysis
- Prevention of secondary damage

Recovery
- Establishment and action of recovery plan
- Action on business continuity plan

Prevention of accident recurrence
- Establishing plans to prevent recurrence
- Assessment on validity of accident response process

Enhancing Safety Capabilities

Professionalization of Risk Assessment

The Semiconductor Division operates a training course for Risk Assessment Masters to enhance its safety-related risk evaluation capability. The course is divided into two programs; work-related risks and work process-related risks. The first program covers theoretical training on how to discover risk factors using videos, case-based evaluation and improvement on environmental safety training, and a third-party assessment consisting of operational practitioners, environmental safety officers, and external experts. The work process-related risk course consists of case studies related to 60 major facilities, and uses the Fab/Infra Best Sample, HAZOP and 'what-if' evaluation tools. As of 2019, a total of 1,230 people (1,070 employees at Samsung Electronics and 160 at suppliers) earned the title of Risk Assessment Masters. In 2020, we plan to provide additional training and follow up with an in-depth course on detecting complex risk factors for those who show superior performance.

Safety Training

We provide regular training to prepare our employees to respond to safety-related accidents. This is conducted as experiential courses, which include fire evacuation, earthquake preparedness and response, and chemical spill response. In 2019, we carried out a total of 3,679 emergency training sessions, which amounts to an average of 1.4 sessions and 15 hours of training completed by each employee. Our periodic training sessions include check-up of the preparedness against various emergency scenarios, and emergency situations response system. In 2019, we introduced fire safety training for employees of our suppliers.

Environmental Safety Training for Employees

Training Target	Contents	2019 Results
All Employees	Introductory training, basic statutory training, safety leadership training	Total 4,282,694 hours of training completed; 455,319 employees participated[1)]
EHS[2)] specialists	Internal inspector course, certification courses (to obtain certificates such as master craftsman and engineer), statutory refresher courses	Total 22,499 hours of training completed; 975 employees participated
Employees at production sites outside of South Korea	Global EHS Conference, Core leaders training courses held in South Korea, and additional courses run by each worksite	Total 2,996,203 hours of training completed; 172,057 employees participated

Footnotes:
1) Duplicates included
2) Environment, Health and Safety (EHS)

Health and Safety Support for Suppliers

In 2019, our DS Division opened 'DS Division EHS Academy for Suppliers', an environmental safety training center for its suppliers, and ran a total of 24 courses. These included two statutory training courses, seven certification-related training courses, and fifteen capability enhancement training courses. Around 160,000 employees of our suppliers completed the courses in 2019.

1 Statutory training — Ensures all visitors at the DS division worksites complete a mandatory safety training prior to entering worksites

2 Certification training — Enables supplier employees to acquire professional certification of their job skills through hands-on evaluation and practice tests

3 Capability training — Provides safety·health manager courses, safety leadership courses and more to employees and managers from suppliers

EHS Innovation Day

Since 2013, we have held annual EHS Innovation Day to enhance workplace safety management. Since 2019, we have operated a two-track program for products business and parts business sectors, and held the forum twice in March and in October. In October, we hosted the 'Global Manufacturing/EHS Innovation Day' with the manufacturing department to share cases of risk analyses focusing on manufacturing and rekindled our commitment to strengthening our capabilities across EHS overall. Our employees from all over the world as well as our suppliers participated in an expert's lecture about creating and innovative and safe workplace, and shared success cases of innovation in the field of EHS from each participating company.

Employee Health Management

Our Health Management System stresses the importance of promoting good health, improving the work environment, and disease prevention. Among many activities, we conduct periodic employee health checks, measure harmful factors in the work environment, and operate an in-house health clinic.

Health Management System

1 Health promotion
- Health check-up
- Operation of in-house workout facilities: fitness center, musculoskeletal workout center
- Activities for health promotion: Encourage employees to quit smoking/cut down drinking, use stairs, eat healthy foods

2 Work environment
- Measure harmful factors in the work environment.
- Investigate factors that are harmful to the musculoskeletal system
- Strive to eliminate or remove odor, dust, and noise from worksites

3 Disease prevention
- Monitoring epidemics: providing information on how to manage and minimize risks during epidemics
- Operation of in-house health clinic: inoculation (e.g. against influenza and hepatitis)
- Health management concerning employees on business trips: management of countries with travel restrictions/prohibition and provision of household medicines

Health Promotion Activities

3-Care Comprehensive Management

'3-Care' comprehensive management is a collaborative system between the environmental safety department, human resources team, and department heads to champion employee health. We provide various health management programs from face-to-face care by company doctors, to customized exercise programs, and a range of healthy diet menus. In addition, heads of each department and the HR team support employees, offering changes in workload and working conditions as needed.

BOOST Solution

We have adopted a BOOST (Burnout, Obesity, Overdrinking, Smoking, and Take-care group) solution. We provide comprehensive health improvement support for groups of employees with at least one of the above high-risk factors.

Health Campaigns

Samsung Electronics is constantly operating a campaign for all employees encourage walking using the Samsung Health application, healthy drinking culture, and quitting smoking.

Work Environment Improvement

Ergonomic Line Certification

We examine the impact of the work environment on our employees' health by conducting a periodic manufacturing process analysis. To that end, we operate the Ergonomic Line Certification System, which is used to assess each manufacturing process ergonomically, and evaluate its operation level by calculating in percentage. The system, which consists of Rapid Entire Body Assessment (REBA) analysis, manages the status of certification for each process, using the Global Environment, Health & Safety (G-EHS) system. In 2019, a total of 621 production lines were analyzed, of which 74% were rated to be ergonomically effective.

Illness Prevention

Fitness Center for the Prevention of Musculoskeletal Disorders

Since 2010, Samsung Electronics has operated a musculoskeletal disease prevention exercise center to prevent related illnesses and promote health for our employees. Employees can receive professional examination for basic body composition, balance, 3D physique measurement, and core muscle strength. They can also receive 1:1 consultation with experts to participate in health promotion activities. In particular, we offer corrective exercise and post-treatment rehabilitation for symptoms common to office workers such as scoliosis or 'turtle's neck syndrome'.

Workplace Chemical Management

Chemical Management

To ensure safe management of chemical substances, we operate periodic training of responsible personnel and inspect processing and storage facilities, while establishing chemical handling safety measures based on EHS expert diagnosis. To reduce the use of chemical substances, we are carrying out three-step management activities; the development of substitute substances; the reduction of concentration of chemicals used; and the discontinuation of the use of those chemicals.

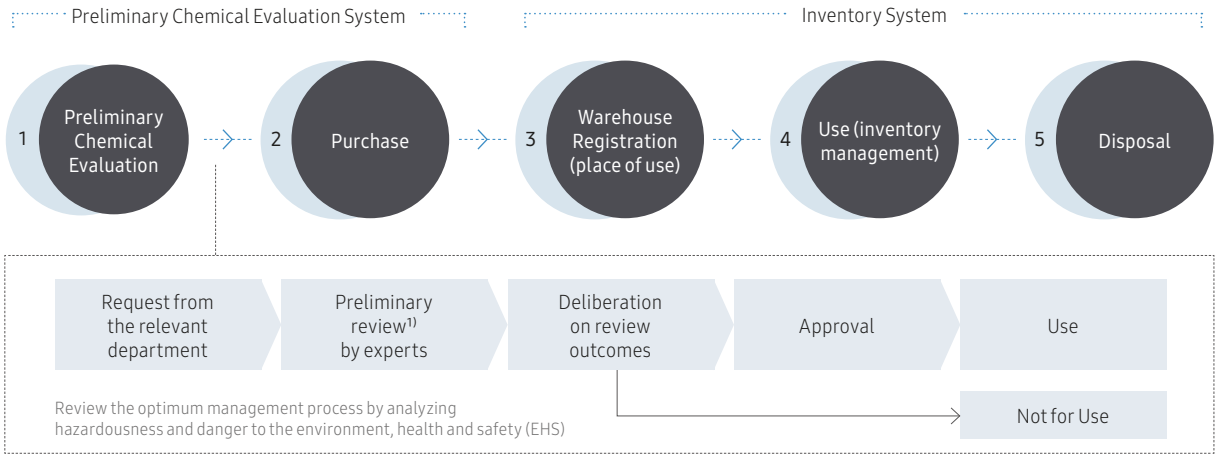
Chemical Management Process

In order to prevent potential accidents that may arise from chemical management, we systematically manage every stage from purchase to disposal. Our employees who deal with chemicals at each of our worksites are required to perform a preliminary evaluation of the chemical prior to purchase. We register and use chemicals after they have been assessed as adequate for use. In 2019, we carried out a total of 7,085 preliminary evaluations. After use, chemical waste are disposed safely through separate chemical waste treatment procedures.

Integrated Chemicals Monitoring

All our worksites comply with the EU's Restriction of Hazardous Substances (RoHS) and the EU Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) standards. Through this system, we manage chemical substances strictly in accordance with the laws and regulations of each country and the internal list of restricted materials. In addition, we provide support, including regular on-site audits and improvement measures, so that our suppliers can use chemicals in safe working conditions.

Chemical Management Process



Footnote:
1) Preliminary review: Based on Material Safety Data Sheet (MSDS), chemical warranty letters, and letters of confirmation (LOC)

Regulated Substances

We disclose a list of 25 regulated substances to the public. These substances are classified into those which are strictly prohibited and those whose use is allowed only under restricted conditions.

Category	Cas No.	Substance	Limitations of Use[1]	Related Standards	Applied to
Prohibited	71-43-2	Benzene	All Process	OSHA[2](Special/C/M), IARC[3], Internal Guideline	All Samsung Electronics worksites and all suppliers
Prohibited	110-54-3	n-Hexane	All Process	OSHA (Management/R), EU CMR, Internal Guidelines	All Samsung Electronics worksites and all suppliers
Restricted	68-12-2	Dimethylformamide	Cleansing/Degreasing	OSHA (Special/R), IARC(2A), EU CMR (1B)	All Samsung Electronics worksites and all suppliers
Restricted	75-52-5	Nitromethane	Cleansing/Degreasing	OSHA (Management /C), IARC(2B)	All Samsung Electronics worksites and all suppliers
Restricted	67-66-3	Chloroform	Cleansing/Degreasing	OSHA (Management /C/R), IARC(2B), EU CMR	All Samsung Electronics worksites and all suppliers
Restricted	79-01-6	TCE	Cleansing/Degreasing	OSHA (Special/C/M), IARC	All Samsung Electronics worksites and all suppliers
Restricted	108-88-3	Toluene	Cleansing/Degreasing	OSHA (Management /R), EU CMR	All Samsung Electronics worksites and all suppliers
Restricted	127-18-4	PCE	Cleansing/Degreasing	OSHA (Special/C), IARC(2A)	All Samsung Electronics worksites and all suppliers
Restricted	67-56-1	Methanol	Cleansing/Degreasing/ Cooling	OSHA (Management /C)	All Samsung Electronics worksites and all suppliers
Restricted	108-94-1	Cyclohexanone	Cleansing/Degreasing	OSHA (Management /C)	All Samsung Electronics worksites and all suppliers
Restricted	75-09-02	Dichloromethane	Cleansing/Degreasing	OSHA (Special/C), IARC(2A)	All Samsung Electronics worksites and all suppliers
Restricted	75-21-8	Ethylene Oxide	Cleansing/Degreasing	OSHA (Special/Management C,M), IARC(1)	All Samsung Electronics worksites
Restricted	109-86-4	2-Methoxyethanol	Cleansing/Degreasing	OSHA (Special/Management R)	All Samsung Electronics worksites
Restricted	110-49-6	2-Methoxyethyl Acetate	Cleansing/Degreasing	OSHA (Special/Management R)	All Samsung Electronics worksites
Restricted	110-80-5	2-Ethoxyethanol	Cleansing/Degreasing	OSHA (Special/Management R)	All Samsung Electronics worksites
Restricted	111-15-9	2-Ethoxyethyl acetate	Cleansing/Degreasing	OSHA (Special/Management R)	All Samsung Electronics worksites
Restricted	50-00-0	Formaldehyde	Cleansing/Degreasing	OSHA (Special/Management C,M) IARC(1)	All Samsung Electronics worksites
Restricted	111-96-6	Diethylene Glycol Dimethyl Ether	Cleansing/Degreasing	EU CMR (1B)	All Samsung Electronics worksites
Restricted	78-87-5	1,2-Dichloropropane	Cleansing/Degreasing	OSHA (Management C) , IARC(1)	All Samsung Electronics worksites
Restricted	106-99-0	1,3-Butadiene	Cleansing/Degreasing	OSHA (Special/Management C ,R) , IARC(1)	All Samsung Electronics worksites
Restricted	127-19-5	N,N-Dimethylacetamide	Cleansing/Degreasing	OSHA (Special/Management R)	All Samsung Electronics worksites
Restricted	106-94-5	1-Bromopropane	Cleansing/Degreasing	OSHA (Special/Management C ,R) , IARC(2B)	All Samsung Electronics worksites
Restricted	75-26-3	2-Bromopropane	Cleansing/Degreasing	OSHA (Special/Management R)	All Samsung Electronics worksites
Restricted	107-13-1	Acrylonitrile	Cleansing/Degreasing	OSHA (Special/Management C) , IARC(2B)	All Samsung Electronics worksites
Restricted	75-01-4	Vinyl chloride	Cleansing/Degreasing	OSHA (Management C) , IARC(1)	All Samsung Electronics worksites

Footnotes:
1) Limited to manual processing
2) Occupational Safety and Health Act, South Korea
3) International Agency for Research on Cancer

SUSTAINABILITY PILLARS

SUSTAINABLE SUPPLY CHAIN

In collaboration with our suppliers across the globe, we are continually working towards a sustainable business ecosystem based on a philosophy of fairness, openness, and co-prosperity. We provide support to our suppliers to operate in adherence to global laws and standards to fulfill its environmental and social responsibilities. We also operate a risk management system to minimize human rights infringements and environmental impacts in the mining process in high-risk areas.

ALIGNMENT WITH UN 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 all

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

2019 HIGHLIGHTS

Funding Support

Amount of Win-Win Fund Invested to Suppliers

8,630 Hundred Million KRW

Support to Smart Factory Project

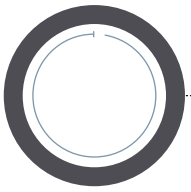
Manufacturing Experts / Invested Funds

200 people /

1,100 Hundred Million KRW[1)]

Conflict Minerals Management

Percentage of RMAP[2)] Certified Smelters



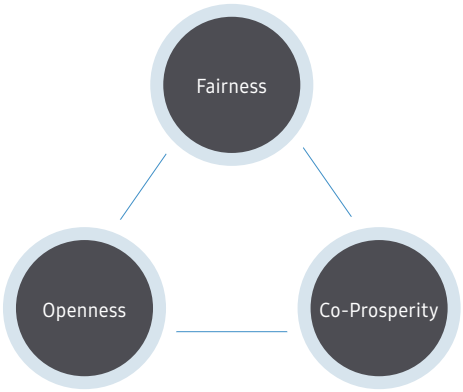
100 %

Footnotes:
1) 50 billion KRW from the Korean Ministry of SMEs and Startups included
2) Responsible Minerals Assurance Process

Supply Chain Operation

We strive to grow together with our suppliers by carefully managing the risks and opportunities of our supply chain and considering sustainability at every stage of selecting, operating, and evaluating suppliers. We believe our competitive advantage is enhanced by the competitiveness of our suppliers. Based on this philosophy coupled with strong will from our top management, we support our suppliers to grow in the global marketplace, which in turn will boost the competitiveness of our supply chain.

Supply Chain Operation Philosophy



Selecting New Suppliers

When selecting new suppliers, we evaluate candidates on five key areas: procurement and quality; environment, health and safety; labor and human rights; Eco-Partner certification; and financial status. We engage with those which receive a score of minimum 80 (out of 100) in all five areas. In particular, we intensively monitor areas that are closely related to corporate social responsibilities using a checklist based on the RBA Code of Conduct and audit methodology.[1)] For accurate assessments, our in-house experts visit suppliers to conduct on-site audits, while third-party agencies review their financial status (credit ratings). The standard contract that we sign with first-tier suppliers also stipulates social responsibilities, such as abiding by the Samsung Electronics Environmental Standard[2)], international labor practice and human rights standards, and the Samsung Electronics Supplier Code of Conduct.

Footnotes:
1) The Responsible Business Alliance (RBA) is an industry coalition in which over 150 global corporations draw up a systematic joint response to CSR issues. The RBA sets 85 standards in five areas - labor and human rights, environment, health and safety, ethics and the management system.
2) Refer to Eco-Partner certification

Key Items for Selecting New Suppliers

EHS (Environment, Health, and Safety)

Suppliers must satisfy 23 conditions including occupational safety, fire prevention facilities, occupational health, handling of hazardous substances and environmental facilities. In particular, nine elements including fire prevention equipment and the facilities to handle substances of concern waste substances and wastewater are mandatory elements.

Labor and Human Rights

We conduct on-site audits to ensure that our new suppliers comply with 19 conditions including voluntary labor, work hour regulations, and prohibiting discrimination. In particular, eight elements including signing contracts in native languages, prohibition of child labor, protection of underaged employees, compliance with work hour regulations, guarantee of breaks/leave stated by the law, accurate calculation and payment of wages, pay stubs/prohibition of back payments, and paying social insurance premiums and other withholding taxes are mandatory requirements.

Eco-Partner Certification

We work only with suppliers that have acquired Samsung Electronics' Eco-Partner certification after undergoing an inspection on their product environment policies, education and training, and the use of hazardous substances. Through this measure, we manage the quality of deliverables from suppliers as well as their social and environmental impacts.

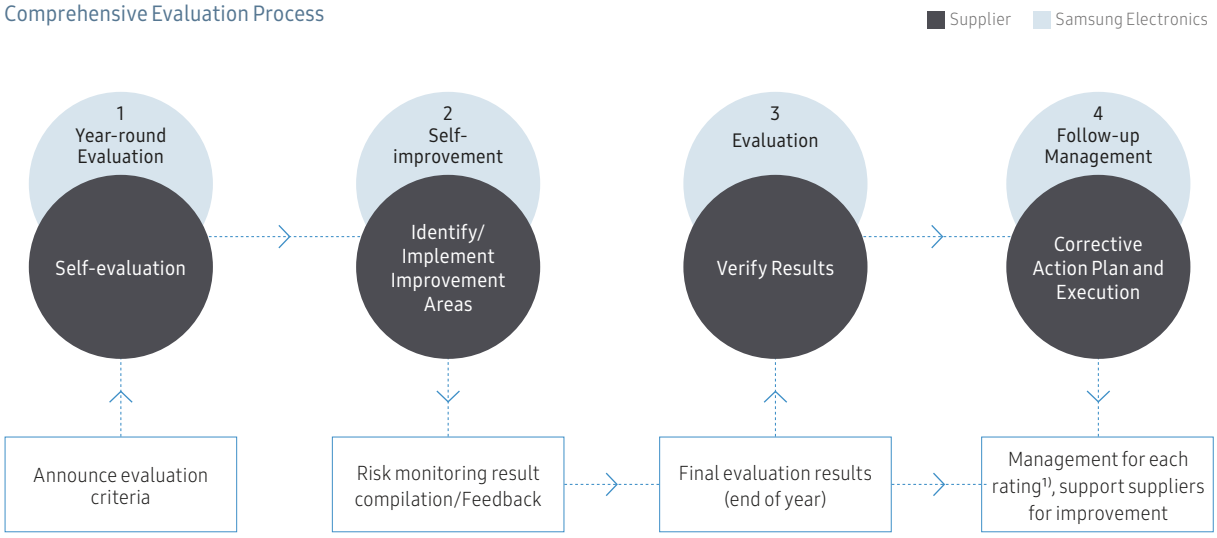
Comprehensive Evaluation of Suppliers[1)]

We conduct a yearly comprehensive evaluation of our suppliers to assess their competitiveness and manage risks. The evaluation is based on eight criteria - technology, quality, responsiveness, delivery, cost, EHS, financial condition, and compliance with laws and regulations. It is conducted using various methods, including the use of transaction data and data provided by suppliers. Since the evaluation system is operated all year round, suppliers can check and monitor their performance and risks at any time through the integrated procurement system.

Based on performance evaluation results, we grant incentives to suppliers that have performed well, including the preferential transaction allocations for the following year and providing support programs. In contrast, we require under-performing suppliers to take corrective measures and penalize them by placing less orders and restricting additional transactions.

Footnote:
1) In 2019, we conducted a comprehensive evaluation on 86% of suppliers, excluding those that have been registered for less than one year.

Comprehensive Evaluation Process



Footnote:
1) Excellent: Give preference in allocating volume for the following year
Underperforming: Request improvement measures
Poor: Reduction in transaction volume and restriction of additional transactions

Comprehensive Evaluation Items

Category	Item	Details
Business Competitiveness	Technology	The ownership of technology patents and R&D investment
	Quality	Failure rates and quality management system certification
	Responsiveness	Engagement in our policies and activities for innovation
	Delivery	On time delivery and RTP[1)] response rates
	Cost	Increase rate in transaction value and competitiveness in cost
Sustainability Issue	EHS	Workplace safety and international certification
	Finance	Credit rating and debt ratio
	Law (Social)	Labor & human rights in the workplace and anti-corruption

Footnote:
1) Return to purchasing order

Partner Collaboration

To enhance the competitiveness of our supply chain, we are running partner collaboration programs for our first-, second- and third-tier suppliers. In addition, to encourage economic and social growth in local communities, we also extended our partner collaboration programs to small and medium-sized enterprises (SMEs) that do not have track records of working with us. Collaboration programs are provided in the following areas – training and hiring, funding, new technology development and commercialization, enhancing competitiveness, and expanding sales channels.

Partner Collaboration Programs

Category	Key Programs	Details
Training and Hiring[1)]	Partner Collaboration Academy	· Skills enhancement-focused job training aimed at improving the capabilities of suppliers' employees to share Samsung Electronics' know-how · Around 540 courses in 10 fields including leadership, R&D, procurement, sales, and management innovation are provided free of charge · 70% of the collective training sessions are assigned to job skill training in order to ensure practical improvements in professional capabilities
	Samsung Supplier Job Fair	· Job fairs with affiliated companies once every year since 2012 to help suppliers that have difficulties in securing talents · Over 100 suppliers and 10,000 job applicants participated in the 2019
Funding[2)]	Win-Win funds	· Low-interest loans on up to KRW 9 billion for investments in facilities and technological development, contributing to business stabilization · KRW 1 trillion fund for first- and second-tier suppliers in 2010, and added KRW 400 billion for third-tier suppliers in 2018, establishing a KRW 1.4 trillion fund in total
	Payment support funds	· Interest-free loans for first- and second-tier suppliers that needs to pay their suppliers in cash within 30 days of receiving goods · KRW 500 billion fund to improve the payment terms between first- and second-tier suppliers since 2017, and added KRW 300 billion in 2018 to support transactions between second- and third-tier suppliers, establishing a KRW 800 billion fund in total
Incentives for Suppliers[3)]	Incentives for semiconductor on-site suppliers	· Provided to the employees of suppliers that have performed well in the annual evaluation · Paid KRW 74.07 billion in 2019 and are expanding the scale of incentives each year
New Technology Development and Commercialization[4)]	Technology forum	· Introduce high technologies owned by South Korean universities, research institutions, ventures and SMEs to help suppliers secure necessary technologies in a timely manner · To reflect on the technological need of suppliers, regionally hold high technology forum (fundamental · prior technology) and Business technology forum (commercialization · mass-production technology) · Support technological cooperation and commercialization by sharing our direction of technological development as well as providing information on the government's and our R&D support projects · Executed six times in 2019
	'Public-private joint technology development project' with the Ministry of SMEs & Startups	· Participated in the project since 2013 to promote the technological development of South Korean SMEs that have ideas and technologies but lacks financial resources · Discover and co-develop task in all areas where we can cooperate with suppliers
	Patent sharing program	· Opened more than 27,000 of our patents since 2015 to enhance the technological competitiveness of SMEs · Provides patent sharing programs and consultations on a quarterly basis to suppliers including SMEs without prior business affiliation

Footnotes:
1) First-, second- and third-tier suppliers
2) First-, second- and third-tier suppliers (first- and second-tier suppliers for Payment support funds)
3) First- and second-tier suppliers dispatched to Samsung Electronics
4) First-, second- and third-tier suppliers, companies with without prior business affiliation, beneficiaries of Smart Factory Support Program

Partner Collaboration Programs

Category	Key Programs	Details
Competitiveness Enhancement[1]	Business management consulting	· Provide consultation support by dispatching our experts to suppliers experiencing difficulties in profit generation · Promote healthier corporate practices by improving management processes and reducing inefficiencies (consultation provided to 95 suppliers from 2014 to 2018, and 22 suppliers in 2019)
	Management advisory	· Our 'Supplier Consulting Office' comprised of executive-level consultants providing advice to each corporate sector based on their on-site experiences and expertise · Help suppliers build their own management capabilities
	Improvements to EHS	· Established a separate organization in 2014 that supports the EHS management of suppliers · Provide various programs including the incubation of EHS Modeling suppliers, EHS consultation, and improvement activities for suppliers that handle chemicals of high concern
	Innovation activities support	· Participated in the 'Industry Innovation Movement' led by the Korean Ministry of Trade, Industry, and Energy since 2013 · Supported a total of 2,376 suppliers on executing productivity innovation activities over 5 years till 2018 · Provide on-site support to stabilize production for both South Korean suppliers and local suppliers stationed outside of Korea
Smart Factory Support[4]	Smart Factory Program	· Share manufacturing innovation technologies and the know-hows of success with South Korean companies that lack competitiveness in manufacturing. We extend our knowledge to small and medium-sized companies without prior business affiliation, which in turn enable co-prosperity and the development of domestic manufacturing industry. · Lay out the foundations of factories through activities that innovate manufacturing sites · Support the establishment of factory's operating system/automation/process simulation/ultra-precision processing · Around 200 employees dedicated to Smart Factory Support Program · Supported 2,161 SMEs in 5 years since 2015
	Support the self-sustenance of companies through programs that expand sales channels/ develop talents/and share technological know-hows	· Help expand sales channels by attaining new buyers through Smart Biz Expo, and launching global PR activities with Arirang TV · Trained 5,049 personnel in 2019 through benchmarking(Gwangju site), on-site training and Smart Factory experts cultivation program · Shared technological know-hows in molding/automation and other areas with 100 companies in 2019 · Support 'family innovation', the co-innovation of selected companies and their suppliers
Expanding Sales Channels[4]	Marketing and PR support	· Provide support on media and broadcast-enabled corporate PR, and sessions to companies either registered or wishing to be registered with online shopping platforms to suppliers and companies without prior business affiliation
	Product export support	· Help companies gain permission and certification on exports and provide mentoring on marketing activities

Smart Factory Support Cases

In 2019, OTOS Wing Co. Ltd., which specializes in medical and industrial safety equipment, became a beneficiary of family innovation, one of our Smart Factory Support Programs and received technological and manpower support to improve productivity. Following the program, OTOS Wing has seen a 32% increase in the volume of goods produced, a 49% drop in defect ratio, and an 11% reduction in manufacturing costs. In the face of the COVID-19 pandemic in 2020, OTOS Wing donated KRW 50 million to the Community Chest of Korea to return the support it received from the Smart Factory Support Program to society. In addition, the company donated 400 pairs of medical goggles and 100 eye shields to the City of Daegu as well as 5,000 pairs of medical goggles to the Korean Ministry of Health and Welfare. Meanwhile, NJ Company, a hand sanitizer manufacturer that benefited from our Smart Factory Support Program in 2019, boosted its monthly output from 5 tonnes to 200 tonnes after receiving coaching on its overall manufacturing process, evading the risk of going out of business. NJ Company also donated 10,000 bottles of hand sanitizers to the Korea Federation of SMEs, and is sounding out a global donation through the United Nations High Commissioner for Refugees. With the further spread of COVID-19, we boosted the productivity of four South Korean mask producers including Hwa-jin Industry by 51% by deploying 43 support personnel from February to March 2020. We shared our know-how in setting up new equipments imported from China, restarting old equipments and setting up workstations and moving carts for packaging and by other production processes. In addition, when there was a shortage of filters used in masks, we assisted with the securing of new supplies by connecting them to Toray Advanced Materials Korea Inc., which developed filters. Furthermore, in collaboration with the Korean Ministry of SMEs and Startups and the Ministry of Food and Drug Safety, we received the approval on the entire production process in just three days and demand of masks within South Korea.

Managing the Working Environment of Our Suppliers

We help all suppliers to abide by our robust Supplier Code of Conduct and related guidelines, and to manage their work environment risks related to human rights, EHS and ethics in compliance with local regulations and global standards through various channels. We have established a three-stage process of self-assessment, on-site audit and third-party audit to assess the risks in the work environment of our suppliers and request suppliers to protect the labor and human rights of their employees. After a comprehensive review of the results of the third-party audit, compliancy rate with work environment policies and the supplier's progress, we award those that have shown an exemplary case of innovation. These activities are managed through an organization dedicated to work environment management and the G-SRM. Suppliers who are doing business with us are obliged to apply our working environment policies at the same level to their sub-suppliers.

Supplier Code of Conduct

We align our Supplier Code of Conduct with that of the RBA and share updates with our suppliers. We also provide a guide to help them comply with the Code and to put compliance management into practice.

Self-assessments

We developed a self-assessment tool using 85 standards set out by the RBA and distributed it to all our suppliers. Using this tool, our suppliers conduct a self-assessment once a year and provide statements ensuring compliance with our Supplier Code of Conduct.

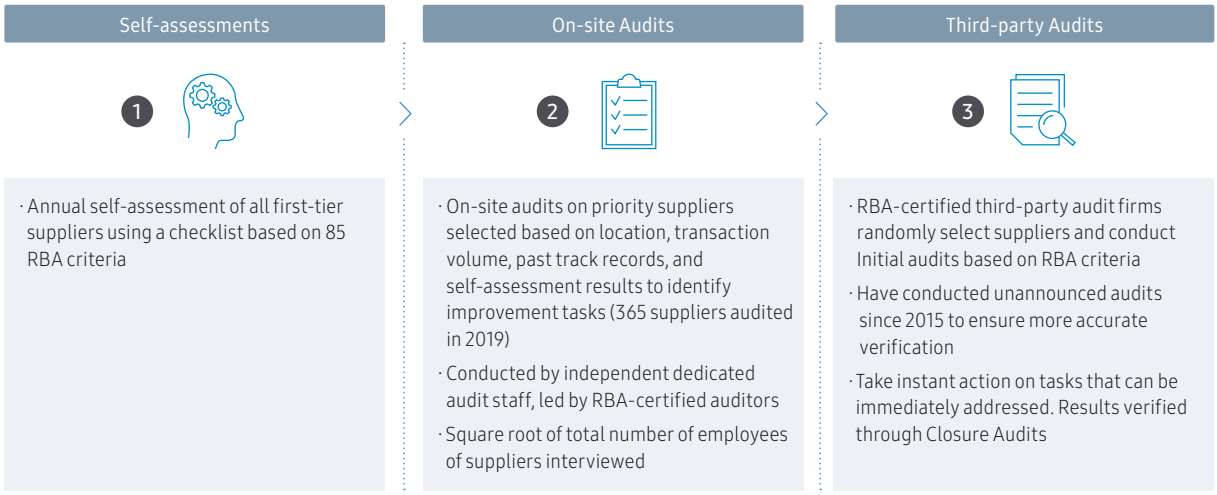
On-site Audits

On-site audits on our suppliers are conducted by designated independent assessment managers within Samsung Electronics as a separate task without the involvement of our procurement team. In order to thoroughly inspect the working environment of our suppliers, we collect and examine the opinions of suppliers' employees and identify problems that need improvement. We register identified problems on the G-SRM and suppliers draw up plans and execute measures to improve them. We incentivize our suppliers to take immediate action wherever possible, and conduct audits to determine whether corrective steps have been taken within three months after issues have been registered. For identified gaps that require significant time and financial resources, such as facilities investment and certifications, we check progress and monitor improvements based on action plans developed and agreed with our suppliers. In 2019, we conducted on-site audits on 365 suppliers. Applying the RBA-based method of calculating the compliance rate and taking corrective measures, the average compliance rate of audited suppliers came out to 95%. We also set up specific regional themes within the supply chain and conducted special audits on forced labor.

Special Audit on Forced Labor

Country	Audit Item	Details and Audit Results
China	Use of child labor	- Targets: Intensive checks on more than 140 audits were conducted during school vacation period - Subjects: ID verification, collecting copies of ID along with signatures - Results: No child labor cases were found
Mexico	Use of underage labor	- Targets: 45 suppliers *conducted alongside compliance awareness training for suppliers - Results: No child labor cases were found, and suppliers took corrective steps concerning the improvement areas identified in the process
Malaysia	Employment of migrant workers	- Targets: 17 suppliers - Subjects: recruitment commissions, collecting of IDs, dormitory environment - Results: Suppliers took corrective steps concerning certain violations * From January to April 2020 our on-site experts assessed follow up of corrective action plans

Integrated Working Environment Management Process



Third-party Audits

To help manage the work environment of our supply chain better, we significantly increased the number of suppliers subject to third-party audits, particularly in the Southeast Asia region, where there have been general migrant worker issues since 2018. The compliance rate in 2019 was similar to that of the previous year, confirming that our efforts to improve the work environment are taking root. However, we saw a temporary decrease in the labor and human rights performance following the launch of new and high spec models, and the relocation of global production sites. Furthermore, we found inadequacies in updating the work environment policy in accordance with the change in local laws and regulations at several newly registered suppliers, so addressed them right away.

Grievance Handling Channels

To facilitate communication between the management team and employees at suppliers, we support our suppliers to establish and operate their own grievance handling channels. In addition, we operate a hotline to receive reports on suppliers' violations of the work environment standards or human rights, and address them by conducting on-site audits. Reports are submitted via landline, email, or mobile phone, and posters introducing the hotline system in local languages are displayed in places including offices, hallways, manufacturing sites, dormitories, and cafeterias. All reports go through a fact check within a week, and the grievant is shared with follow up plans reached out.

We plan to enhance the credibility of our reporting system by inviting views on improving the hotline from our suppliers.

Compliance Rate by Audit Criteria

	2017	2018	2019
Labor and human rights	92%	95%	93%
Health and safety	97%	96%	97%
Environment	97%	96%	98%
Ethics	100%	99%	99%
Management system	98%	96%	96%
Total	96%	96%	96%

Work Hours Management

	2017	2018	2019
Average workweek compliance rate (60hr↓ per week)[1)]	87%	84%	82%
Average weekly working hours	52hr	49hr	50hr
Maximum average weekly working hours	54hr or under	51hr or under	51hr or under
Average work hours of employees who work 40 hours or more per week	54hr	53hr	53hr
Compliance with the guarantee of one-day off per week	97%	95%	94%

Footnote:
1) A workweek should not be more than 60 hours per week (RBA criteria, ILO conventions on working hours)

Hotline Reports Status

Unit: no. of cases

Type of grievances	2017	2018	2019
Total number of reports	63	21	25
Complaints related to managers	33	8	11
Wages	13	6	5
Environment/health/safety	9	5	4
Benefits	3	1	3
Work hours	1	1	1
Others	4	0	1

Compliance Workshop

We hold Compliance Workshops twice a year for the heads and working-level employees of suppliers. At these events, we share supplier audit results and improvement cases in areas, such as labor and human rights and regional EHS trends by region. In addition, we provide special training on chemical substances, and award suppliers that have excelled in labor and human rights, and EHS. Those companies that have participated also share their experiences with their own suppliers.

Life Design Training for Employees of Suppliers

In 2019, we provided training for female employees at suppliers in Vietnam on career development, family/financial management, and compliance awareness. We trained instructors from learning and development teams at 139 suppliers to help roll out our training to 77,752 employees at suppliers. We received positive feedbacks from employees at our Vietnamese suppliers and plan to expand the program to our worksites around the world.

Transparency in Managing Responsible Minerals[1)]

We comply with the OECD Due Diligence Guidance[2)] to minimize the negative societal and environmental impacts of mining minerals in conflict-affected and high-risk areas, including human rights infringements and environmental problems. We are in the process of establishing a conflict-free system that prohibits the use of conflict minerals that have been mined from 10 African countries, including the Democratic Republic of Congo. Furthermore, we require all suppliers to implement processes that allow them to systematically check the removal and management of minerals that have been mined illegally in conflict-affected and high-risk areas from product parts and raw materials they supply to us.

Risks related to responsible minerals are managed by our Partner Collaboration Center under the Chief Risk Officer (CRO), who also serves as the company's CFO. The responsible minerals personnel in each business division manages and checks the departments' and suppliers' related risks. The Center also cooperates with the relevant bodies under the company-wide risk management system including the Corporate Sustainability Management Office, the Communication Team, and the Corporate Compliance Team. As for newly identified responsible minerals, we work jointly with our global stakeholders by participating in councils, such as the Responsible Minerals Initiative (RMI) and the European Partnership for Responsible Minerals (EPRM).

Footnotes :
1) More details are available at 'Samsung Electronics' Responsible Minerals Report'
2) OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas

Management Status According to Samsung Electronics' Due Diligence Process

Raising Awareness of Suppliers

Employees in charge of procurement receive mandatory job training on conflict minerals, which allows us to provide systematic support and guide to suppliers. From 2015 to 2019, a total of 3,157 employees completed the training on conflict mineral policies. During the same period, we provided training sessions to 2,311 employees at suppliers, covering our policies, instructions on using the conflict mineral management system, and the process required to become a RMAP[1)]-certified smelter.

Footnote:
1) Responsible Minerals Assurance Process

Survey on the Status of Minerals from Conflict-affected and High-risk Areas within the Supply Chain

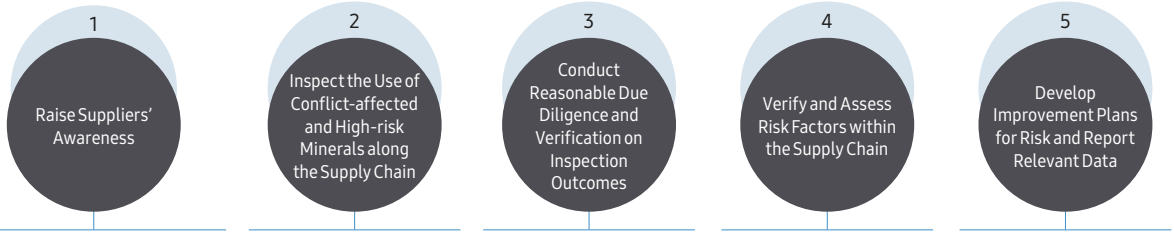
We collected data from the worksites of all suppliers for the first quarter of 2020 related to their use of conflict minerals and cobalt as well as information on smelters within our supply chain using the Conflict Minerals Reporting Template (CMRT) and the Cobalt Reporting Template (CRT). In November 2019, we conducted sampling tests on mica and graphite and plan to use this data for future studies on need.

Reasonable Due Diligence and Verification of Survey Results

After an internal review on data submitted by all suppliers, we conducted on-site audits on 225 global suppliers[1)] that needed further checkups and verified the reliability of their data and their operation of conflict mineral-related policies. In addition, we provided additional training to suppliers that needed improvement.

Footnote:
1) The audit prioritized companies that were newly registered in the preceding year, ones that received poor ratings in the preceding year, and ones that submitted erroneous information in the pertinent year

Samsung Electronics' Minerals Due Diligence Process Based on OECD Due Diligence Guidance



- Secure a commitment from suppliers to ban the use of conflict affected and high-risk minerals from all first-tier suppliers
- Distribute the conflict-affected areas and high-risk minerals management guide and support working-level training
- Request lower-tier suppliers to expand their policy banning the use of conflict-affected and high-risk minerals and to source ethically and responsibly

- Monitor data on all first-tier suppliers use of conflict-affected and high-risk minerals as well as smelters' use of such minerals along the supply chain

- Conduct on-site inspections on the data submitted by suppliers
- Identify and share best practices in suppliers' management of conflict-affected and high-risk minerals

- Categorize suppliers into four rating groups based on inspection outcomes (based on the credibility of submitted data and the management level of conflict-affected and high-risk minerals)

- Restrict transactions with suppliers that work with non-third-party-audited smelters
- Recommend smelters within the supply chain to become third-party certified

Identifying and Evaluating Risks within the Supply Chain

Following an on-site audit, we rank our suppliers according to the reliability of their materials and their management of conflict minerals. We then select exemplary cases and share the best practice with other suppliers for benchmarking purposes. At the same time, we require suppliers where audits have identified a need for improvement to reinforce their materials and provide additional on-site guidance. Through these measures, we check and improve our suppliers' conflict minerals-related policies and management systems, which in turn helps them boost their management capabilities and establish due diligence systems.

Establishing Risk Management Plan and Reporting Relevant Information

We audit every supplier on their use of conflict minerals and the origins of the minerals. For suppliers that use minerals that are not certified by the RMAP, we encourage them to switch to RMAP-certified smelters. For materials made from minerals which are not RMAP certified, we reject transactions through the G-SRM. In addition, we have established various channels and provide around-the-clock support to suppliers in resolving their grievances related to conflict minerals.

In 2019, we found that three smelters within our supply chain were delisted from the list of RMAP-certified smelters[1)] and we requested 195 suppliers that used these smelters to make adjustments, such as changing their suppliers. As a result, all of our suppliers are doing business only with RMAP-certified smelters, as of the end of 2019.

Footnotes:
1) NPM Silmet AS (tantalum), Modeltech Sdn Bhd (tin), Al Etihad Gold Refinery DMCC (gold)

No. of RMAP Certified Smelters of Conflict Minerals (100% Certified as of Dec. 2019)

Unit : No.of Smelters

Tantalum	40
Tin	76
Tungsten	41
Gold	104
Total	261

Cooperation with External Parties

To effectively improve our responsible minerals sourcing policies and resolve problems, we cooperate with companies working in the same sector and gather advice from relevant stakeholders. We also engage in a variety of activities, including social contribution activities and collaborative programs between the private and public sectors to drive best practice.

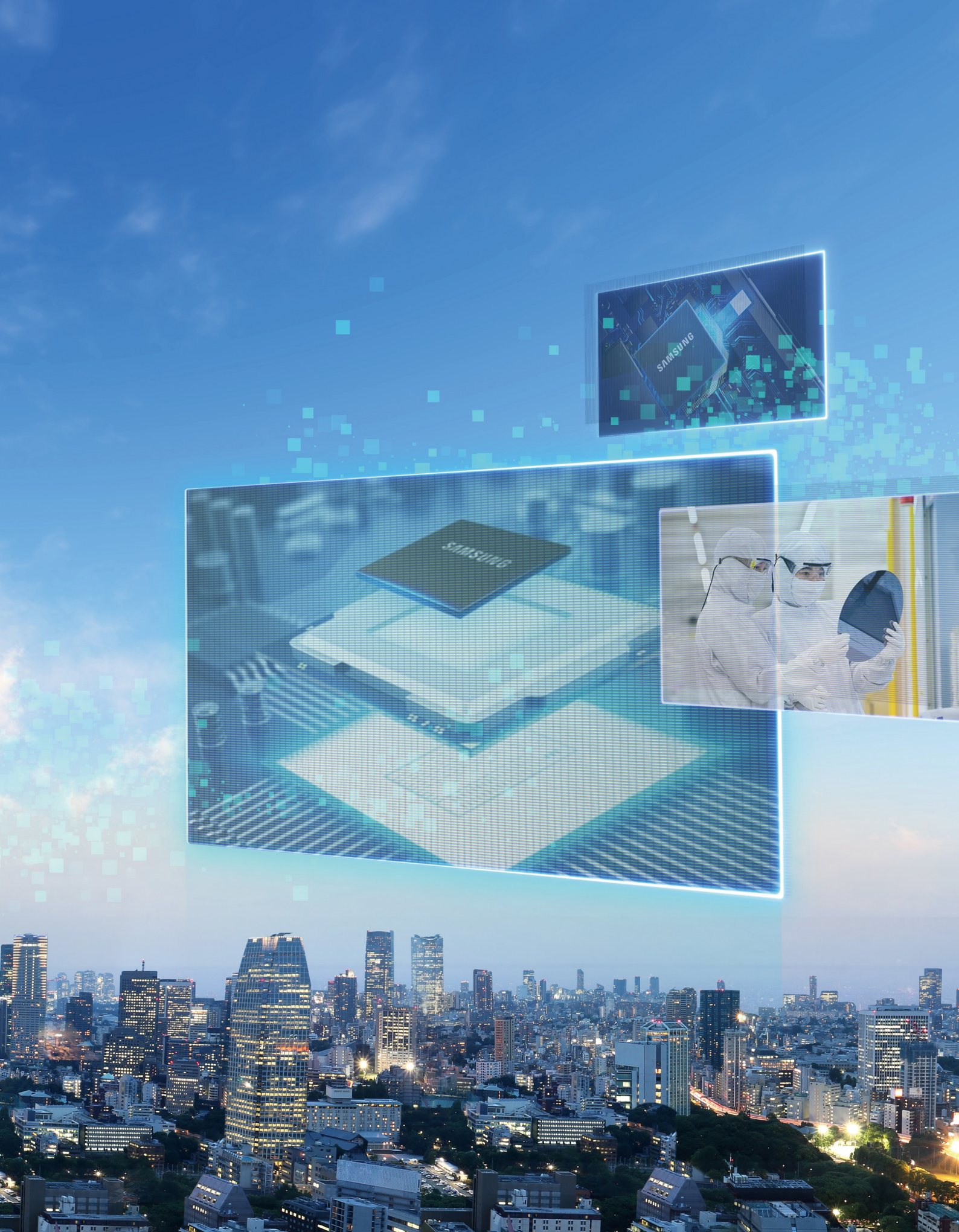
Aiming at sustainably improving the living and working conditions of the people employed in the artisanal cobalt sector and the surrounding communities, we launched a pilot program, 'Cobalt for Development' in partnership with our stakeholders. To jointly respond with global enterprises and various stakeholders, we also participate in RMI and EPRM to identify the origins of the minerals circulated in the global supply chain. Also, as a member of RMI Steering Committee, we take part in the governance of a key initiative that is responsible for standardizing the system for surveying the status on responsible minerals and certifying smelters.

We have tightened our management standards so that waste generated by manufacturing sites in South Korea, as well as minerals-containing waste generated while processing the collected e-waste, are transferred only to RMAP-certified smelters. To achieve this goal in South Korea, we are cooperating with the Korea Urban Mining Association to urge smelters in South Korea to seek RMAP certification.

Industry Cooperation Project for Sustainable Cobalt Mining (Cobalt for Development)

For the contribution to sustainable development at cobalt mining in the Democratic Republic of the Congo, we joined hands with Deutsche Gesellschaft für Internationale Zusammenarbeit(GIZ), Samsung SDI, the BMW Group, and BASF to initiate a pilot project called 'Cobalt for Development' in 2019. The project aims to improve the labor conditions of small-scale cobalt mining sectors and the living conditions of surrounding communities. To this end, we are planning to conduct EHS risk assessments, provide trainings for employees, expand the provision of protective equipments for individuals, and offer trainings on financial literacy, farming/agriculture, and education for children.

SUSTAINABILITY FOUNDATION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Stakeholder Engagement and Communication

Communication and engagement with various stakeholders is essential for us to fulfill our duties as a responsible global corporate citizen. We strive to build a cooperative relationship and enhance mutual understanding in sustainability topics with our stakeholders through various activities such as stakeholder forums, surveys, and on-site visits.

Stakeholder Engagement Map

Stakeholders	Key Topics of Interest	Communication Channels	Activities
Customers	· Product/service quality · Safe product use · Accurate product information · Transparent communication	· Customer satisfaction surveys · Contact centers (call centers), customer service centers · Samsung Electronics Newsroom · Samsung Semicon Story · Young Samsung Community	· Enhance product quality and safety management system · Provide product information on country-specific websites · Gather and address voice of customers
Shareholders and Investors	· Economic performance · Risk management · Information disclosure · Sustainability issues (environmental, social, governance, etc.)	· Investor relations (IR) meetings · General shareholders' meetings · 1:1 meetings · Analyst Day · Samsung Electronics brand image videos	· Stable profit generation · Enhance shareholder return policy · Governance Committee under the Board of Directors · Transparent operation of external sponsorships
Employees	· Workplace health and safety · Diversity and inclusion · Training and career development · Employment stability and benefits · Labor relations	· Works Council · Employee counseling centers · Employee satisfaction surveys · Samsung LiVE · Reporting systems (compliance, ethics)	· Work environment management · Establish creative working culture · Customized career development program · Host business briefings
Suppliers	· Fair trade · Shared growth · Labor & human rights protection	· Hotline, online reporting system · Suppliers conference · Partner Collaboration Day · Shared Growth Academy · Management counseling group for suppliers	· Promote fair trade and shared growth · Support suppliers on their innovations initiatives · Tech Trans Fair · Support funds for suppliers · Responsible management of suppliers' work environment
Local Communities	· Local recruitment, local economy revitalization, and other indirect economic effects · Environmental protection · Financial contributions and volunteer work	· Local volunteer centers · Local community councils · Local community blogs (Suwon, Gumi and Gwangju worksites) · Yongin-Hwaseong community blog	· Local SMEs support activities including smart factory construction · Preservation activity for streams nearby worksites · Corporate citizenship programs in education and employment · Employee volunteer groups
NGOs, CSR Councils, Specialized Institutions	· Social responsibility for local communities and environment · Contributions to the UN SDGs · Prompt and transparent disclosure of information	· Corporate Conferences · Meetings with NGOs	· Gather feedback from global NGOs · RBA, BSR, and GeSI activities · EPRM and RMI activities
Governments	· Indirect economic impacts · Fair trade · Health and safety · Compliance	· Policy meetings · National Assembly · Policy consultative bodies	· Operate SMEs support programs with government agencies · Cooperate with the government to establish and operate venture investment system
Media	· Prompt and transparent disclosure of information	· Press releases · Samsung Electronics Newsroom	· Support news coverage · Host Media Day

Our Alignment with the United Nations Sustainable Development Goals

At the United Nations General Assembly in September 2015, the Sustainable Development Goals (SDGs) were adopted for the purpose of establishing a sustainable society across the world through community development, environmental protection and inclusive economic growth. The timeline for these UN SDGs runs from 2016 until 2030. As a global corporate citizen, we aim to take account of the SDGs in how we run our business. We focus on the SDGs most relevant to our businesses and established approaches to help achieve them. Based on these approaches, we have engaged in a variety of sustainability activities to help achieve these goals.

What We Do in Alignment with UN SDGs

SDGs	Our Approach	Major Activities
3 GOOD HEALTH AND WELL-BEING	We are committed to minimizing health and environmental impacts related to the use of chemicals of concern. In addition, we strive to create an environment where our employees can work without concerns over their health and safety in the manufacturing processes.	· EHS Innovation Day · Disclosure of regulated materials use
4 QUALITY EDUCATION	We run customized education programs to promote the development of local communities, while providing a variety of support through ICT knowledge and expert personnel to enable local residents and communities to build capabilities necessary to plan for a better future.	· Samsung Smart School · Samsung Innovation Campus · Samsung Solve For Tomorrow · Dream Class · Semiconductor Academy · Junior Software Academy
5 GENDER EQUALITY	We have a firm belief that ensuring equal opportunities is key to economic growth, political stability, and social change. We endeavor to find new ways to help women globally and prepare youth for the future.	· Female leadership training and mentoring · Work support for childbirth and childcare · Certified as family-friendly company by the Korean Ministry of Gender Equality and Family
6 CLEAN WATER AND SANITATION	We make efficient use of water through the 3Rs (Reduce, Reuse, and Recycle) campaign. When treating wastewater from worksites, we apply an in-house standard which is stricter than legal requirements of each country and safely process them to minimize the impact on water resources.	· World Water Day · Participation in CDP Water
7 AFFORDABLE AND CLEAN ENERGY	We are fully aware of our responsibility to expand our renewable energy use to tackle global climate change. As such, we strive to expand the use of renewable energy at our worksites via the installation of solar panels and geothermal units, we have signed Power Purchasing Agreements, and have pursued Green Pricing.	· Renewable energy used in 2019: 3,217GWh
8 DECENT WORK AND ECONOMIC GROWTH	We are committed to pursuing innovation and new growth drivers to share related technology with our society. As such, we run programs and systems to build an innovative culture and expand investments in R&Ds and productivity growth.	· C-Lab (Creative Lab) · Smart factory support program for 505 companies (June 2018 – June 2019)
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	We strive to improve the accessibility of our IT devices and technology to allow all consumers to benefit equally from cutting-edge technology. We also comply with international laws and regulations related to cybersecurity and protect consumers' basic rights to maintain world-class security for our products and services.	· 4C Accessibility Design Principles · Expanded Knox platform-adopted products range
10 REDUCED INEQUALITIES	We offer equal opportunities to all employees and applicants. In addition, we do not tolerate any kinds of discrimination in our HR management on the grounds of gender, race, nationality, religion, age, marital status, sexual orientation, gender identity/sexual expression, social status, physical disabilities, pregnancy, military service, genetic information or political propensity.	· Work support system for employees with disabilities · Scored 100 out of 100 on the Human Rights Campaign Foundation's Corporate Equality Index
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	We have five circular economy principles—the expansion of the use of recycled materials, product durability improvement, compact product packaging, reduction in the use of virgin natural resources, and the extension of product life span/use. We will continue to strive to minimize our environmental footprint through the recycling and reuse of resources.	· Expanded modular design-adopted products range · Earth Day campaign · Launched smartphone cases using recycled plastics
13 CLIMATE ACTION	We have prioritized climate change issues according to the degree of their importance and impact, devising a strategy to respond to them. Furthermore, we have invested in facilities and optimized the operation of equipments to reduce GHG emissions.	· CDP Climate Change: 'Carbon management Honors Club' · Disclose information based on TCFD guidelines
15 LIFE ON LAND	We are committed to minimizing the impact of our operation on biodiversity. In particular, we have consistently undertaken ecosystem protection activities, including the identification of endangered species near our worksites and protection of their habitats.	· Stream ecosystem protection activities
17 PARTNERSHIPS FOR THE GOALS	We run local programs to address a variety of social issues related to education, medical care, employment and environment by sharing our advanced technology and cooperating with stakeholders.	· Education and medical support activities in response to COVID-19 · Galaxy Clean-up partnership · Public-private AI Council · Cobalt for Development

Sustainability Value Creation

Samsung Electronics has been using the KPMG 'True Value' methodology since 2016 to measure both the positive and negative effects of our sustainable management activities and achievements in sustainable value creation; we also use it as a guide to identify our next course of action. In order to convert our sustainable value creation activities into monetary value, we reviewed research and selected measurement indices. We also disclosed our measurement methodology in detail to enhance the credibility of our data.

Samsung Electronics' sustainability management value is composed of financial socio- economic and environmental values and each are calculated as positive (+) or negative (-). The financial value is calculated from the net profit generated by Samsung Electronics during the past year. Socio-economic value is calculated by measuring the monetary value brought by company to major stakeholders including investors and suppliers, as well as the company's contributions to local community development. Environmental value is calculated by measuring GHG emissions, waste, recycling, and use of water, among others.

We are committed to improving accuracy in quantifying sustainable management activities by closely monitoring global trends in social and environmental value measurement. We will continue our efforts in accessing and managing our social and environmental activities from as many perspectives as possible.

Value Measurement Method

Category		Type	Calculation methodology[1)]
Financial value		Benefits	Net income generated by the company during 2019 fiscal year
Socio-economic value	Investor value	Benefits	Dividends and interest payments to investors and creditors
	Supplier support	Benefits	Win-Win funds and incentives to suppliers
	Local community development	Benefits	Donations for local communities Return on investment of education projects (118%)[2)] Return on investment of infrastructure projects (250%)[3)] Return on investment of sanitation facility projects (550%)[4)]
Environmental value	Workplace GHG emissions	Cost	The social cost related to GHG emissions[5)]
	Environmental impact on atmosphere	Cost	The social cost related to air pollutant (NOx, Sox, PM) emissions[5)]
	Environmental impact on water system	Cost	The social cost related to water usage based on the level of water shortage in the location of the business[7)]
	Environmental impact of waste	Cost	The social cost related to waste landfill/incineration/recycling[8)]

Footnotes:
1) Exchange rates are based on the rates as of Dec. 31, 2019 (1 USD = 1,158 KRW; 1 EURO = 1,297 KRW)
2) G.Psacharopoulos and H.A. Patrinos, Returns to investment in education: a further update (2004)
3) BCG, The cement sector: a strategic contributor to Europe's future
4) G. Hutton, Global costs and benefits of drinking-water supply and sanitation interventions to reach the MDG target and universal coverage (2012)
5) EPA, Technical update of the social cost of carbon for regulatory impact analysis (2013)
6) EEA, Revealing the cost of air pollution from industrial facilities in Europe (2011)
7) TruCost PLC, Natural capital at risk: the top 100 externalities of business (2013)
8) A. Rabl, J. V. Spadaro and A. Zoughaib, Environmental impacts and costs of solid waste: a comparison of landfill and incineration (2009)

Calculation Method

Management Activities Investment		Monetary Value		Economic, social and environmental impacts value
- Investments in CSR programs - Environmental emissions data - Investments to support our suppliers, etc.	×	- Research results from global research institutes - Carbon price of corresponding country, etc.	=	
Local communities' development (education)		Return on investments based on social benefits of education		Socio-economic Value
KRW 142.4 billion		118 %		KRW 168 billion

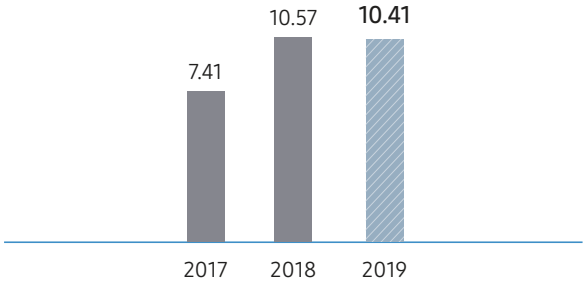
2019 Value Creation Achievements

From January 1 to December 31, 2019, the total value of sustainable management created by Samsung Electronics amounts to approximately KRW 32.15 trillion. The financial value came out to be KRW 21.74 trillion, down by 51% from 2018 due to the decreased net income. Despite such conditions, based on our new CSR vision of 'Together for Tomorrow!' which pursues socio-economic value creation, we increased our support for future generations, and have continuously strengthened our partner collaboration programs for improving the competitiveness of the supply chain. Furthermore, we continued to expand the use of renewable energy since declaring our commitment to go 100% renewable energy in the United States, China and Europe to improve environmental value. As a result, we generated socio-economic and environmental value amounting to KRW 10.41 trillion in 2019 on par with that of 2018.

Footnote:
1) Changes of methodology used to calculate social contribution costs and GHG emissions caused the re-calculation of the sustainable management value over the past three years.

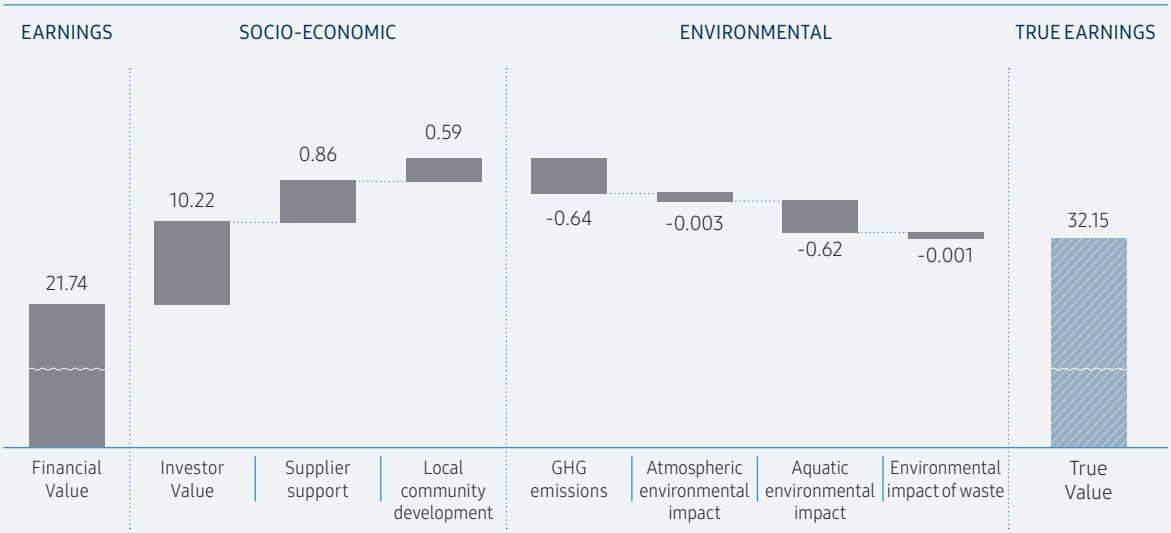
Socio-economic and Environmental Value

Unit: trillion KRW



2019 True Value

Unit: trillion KRW



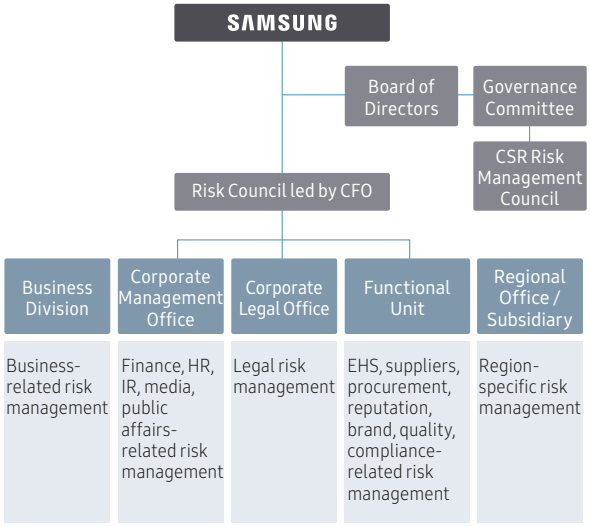
Risk Management

To ensure market competitiveness, we proactively identify and systematically respond to a variety of internal and external risk factors, including sustainability risks. In line with the top management's determination to manage risks, we have established specific risk response policies and processes for each business unit.

Responses to Division-specific Risks

Each of our three business divisions has systematic risk response policies and processes. These are designed to detect and highlight financial risks factors, such as market, liquidity, and credit risks, as well as non-financial risks including the corporate sustainability issues. Risk factors management and response measures are prepared by the Management Committee, led by our top management, and the Risk Council, led by the Chief Financial Officer (CFO). The CFO also serves as the company's Chief Risk Officer (CRO), and operates the Risk Council each week in collaboration with the heads of various departments, including Legal, Human Resources, Compliance, Communications, Public Affairs, Global Environment, Partner Collaboration, and Global Product Quality Innovation to handle specific risks.

Risk Management System



Global Issue Monitoring

We seek advice on a variety of risk factors through our global network as well as our internal and external channels, to identify and proactively address economic, social and environmental risks. In particular, we establish dedicated organization to closely respond to external issues such as the issue with they supply of semiconductor material and the COVID-19 pandemic in 2019.

COVID-19 Risk Responses

Since the early stage of the COVID-19 outbreak, we have operated a separate organization under the supervision of the CRO that monitors risks across the supply chain in real-time. To ensure smooth logistics operations within the value chain - from raw materials to finished products - amid the global spread of COVID-19, we are continuing various activities using our global network, diversifying logistics and production bases, supporting customs clearance and the air transport and entry of our as well as our suppliers' employees.

Reinforcing the Board's Supervision on Risk Management

Aside from our internal risk management organizations, we operate the Corporate Social Responsibility (CSR) Risk Management Council to strengthen the Board's supervision on non-financial risks that have vast impacts on our business. Independent Directors and our related departments participate in the CSR Risk Management Council under the Governance Committee and examine related agendas, supervise the internal management system, and explore ways to solve issues through quarterly discussions. Agenda items on non-financial risks, such as matters concerning climate change, labor and human rights, and safety, are reported as key issues to the Board, which reviews and manages them comprehensively.

Systems for Company-wide Risk Management

In addition to the risk management functions of each division, we have a robust company-wide risk management system. In 2004 we introduced the Disclosure Control and Procedures (DC&P) system to manage financial risks, along with a series of systematic CEO/CFO approval procedures and internal control measures. We also established various IT systems to prevent company-wide risks, such as Global Enterprise Resource Planning (G-ERP), Global Supply Chain Management (G-SCM) for the management of financial and supply chain risks, Global Environment, Health & Safety (G-EHS) System for integrated management of EHS risks, and Global Supplier Relationship Management (G-SRM) for integrated management of supplier risks.

Responsible Business Practices

Ethical Management

We provide the 'Samsung Business Principles' to external stakeholders, including suppliers and customers, while operating a channel to report any violation of Principles[1]. Furthermore, we post 'Employee Business Conduct Guidelines' on our in-house intranet to encourage our employees to maintain integrity in practice. The Samsung Business Principles, violation reporting channel, and the Employee Business Conduct Guidelines' are all available in 15 different languages, including English and Korean.

In 2019, among 548 reports collected through channels around the globe, consumer complaints accounted for 28% of the cases, while issues related to corruptions accounted for 11%. All reports related to corruptions are fact-checked through inspections and disciplined according to the severity of each case. Afterwards, the results are reported to the Audit Committee twice a year.

Furthermore, we provide anti-corruption training in various formats to all employees at least once a year. In addition, we promote transparent business practices through efforts such as asking suppliers to post 'Samsung Electronics Business Guidelines' on their websites, which lay out major don'ts in business, including corruptions and fraudulent conducts.

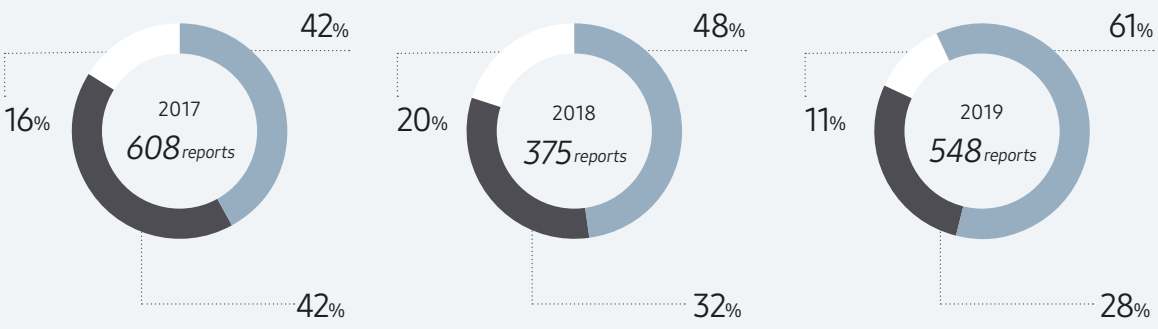
Footnote:
1) www.sec-audit.com

Total Number of Employees who Took Anti-corruption Training

Unit: person

2017	317,965
2018	303,445
2019	276,621

Reports by Type & Number of Reports



Tax Risk Management

We prioritize compliance with the law and fulfilling our tax filing and payment obligations. We are proud to make a significant contribution to society and its national wealth.

Tax Management Policy

Regulatory Compliance and Fulfilment of Tax Filing and Payment Obligations

1. We comply with the laws and regulations of the countries in which we do business, faithfully fulfil tax reporting and payment obligations, and do not transfer income to low-tax countries such as tax havens in order to evade taxes.

   To this end, we maintain a honest and transparent relationship with the tax authorities of each country and provide the relevant evidence and supporting documents upon request.

2. As a company with an active presence in many countries, we make sure that we understand the tax laws of different countries so as to prevent tax risks, and conduct business within the scope of the tax laws after examining the laws and practices pertaining to our transactions.

3. All our employees in charge of tax management comply with the laws and regulations in accordance with our tax policy and perform their tasks according to the principle of maintaining a transparent relationship with the tax authorities.

Tax Risk Management Activities

To comply with all related laws and practices, we operate a system designed to carefully assess and review tax risks and make decisions based on these results. We also meet all tax report and payment deadlines, and document and maintain proof of all our transactions. In addition, we maintain a transparent relationship with the tax authorities while responding promptly and accurately to their requests for data. In terms of domestic transactions within South Korea, we maintain fair trade prices when dealing with third parties and other related parties under the relevant laws. We are also making efforts to prevent international tax risks by trading at normal transfer prices in our international transactions.

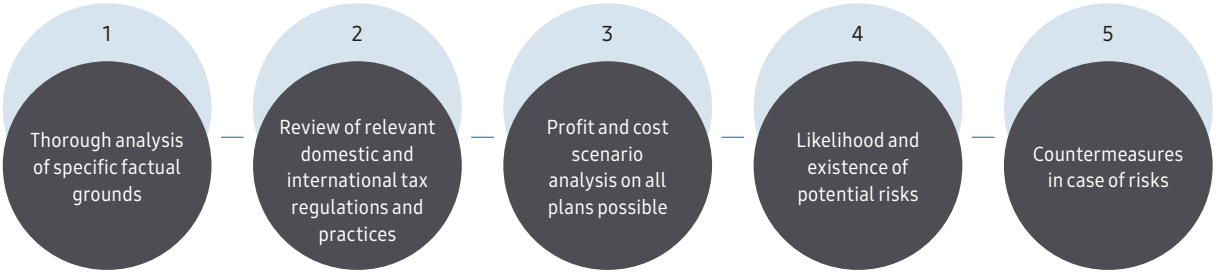
Contribution to Local Community Development (through Tax Risk Management)

As a major taxpayer and investor in each country in which we do business, we contribute to the growth of local economies by creating jobs as well as purchasing products and services.

Tax Risk Assessment

We strive to prevent any tax risks that may arise from trading goods and services, M&As, corporate restructuring, international transactions, new projects, and changes in transaction terms. Whenever a business decision needs to be made, our tax-related departments carefully assess tax risks in cooperation with external experts, and the relevant department makes the final decision by considering the results of the tax risk review along with other factors.

Key Criteria in Tax Risk Assessment



Performance Summary

Economic Performance

		2017	2018	2019	Unit
Key Financial Performance				* Based on the consolidated financial statement	
Sales		239.6	243.8	230.4	KRW trillion
	Operating profit	53.6	58.9	27.8	KRW trillion
	Net income	42.2	44.3	21.7	KRW trillion
Sales by Business Division & Region				* Based on net sales	
Sales by business division (Absolute value)	Consumer Electronics	44.6	42.1	44.8	KRW trillion
	IT & Mobile Communications	106.7	100.7	107.3	KRW trillion
	Device Solutions	74.2	86.3	64.9	KRW trillion
	Display	34.5	32.5	31.1	KRW trillion
	Harman	7.1	8.8	10.1	KRW trillion
Sales by business division (Ratio)	Consumer Electronics	17	16	17	%
	IT & Mobile Communications	40	37	42	%
	Device Solutions	28	32	25	%
	Display	13	12	12	%
	Harman	2	3	4	%
Sales by region (Absolute value)	Americas	81.0	81.7	73.9	KRW trillion
	Europe	44.4	43.0	42.7	KRW trillion
	China	38.3	43.2	38.0	KRW trillion
	South Korea	31.6	33.9	34.2	KRW trillion
	Asia & Africa	44.3	42	41.6	KRW trillion
Sales by region (Ratio)	Americas	34	34	32	%
	Europe	19	18	19	%
	China	16	18	16	%
	South Korea	13	14	15	%
	Asia & Africa	18	16	18	%

		2017	2018	2019	Unit
Economic Value Distribution					
[Supplier] Procurement costs		135.2	156.0	173.3	KRW trillion
[Local Community] Social contributions[1]		0.47	0.44	0.53	KRW trillion
[Shareholder & Investor] Dividends		5.8	9.6	9.6	KRW trillion
[Shareholder & Investor] Pay-out ratio		14	22	45	%
[Creditor] Interest expenses		0.7	0.7	0.7	KRW trillion
[Employee] Remuneration		27.2	27.8	28.1	KRW trillion
[Government] Taxes and dues by region		15.1	17.8	9.7	KRW trillion
	Asia	10	6	15	%
	South Korea	81	86	69	%
	Americas & Europe	8	7	14	%
	Others	1	1	2	%

Ratio of Economic Value Ditributed in 2019 — Unit : %

Supplier[2]	Local community[3]	Shareholder & investor[4]	Creditor[5]	Employee[6]	Government[7]
74	0.2	4.1	0.3	12	4.1

Footnotes:
1) Changes in the methods for calculating social contribution costs have resulted in the re-calculation over the past three years
2) Changes in the methods for calculating social contribution costs have resulted in the re-calculation over the past three years
3) Sum of all social contributions
4) Dividends
5) Interest expenses
6) Sum of salaries, severance payments, and welfare benefits included in the cost of sales, R&D costs and SG&A costs
7) Sum of consolidated income taxes, other taxes, and dues calculated on an accrued basis

Social Performance

		2017	2018	2019	Unit
Corporate Citizenship					
Total hours volunteered by employees global-wide		1,259,893	1,131,915	878,448	No. of hours
Volunteer hours per employee[1]		3.93	3.66	3.06	No. of hours
Accumulated no. of beneficiaries from Corporate Citizenship Programs	Samsung Solve for Tomorrow	743,348	1,513,651	1,693,535	No. of persons
	Samsung Smart School	2,228,150	2,712,024	3,825,864	No. of persons
	Samsung Tech Institute	85,388	113,395	119,774	No. of persons
	Samsung Innovation Campus	-	-	13,290	No. of persons
	Samsung Dream Class	80,713	92,881	103,143	No. of persons

Footnote:
1)Total hours volunteered by employees global-wide ÷ Total number of employees global-wide

		2017	2018	2019	Unit
Labor and Human Rights					
Total employees[1]		320,671	309,630	287,439	No. of persons
	Global (excluding South Korea)	224,213	209,925	185,380	No. of persons
	South Korea	96,458	99,705	102,059	No. of persons
Employees by contract type	Regular	316,534	304,640	282,874	No. of persons
	Contract-based[2]	4,137	4,990	4,565	No. of persons
Employees by age group	Under 30	171,877	150,565	124,442	No. of persons
	30's	100,856	106,226	105,862	No. of persons
	40's and older	47,938	52,839	57,135	No. of persons
Employees by job functions[3]	Product development	65,494	66,328	69,370	No. of persons
	Manufacturing	179,210	164,530	144,744	No. of persons
	Quality assurance & Environment, health and safety	23,844	22,793	20,555	No. of persons
	Sales & Marketing	25,266	25,731	24,067	No. of persons
	Others	26,857	30,248	28,703	No. of persons
Employees by job positions	Staffs[4]	256,944	240,135	213,916	No. of persons
	Managers	62,406	68,156	72,175	No. of persons
	Executives[5]	1,321	1,339	1,348	No. of persons
Employees by region	South Korea	96,458	99,705	102,059	No. of persons
	Southeast Asia & Southwest Asia & Japan	145,577	137,365	121,819	No. of persons
	China	34,843	29,110	20,649	No. of persons
	North America & Central and Latin America	25,814	25,630	25,270	No. of persons
	Europe	14,711	14,681	14,061	No. of persons
	Middle East	2592	2,552	3,008	No. of persons
	Africa	676	587	573	No. of persons
Turnover rate[6]	Global turnover rate (excludingSouth Korea)	17.1	17.9	19.5	%
	Turnover rate in South Korea	2.3	2.3	2.5	%
Welfare and benefit expenditure in domestic and global sites		3,813	4,096	4,490	KRW billion

Footnotes:
1) Numbers are as of end of each year, excluding staffs dispatched from third parties, employees on leave, interns and those on leave of absence to take full-time degree courses
2) South Korea: Classified according to the Act on the Protection, etc. of Fixed-term and Part-time Workers, Overseas: Contractor + Apprentice
3) Recategorized the previous 'Manufacturing' job function to 'Manufacturing', and 'Quality Assurance & Environment, Health and Safety' job functions
4) Including those working flexible work hours and holding other positions
5) Including executives at global worksites who hold Vice President position or above
6) Ratio of employees who resigned during the concerned fiscal year against the average No. of employees

		2017	2018	2019	Unit
Career Development					
Employees who received training[1]		286	268	242	10,000 persons
	Global (Excluding South Korea)	168	157	143	10,000 persons
	South Korea	118	111	99	10,000 persons
Average training hours per person[2]		73.5	62.2	67.2	No. of hours
	Global (Excluding South Korea)	68.3	57.1	61.7	No. of hours
	South Korea	85.6	72.8	78.9	No. of hours
Training expenditures	Total training expenditures[3]	1,097	1,469	1,465	KRW 100 million
	Training expenditures per person[4]	1,137	1,473	1,435	KRW thousand
	Training expenditures against sales[5]	0.05	0.06	0.06	%
	Training expenditures against remuneration costs[6]	1	1.2	1.3	%
Employees who applied for re-employment through the Career Consulting Center[7]		6,924	7,126	7,319	No. of persons
Employees re-employed through the Career Consulting Center[7]		5,886	6,187	6,432	No. of persons
Percentage of employees re-employed through the Career Consulting Center		85	86.8	87.9	%

Footnotes:
1) (Total training hours ÷ 8) counted as one person, updated the data in 2017 and 2018 using this method
2) (Total online & offline training hours ÷ total No. of employees)
3) Scope of data collection: Employees in South Korea
4) Total training expenditure ÷ total No. of employees in South Korea
5) Total training expenditure ÷ consolidated sales
6) Total training expenditures ÷ remuneration costs
7) On a cumulative basis since 2001

		2017	2018	2019	Unit
Diversity and Inclusion					
Percentage of female employees[1]		45.0	43.0	40.2	%
Percentage of female employees by job functions[2]	Product development	17.7	17.2	17.5	%
	Manufacturing	57.8	56.8	53.2	%
	Quality assurance & Environment, health and safety	48.1	43.5	41.3	%
	Sales & Marketing	29.7	30.8	31.2	%
	Others	39.4	36.0	36.1	%
Percentage of female employees by Region	South Korea	25.3	25.2	24.9	%
	Southeast Asia & Southwest Asia & Japan	63.1	59.9	56.3	%
	China	39.5	40.3	34.9	%
	North America & Central and Latin America	34.8	34.4	35.1	%
	Europe	35.0	34.7	34.5	%
	Middle East	14.9	14.5	14.0	%
	Africa	33.6	36.5	37.7	%
Percentage of female employees by Job Positions	Staff	53.1	51.6	49.0	%
	Managers	13.2	14.2	14.7	%
	Executives[3]	6.8	6.3	6.5	%
Employees who took childcare leave[4]		3,643	3,305	3,894	No. of persons
Employees who returned to work after childcare leave[4]		94.4	95.9	93.7	%
Daycare center capacity[4]		2,905	2,980	3,080	No. of persons
No. of daycare centers[4]		14	14	15	No. of centers
No. of employees with disabilities[4]		1,530	1,538	1,589	No. of persons
Ratio of employees with disabilities[4]		1.6	1.5	1.6	%

Footnotes:
1) Based on the total number of global employees including South Korea
2) Recategorized the previous 'Manufacturing' job function to 'Manufacturing', and 'Quality Assurance & Environment, Health and Safety' job functions
3) Including executives at global worksites who hold Vice President position or above
4) Employees in South Korea

Social Performance

	2017	2018	2019	
Health & Safety				
Frequency rate[1)]	0.086	0.036	0.059	
Injury rate[2)]	0.017	0.008	0.009	

Footnotes:
1) (No. of injuries ÷ No. of annual work hours) x 1,000,000, Based on the number of employees in South Korea and employees at overseas manufacturing subsidiaries
2) (No. of injured workers ÷ No. of workers) x 100, Based on the number of employees in South Korea and employees at overseas manufacturing subsidiaries

		2017	2018	2019	Unit
Responsible Business					
Employees who received compliance training[1) 2)]		260,032	214,450	193,663	No. of persons
Reports on the violation of business integrity[3)]		608	375	548	No. of occasions
	Reports on corruption	16	20	11	%
	Reports on consumer complaints	42	32	28	%
	Other	42	48	61	%
Employees who received anti-corruption training[4)]		317,965	303,445	276,621	No. of persons

Footnotes:
1) Scope of data collection: Employees in South Korea
2) Duplicates included
3) Based on the data collected from the Samsung Electronics business integrity website (sec-audit.com)
4) Based on the total number of employees in all worksites

	2017	2018	2019	Unit
Responsible Marketing and Customer Relationship Management				
Customer satisfaction	83.9	85.4	85.4	Point

		2017	2018	2019	Unit
Responsible Supply Chain					
Comprehensive supplier evaluation	Suppliers evaluated[1]	89	91	86	%
	Suppliers rated excellent	60	64	70	%
	Ratio of ISO 14001-certified Suppliers[2][3]	86	87	84	%
	Ratio of OSHAS 18001-certified Suppliers[3]	32	37	42	%
Investment in the Win-Win Fund		8,228	8,339	8,630	KRW 100 million
	1st-tier suppliers	6,173	6,113	6,274	KRW 100 million
	2nd & 3rd-tier suppliers[4]	2,054	2,226	2,356	KRW 100 million
Supplier Incentive in Monetary Value		653	821	741	KRW 100 million
Vendors participated in supplier training		805	877	890	No. of suppliers
	1st-tier suppliers	632	589	558	No. of suppliers
	2nd-tier suppliers	173	288	332	No. of suppliers
People participated in supplier training[5]		16,209	18,777	20,144	No. of persons
	1st-tier suppliers	12,687	13,673	15,170	No. of persons
	2nd-tier suppliers	3,522	5,104	4,974	No. of persons
1st-tier Suppliers Supported for Their Innovation Initiatives		137	124	122	No. of suppliers
	Global (Excluding South Korea)	22	26	23	No. of suppliers
	South Korea	115	98	99	No. of suppliers
Beneficiaries of the Smart Factory Program[6]		487	505	570	No. of suppliers
	Samsung Electronics suppliers	66	82	41	No. of suppliers
	SMEs without business affiliation with Samsung Electronics	421	423	529	No. of suppliers
Managing the Working Environment of Our Suppliers	Third-party Audit[7]	214	306	399	No. of suppliers

Footnotes:
1) All suppliers, excluding those registered less than one year(registration occurs on an annual basis), are subject to evaluation under eight categories
2) Compliance with ISO 14001 or other corresponding standards is mandated in the standard supplier contract
3) Certified rate out of comprehensively evaluated suppliers
4) Included third-tier suppliers beginning 2018
5) Duplicates included
6) 2019 program ends in June 2020
7) Accumulated since 2013

	2017	2018	2019	Unit
Responsible Sourcing of Minerals				
On-site inspections for suppliers	252	244	225	No. of suppliers

Footnote:
1) For conflict minerals

Supplier Compliance by Key Third-party Verification Item[1)]

		2017	2018	2019	Unit
Labor & Human Rights					
	Management system	98	99	99	%
	Prohibition of child labor	100	100	100	%
	Protection of underaged workers	100	100	99	%
	Work hour management	87	84	82	%
	Guarantee of one-day off per week	97	95	94	%
	Wages and benefits	95	96	96	%
	Humane treatment	100	100	100	%
	Non-discrimination	100	99	100	%
Health & Safety					
	Occupational safety	96	96	96	%
	Emergency preparedness	94	94	96	%
	Occupational injury and illness	98	96	96	%
	Physically-demanding work	100	96	100	%
	Safeguarding of machinery	100	100	99	%
	Food, sanitation & housing	100	99	97	%
Environment					
	Pollution prevention	100	99	100	%
	Hazardous substance management	94	98	97	%
	Wastewater & solid waste management	98	100	97	%
	Air pollution	100	91	99	%
	Restriction of product materials	100	99	97	%
Ethics					
	Business ethics	100	100	99	%
	Prohibition of improper gains	100	99	97	%
	Disclosure of information	100	99	99	%
	Intellectual property	100	100	100	%
	Protection of identity	100	100	100	%
	Protection of personal information	100	99	100	%
	Prohibition of retaliation	100	100	100	%
Management System					
	Compliance commitment	100	100	96	%
	Management responsibility	98	100	99	%
	Risk assessment	88	92	92	%
	Training	100	96	95	%
	Communication	100	100	99	%
	Employee feedback	100	98	98	%
	Corrective action	96	98	93	%
	Management of business improvement goals	100	96	96	%

Footnote:
1) Figures reflect the result of improvement with closure audit, 74 suppliers in 2019

Environmental Performance

		2017	2018	2019	Unit
Product Stewardship					
Percentage of eco-conscious products development[1]		94	94	97	%
Energy efficiency in our Products	Accumulated amount[3] of GHG emissions reduced in the product[2] use phase	217	243	270	million tonnes CO_2e
	Amount[4] of GHG emissions reduced in the product[2] use phase in the concerned year	28,486	26,482	26,592	thousand tonnes CO_2e
	The reduction rate[4] of energy consumed by products[2]	36	39	42	%

		2017	2018	2019	Unit
Resource Efficiency					
Accumulated amount of end-of-life products recovered[3]		3,123,557	3,546,786	4,033,528	tonne
Amount of end-of-life products recovered in the concerned year		417,253	423,229	486,741	tonne
	Asia & Oceania	140,814	142,111	187,899	tonne
	Europe	220,015	226,616	251,544	tonne
	Americas	56,424	54,502	47,298	tonne
Amount of end-of-life products recovered in the concerned year by product type[5]		92,195	95,856	98,420	tonne
	Large appliance	79,999	83,344	87,235	tonne
	IT equipment	5,831	5,008	4,253	tonne
	Medium appliance	2,421	3,464	1,036	tonne
	Small appliance	3,944	4,041	5,896	tonne
Amount recycled[5]		79,579	82,739	88,886	tonne
	Scrap metal	37,379	38,863	38,980	tonne
	Nonferrous metal	13,858	14,408	10,236	tonne
	Synthetic resin	22,569	23,466	29,761	tonne
	Glass	1,648	1,714	4,922	tonne
	Other	4,125	4,289	4,987	tonne
Global-wide consumption of recycled plastics		35,268	39,226	30,753	tonne
Global-wide adoption rate of recycled plastics		6	6.7	5.3	%
Amount of recycled packaging materials[5]		9,619	10,895[6]	12,394	tonne

Footnotes:
1) Percentage of product development tasks that meet global environmental certifications criteria
2) Scope of data collection: Seven major product categories (mobile phones, laptops, TVs, monitors, refrigerators, washers and air conditioners)
3) Accumulated amount since 2009
4) Average annual energy consumption against the average annual energy consumption in 2008
5) Scope of data collection: South Korea
6) Corrected of numerical errors

Environmental Performance

		2017	2018	2019	Unit
Climate Action					
GHG emissions from worksites[1]		13,575	15,151	13,800	thousand tonnes CO_2e
	Scope 1[2]	3,668	4,855	5,067	thousand tonnes CO_2e
	Scope 2[3]	9,907	10,296	8,733	thousand tonnes CO_2e
	CO_2	10,879	11,417	9,844	thousand tonnes CO_2e
	CH_4	2	2	2	thousand tonnes CO_2e
	N_2O	343	322	351	thousand tonnes CO_2e
	HFCs	327	505	996	thousand tonnes CO_2e
	PFCs	1,847	2,737	2,429	thousand tonnes CO_2e
	SF_6	177	168	178	thousand tonnes CO_2e
GHG emissions intensity[4]		3.3	3.6	3.1	tCO_2e/KRW 100 million
Scope 3 emissions	Suppliers[5]	14,782	15,908	16,607	thousand tonnes CO_2e
	Logistics	7,038	7,952	8,278	thousand tonnes CO_2e
	Business trips[6]	7,625	7,846	8,223	thousand tonnes CO_2e
		119	110	106	thousand tonnes CO_2e
Renewable energy consumption		229	1,356	3,220	GWh
Energy consumption at worksites	Power	23,419	26,028	26,899	GWh
	Others	18,450	20,558	21,160	GWh
		4,970	5,470	5,740	GWh
Intensity of energy consumption at worksites[4]		5.7	6.2	6.1	MWh/KRW 100 million

Footnotes:
1) Included the amount of renewable energy consumed and calculated in accordance with GHG management guidelines of each country, IPCC guidelines and ISO 14064 standards (market based)
2) Direct GHG Emissions: the amount of fuel consumed, emissions from semiconductor manufacturing process and the amount of LPG and LNG consumed
3) Indirect GHG emissions: electricity consumption (including renewable energy), steam consumption
4) (Total GHG emissions, total Energy consumption) ÷ consolidated global sales Excluded sales from display solutions, Applied the price index (basis: 2005 index = 1)
5) Based on the GHG emissions caused during the manufacturing of Samsung Electronics' products at the top 90 percentile of suppliers in terms of business transactions
6) Scope of data collection: worksites in South Korea

		2017	2018	2019	Unit
Water Management					
Water withdrawls (Usage)		120,618	134,230	134,479	thousand tonnes
	Industrial water	67,708	78,837	81,984	thousand tonnes
	Municipal water (tap water)	51,916	54,434	51,839	thousand tonnes
	Underground water	994	959	657	thousand tonnes
Intensity of withdrawls (Usage)[1]		59	64	67	tonne/KRW 100 million
Wastewater discharge		95,919	107,699	108,460	thousand tonnes
Reused water		56,154	62,371	68,555	thousand tonnes
Rate of water reused		47	46	51	%
Supply of ultra-pure water for reuse		44,582	52,607	55,039	thousand tonnes
Recovery of ultra-pure water for reuse		16,358	17,513	15,005	thousand tonnes
Recovery rate of ultra-pure water		37	33	27	%
Suppliers' water Withdrawls (Usage) [2]		65,487	67,934	68,286	thousand tonnes

Footnotes:
1) Total consumption/consolidated global sales Excluded sales from display solutions
2) Based on the water consumed during the manufacturing of Samsung Electronics' products at the top 90 percentile of suppliers in terms of business transactions(2017 data updated accordingly)

		2017	2018	2019	Unit
Waste Management					
Generated waste		1,146,812	1,210,521	1,099,197	tonne
	General waste	760,463	813,831	777,570	tonne
	Hazardous waste[1)]	386,349	396,690	321,627	tonne
Processed waste		1,146,812	1,210,521	1,099,197	tonne
	Recycled amount	1,088,979	1,157,621	1,045,122	tonne
	Incinerated(outside the Company)	32,301	31,377	30,664	tonne
	Landfilled(outside the Company)	25,532	21,524	23,410	tonne
Recycled rate of waste		95	96	95	%

Footnote:
1) Based on the calculation criteria adopted by the country of respective worksites

		2017	2018	2019	Unit
Pollutant Management					
Amount of air pollutants emitted		1,311	1,060	974	tonne
	NOx	685	616	661	tonne
	SOx	69	55	13	tonne
	Dust	509	281	227	tonne
	NH_3	38	95	60	tonne
	HF	10	13	13	tonne
VOC emissions		166	211	186	tonne
Amount of water pollutants discharged		3,190	3,797	2,128	tonne
	COD	1,771	2,407	1,047	tonne
	BOD	521	392	415	tonne
	SS	497	649	315	tonne
	F	386	337	342	tonne
	Heavy metal	15	12	9	tonne
Amount of ozone-depleting substances (CFC-eq) consumed[1)]		3	2	2	tonne

Footnote:
1) Scope of Data collection: worksites in South Korea

	2017	2018	2019	Unit
Worksite Chemicals Management[1)]				
Chemicals consumption[2)]	364	417	384	thousand tonnes
Leakage of major harmful substances	0	0	0	No. of occasions

Footnotes:
1) Scope of data collection: South Korea, changed the calculating criteria to PRTR in 2018, changed the 2017 data accordingly
(*PRTR: Pollutant Release and Transfer Registers)
2) Scope of data collection: worksites in South Korea

	2017	2018	2019	Unit
Environmental Impacts of Worksites				
Investments on environment and safety	9,513	9,167	15,176	KRW 100 million
Violation of environmental regulations	0	0	0	No. of violations

APPENDIX

Independent Assurance Report

pwc SAMIL 삼일회계법인

To the management of Samsung Electronics Co., Ltd.

Samsung Electronics Co., Ltd. (the "Company") requested an independent assurance engagement in regard to the following aspects of Samsung Electronics Sustainability Report 2020 (the “Report”) to the Samil PricewaterhouseCoopers (the "We"). We have conducted an independent assurance.

Scope and subject matter

The information for the year ended December 31, 2019 on which we provide limited assurance consists of:

- The Company’s conclusion on meeting the principles of Inclusivity, Materiality and Responsiveness in the AA1000 AccountAbility Principles
- The information and data marked as the reporting level, stated in GRI(Global Reporting Initiative) Index (the pages 128 through 131) (“Sustainability Data”) is prepared based on the reporting principles set out on GRI Standards with Core option and the reliability of sustainability data

We read the other information included in the Report and considered whether it was consistent with the Sustainability Data. We considered the implications for our report in the case that we became aware of any apparent misstatements or material inconsistencies with the sustainability Information. Our responsibilities do not extend to any other information.

Assurance work performed

We conducted our engagement in accordance with ISAE 3000[1)] and AA1000AS[2)]
The term ‘moderate assurance’ used in AA1000AS (2008) is designed to be consistent with ‘limited assurance’ as articulated in ISAE 3000. Our assurance is a Type II assurance engagement as defined in the AA1000AS (2008).

1) International Standard on Assurance Engagements 3000 – ‘Assurance Engagements other than Audits or Reviews of Historical Financial Information’ issued by International Auditing and Assurance Standards Board
2) AA1000 Assurance Standard(2008), issued by AccountAbility

Our work involved the following activities:

1. Interviews with the personnel responsible for internal reporting and data collection to discuss their approaches to stakeholder inclusivity, materiality and responsiveness
2. Visits to the Company's headquarter in Suwon office to understand the systems and processes in place for managing and reporting the Sustainability Data
3. Review of samples of internal documents relevant to output from the risk assessment process, sustainability-related policies and standards, the sustainability materiality assessment matrix and other documents from stakeholder-engaged activities
4. Evaluating the design and implementation of key processes and controls for managing and reporting the Sustainability Data
5. Limited testing, through inquiry and analytical review procedures, of the preparation and collation of the Sustainability Data

Independence

We comply with the International Federation of Accountants' Code of Ethics and do not perform any work affecting independent verification activities, including the writing of the Company's management system.

Respective responsibilities of the management of the Company and Samil PricewaterhouseCoopers

Our responsibility is to provide a conclusion based on our assurance procedures.

The management of the Company is responsible for establishing reporting principles that meet the principles of Inclusivity, Materiality and Responsiveness in the AA1000APS, measuring performance based on the reporting principles, and reporting this performance in the Report.

This report, including the conclusion, has been prepared for the management of the Company as a body, to assist the management in reporting on the Company’s Sustainability Data. We do not accept or assume responsibility to anyone other than the management of the Company as a body and the Company for our work or this report save where terms are expressly agreed and with our prior consent in writing.

Inherent limitations

Non-financial performance information is subject to more inherent limitations than financial information, given the characteristics of the subject matter and the methods used for determining such information. Qualitative interpretations of relevance, materiality and the accuracy of data are subject to individual assumptions and judgments. A limited assurance engagement is less in scope than a reasonable assurance engagement under ISAE 3000. Consequently, the nature, timing and extent of procedures for gathering sufficient, appropriate evidence are deliberately limited relative to a reasonable assurance engagement. We do not provide a reasonable assurance engagement. In addition, this conclusion is limited to the management system specified in the limited assurance, and we are not responsible for any non-company personnel for the conclusions in the independent assurance report

In particular:

· We did not attend any stakeholder-engaged activities. Therefore our conclusion is based on our discussions with the management and the staff of the Company, and our review of sampled documents provided to us by the Company.
· The scope of our work was restricted to 2019 performance only, as set out in the scope and subject matter section above. Information related to the year ended December 31, 2018 and earlier periods have not been subject to assurance by us.

Conclusion

Based on the results of the assurance work performed, our conclusion is as follows

On the AA1000APS principles

· Inclusivity
  – The Company has collected concerns and opinion through stakeholder communication channels that include those of Customers, Shareholders, Investors, Employees, Suppliers, NGOs, Specialized Institutions, Governments and Media.
  – Nothing has come to our attention to suggest that material stakeholder groups were excluded from these channels.
· Materiality
  – The Company has identified most relevant and significant sustainability issues through process for identifying material issues.
  – Nothing has come to our attention to suggest that material issues were omitted in this process.
· Responsiveness
  – The Company has included in the Report its response to the material sustainability issues which are defined through process for identifying material issues.
  – Nothing has come to our attention to suggest that there were material deficiencies in the issue management system.

Nothing has come to our attention that causes us to believe that the Sustainability Data from a material point of view is not fairly stated, and is in accordance with the set out on GRI Standards with Core option.

Recommendations

As a result of our work, we have provided the following recommendations to the management.

· The Company selected climate action, circular economy, labor & human rights, privacy & cybersecurity, corporate governance, and compliance under the theme of Priority to identify and respond to issues related to sustainable management which is related to the project and to communicate transparently with stakeholders on its performance.
  In the future, we recommend that the Company disclose the Company's long-term goals and strategies for sustainable management.

100, Hangang-daero, Yongsan-gu, Seoul
Samil PricewaterhouseCoopers
CEO, Young-Sik Kim

Samil PricewaterhouseCoopers

June 12, 2020

Verification statement on 2019 Samsung Electronics Co., Ltd., Greenhouse Gas Emission

Introduction

Korean Foundation for Quality (hereinafter 'KFQ') has been engaged by Samsung Electronics Co., Ltd.(hereinafter the 'Company') to independently verify its 2019 Greenhouse Gas Emission Report of domestic corporations and 26 overseas subsidiaries.

It is the responsibility of the Company to compile the Greenhouse Gas Emission Report according to the 'Guidelines for GHG emission reporting and certification of GHG emission trading scheme (Notification No. 2018-78 of Ministry of Trade, Industry and Energy)', 'GHG Protocol Scope 2 Guidance' and 'ISO 14064-1:2006' and KFQ has responsibility to conduct verification based on 'ISO 14064-3:2006' to provide verification opinion on compliance of the Report against verification criteria.

Verification Scope

In this verification, domestic corporations and 26 overseas subsidiaries under operational control of Samsung Electronics Co., Ltd., and reported emission is including Scope 1 and Scope 2 emission.

Verification Opinion

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

1) 2019 Samsung Electronics Co., Ltd., Greenhouse Gas Emission Report was prepared against 'Samsung Electronics Co., Ltd., Greenhouse Gas Inventory Guideline' developed based on the 'Guidelines for GHG emission reporting and certification of GHG emission trading scheme', 'GHG Protocol Scope 2 Guidance' and 'ISO 14064-1:2006'.
2) As a result of materiality assessment on 2019 domestic Greenhouse Gas Emission, material discrepancy is less than the criteria of 2.0% for the organization which emits more than 5,000,000 tCO_2eq/year in accordance with the requirements of the 'Guidelines of verification for Greenhouse gas emission trading scheme'.
3) For the 26 overseas subsidiaries, document review was conducted for entire 26 subsidiaries as well as Company self-assessment. The result of material discrepancy is less than 2.0%.
4) As reported Greenhouse Gas Emission purchased electricity, process emission by fluorinated gas use and LNG consumption take more than 99% of total emission. Activity data of these emission sources were checked through the objective evidence provided by supplier therefore KFQ could confirm that these activity data is valid itself.
5) However, verification opinion regarding to the relevant error caused by emission reduction efficiency of emission reduction technologies in process emission which affect Greenhouse Gas Emission was not considered. It is because of the efficiency has to be assessed and confirmed by the Government or related specialized agency but it was developed by Company according to the Company own methodology. For the overseas subsidiaries, each national net caloric value and electricity emission factor were preferentially used but net caloric value and electricity emission factor were adopted from IPCC Guidelines or Korean Energy Law Enforcement Regulation and IEA statistics respectively in case of nonexistence of it. Therefore, it is necessary to re-calculate Greenhouse Gas Emission in any change of these parameters or factors. Also, in case of buying credits (ex, RECs) in the market, the offset credit is applied to evaluate the emission and record separately in market base section.
6) Except unconsidered emission source in the 'Samsung Electronics Co., Ltd., Greenhouse Gas Inventory Guideline', material error, omission or insignificant issues was not found in 2019 Samsung Electronics Co., Ltd., Greenhouse Gas Emission Report.

2019 Samsung Electronics Co., Ltd., Greenhouse Gas Emission]

unit: thousand tonnes CO_2 eq

Report year		2019.1.1~2019.12.31				
Verification Scope		Domestic	Overseas		Total	
			Location	Market base	Location	Market base
GHG Emission	Sub Total	11,131	4,934	2,669	16,065	13,800
	Direct Emission (Scope 1)	3,986	1,081	1,081	5,067	5,067
	Indirect Emission (Scope 2)	7,145	3,853	1,588	10,998	8,733

President & CEO Korean Foundation for Quality
Ji Young Song

Ji Young Song

May 6, 2020

TCFD Index

TCFD recommendation		Page/Reference
Governance	a) Describe the board's oversight of climate-related risks and opportunities	p 23 CDP- CC1.1a, CC1.1b.
	b) Describe management's role in assessing and managing climate-related risks and opportunities	p 23 CDP- CC1.2a
Strategy	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	p 23-25 CDP- CC2.2c, CC2.3a, CC2.4a, CC3.1c
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	p 23-25 CDP- CC2.5, CC2.6
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	p 23 CDP- CC3.1c, CC3.1d
Risk Management	a) Describe the organization's processes for identifying and assessing climate-related risks	p 26 CDP- CC1.2a, CC2.2b
	b) Describe the organization's processes for managing climate-related risks	p 26 CDP- CC2.2d
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	p 23, p26 CDP- CC2.2
Metrics and Targets	a) Disclose the metrics used by the organization to assess climate related risks and opportunities in line with its strategy and risk management process	p 23-26 CDP- CC11.3
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	p 26, p120
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	p 27 CDP- C4

SASB Index

Sustainability Disclosure Topics & Accounting Metrics

Code	Topic	Accounting Metric	Page/Reference	
TC-HW-230a.1	Product Security	Description of approach to identifying and addressing data security risks in products	p 40-45	
TC-HW-330a.1	Employee Diversity & Inclusion	Percentage of gender and racial/ethnic group representation for (1) management, (2) technical staff, and (3) all other employees	p 115	
TC-HW-410a.1	Product Lifecycle Management	Percentage of products by revenue that contain IEC 62474 declarable substances	Samsung Electronics complies with national laws and global regulations(EU RoHS, REACH, etc.) and conducts rigorous pre-inspection and post-management of all parts and raw materials used in products. Please refer to P65, 92 and 93 of the Sustainability Report for Samsung Electronics' efforts in managing hazardous substances.	
TC-HW-410a.2		Percentage of eligible products, by revenue, meeting the requirements for EPEAT registration or equivalent	Product types	% of sales of all EPEAT registered products
			Mobile phones	64.4%
			Computers	33.1%
TC-HW-410a.3		Percentage of eligible products, by revenue, meeting ENERGY STAR® criteria	Product types	% of sales of all ENERGY STAR® qualified products[1)]
			Computers	92.3%
			Audio devices	83.4%
TC-HW-410a.4		Weight of end-of-life products and e-waste recovered, percentage recycled	p 119	
TC-HW-430a.1	Supply Chain Management	Percentage of Tier 1 supplier facilities audited in the RBA Validated Audit Process (VAP) or equivalent, by (a) all facilities and (b) high-risk facilities	p 117-118	
TC-HW-430a.2		Tier 1 suppliers' (1) non-conformance rate with the RBA Validated Audit Process (VAP) or equivalent, and (2) associated corrective action rate for (a) priority non-conformances and (b) other non-conformances	p 117-118	
TC-HW-440a.1	Materials Sourcing	Description of the management of risks associated with the use of critical materials	p 102-103	

Footnote:
1) Based on 2019 in North America (The United States, Canada)

Activity Metric

Code	Topic	Page/Reference
TC-HW-000.A	Number of units produced by product category	2019 Business Report(Businesses Overview) p 64-66
TC-HW-000.B	Area of manufacturing facilities	p 4-5
TC-HW-000.C	Percentage of production from owned facilities	2019 Business Report(Businesses Overview) p 64-66

GRI Index

GRI Standards (2016)		Index Description	Status	Page	Comments
GRI 102 General Disclosures					
Organizational Profile	102-1	Name of the organization	●	About this report	
	102-2	Activities, brands, products, and services	●		Refer to the company website
	102-3	Location of headquarters	●	About this report	
	102-4	Location of operations	●	4-5	
	102-5	Ownership and legal form	●		Refer to the business report
	102-6	Markets served	●	4-5	
	102-7	Scale of the organization	●	113-114	
	102-8	Information on employees and other workers	●	114-115	
	102-9	Supply chain	●	4-5, 96	
	102-10	Significant changes to the organization and its supply chain	●		Refer to the business report
	102-11	Precautionary Principle or approach	●	110-111	
	102-12	External initiatives	●	33-34, 106	
	102-13	Membership of associations	●	106	
Strategy	102-14	Statement from senior decision-maker	●	2	
	102-15	Key impacts, risks, and opportunities	●	20-21	
Ethics and Integrity	102-16	Values, principles, standards, and norms of behavior	●		Refer to the company website
	102-17	Mechanisms for advice and concerns about ethics	●	111	
Governance	102-18	Governance structure	●	46-49	
	102-19	Delegating authority	●	110	
	102-20	Executive-level responsibility for economic, environmental, and social topics	●	46-49	
	102-21	Consulting stakeholders on economic, environmental, and social topics	●	106	
	102-22	Composition of the highest governance body and its committees	●	46-49	
	102-23	Chair of the highest governance body	●	47	
	102-24	Nominating and selecting the highest governance body	●	46-49	
	102-25	Conflicts of interest	●	47-48	
	102-26	Role of highest governance body in setting purpose, values, and strategy	●	46-49	
	102-27	Collective knowledge of highest governance body	●	46-49	
	102-28	Evaluating the highest governance body's performance	○		
	102-29	Identifying and managing economic, environmental, and social impacts	●	110	
	102-30	Effectiveness of risk management processes	●	110	
	102-31	Review of economic, environmental, and social topics	●	46-49	
	102-32	Highest governance body's role in sustainability reporting	●	20, 46-49	
	102-33	Communicating critical concerns	●	46-49	
	102-34	Nature and total number of critical concerns	●	20, 46-49	
	102-35	Remuneration policies	●		Refer to the business report
	102-36	Process for determining remuneration	●		Refer to the business report
	102-37	Stakeholders' involvement in remuneration	○		
	102-38	Annual total compensation ratio	○		
	102-39	Percentage increase in annual total compensation ratio	○		
Stakeholder engagement	102-40	List of stakeholder groups	●	106	
	102-41	Collective bargaining agreements	●	37	
	102-42	Identifying and selecting stakeholders	●	20-21, 106	
	102-43	Approach to stakeholder engagement	●	106	
	102-44	Key topics and concerns raised	●	106	
Reporting Practice	102-45	Entities included in the consolidated financial statements	●		Refer to the business report
	102-46	Defining report content and topic Boundaries	●	20-21	
	102-47	List of material topics	●	21	

GRI Standards (2016)		Index Description	Status	Page	Comments
Reporting Practice	102-48	Restatements of information	●	113-120	
	102-49	Changes in reporting	●		No signficant changes during reporting period
	102-50	Reporting period	●	About this report	
	102-51	Date of most recent report	●	About this report	
	102-52	Reporting cycle	●	About this report	
	102-53	Contact point for questions regarding the report	●	About this report	
	102-54	Claims of reporting in accordance with the GRI Standards	●	About this report	
	102-55	GRI content index	●	128-131	
	102-56	External assurance	●	123-124	
Management Approach					
	103-1	Explanation of the material topic and its Boundary	●	20-21	
	103-2	The management approach and its components	○		
	103-3	Evaluation of the management approach	○		
GRI 200 Economic Standard Series					
Economic Performance	201	Management Approach	●	20-21, 108-109	
	201-1	Direct economic value generated and distributed	●	113	
	201-2	Financial implications and other risks and opportunities due to climate change	●	23, 26	
	201-3	Defined benefit plan obligations and other retirement plans	●		Refer to the business report
	201-4	Financial assistance received from government	○		
Market Presence	202	Management Approach	○		
	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	○		
	202-2	Proportion of senior management hired from the local community	○		
Indirect Economic Impacts	203	Management Approach	●	70-71	
	203-1	Infrastructure investments and services supported	●	72-75	
	203-2	Significant indirect economic impacts	●	108-109	
Procurement Practices	204	Management Approach	●	94-95	
	204-1	Proportion of spending on local suppliers	○		
Anti-Corruption	205	Management Approach	●	50-53, 111	
	205-1	Operations assessed for risks related to corruption	●	50-53, 111, 116	
	205-2	Communication and training about anti-corruption policies and procedures	●	50-53, 111, 116	
	205-3	Confirmed incidents of corruption and actions taken	○		
Anti-Competitive Behavior	206	Management Approach	●	50-53	
	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	○		
GRI 300 Environmental Standards Series					
Materials	301	Management Approach	●	29, 62-63	
	301-1	Materials used by weight or volume	○		
	301-2	Recycled input materials used	●	119	
	301-3	Reclaimed products and their packaging materials	●	119	
Energy	302	Management Approach	●	22-23	
	302-1	Energy consumption within the organization	●	24, 120	
	302-2	Energy consumption outside of the organization	○		
	302-3	Energy intensity	●	120	
	302-4	Reduction of energy consumption	●	24	
	302-5	Reductions in energy requirements of products and services	●	119	

GRI Index

GRI Standards (2016)		Index Description	Status	Page	Comments
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	303-1	Water withdrawal by source	●	59, 120	
	303-2	Water sources significantly affected by withdrawal of water	●	58	
	303-3	Water recycled and reused	●	59, 120	
Biodiversity	304	Management Approach	●	56-57	
	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	●	61	
	304-2	Significant impacts of activities, products, and services on biodiversity	●	61	
	304-3	Habitats protected or restored	●	61	
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	●	61	
Emissions	305	Management Approach	●	22-23	
	305-1	Direct (Scope 1) GHG emissions	●	120	
	305-2	Energy indirect (Scope 2) GHG emissions	●	120	
	305-3	Other indirect (Scope 3) GHG emissions	●	120	
	305-4	GHG emissions intensity	●	120	
	305-5	Reduction of GHG emissions	●	24	
	305-6	Emissions of ozone-depleting substances (ODS)	●	121	
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	●	121	
Effluents and Waste	306	Management Approach	●	56-57	
	306-1	Water discharge by quality and destination	●	120	
	306-2	Waste by type and disposal method	●	121	
	306-3	Significant spills	●		No significant spills during reporting period
	306-4	Transport of hazardous waste	●		We comply with conventions on the border control of hazardous waste
	306-5	Water bodies affected by water discharges and/or runoff	●	61	
Environmental Compliance	307	Management Approach	●	51, 111	
	307-1	Non-compliance with environmental laws and regulations	●	121	
Supplier Environmental Assessment	308	Management Approach	●	96-97	
	308-1	New suppliers that were screened using environmental criteria	●	117	
	308-2	Negative environmental impacts in the supply chain and actions taken	●	97	

GRI 400 Social Standards Series					
Employment	401	Management Approach	●	84-85	
	401-1	New employee hires and employee turnover	●	114	
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	○		
	401-3	Parental leave	●	115	
Labor/ Management Relations	402	Management Approach	●	32-33	
	402-1	Minimum notice periods regarding operational changes	○		
Occupational Health and Safety	403	Management Approach	●	84-85, 90	
	403-1	Workers representation in formal joint management–worker health and safety committees	●	37	
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	●	116	
	403-3	Workers with high incidence or high risk of diseases related to their occupation	○		
	403-4	Health and safety topics covered in formal agreements with trade unions	○		
Training and Education	404	Management Approach	●	84, 86	
	404-1	Average hours of training per year per employee	●	115	
	404-2	Programs for upgrading employee skills and transition assistance programs	●	86	
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GRI Standards (2016)		Index Description	Status	Page	Comments
Diversity and Equal Opportunity	405	Management Approach	●	84-86	
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	405-2	Ratio of basic salary and remuneration of women to men	●		We do not discriminate on any basis in all processes including promotion, compensation and disciplinary measures
Non-Discrimination	406	Management Approach	●	33	
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Freedom of Association and Collective Bargaining	407	Management Approach	○		
	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	○		
Child Labor	408	Management Approach	●	34	
	408-1	Operations and suppliers at significant risk for incidents of child labor	●	35-36	
Forced or Compulsory Labor	409	Management Approach	●	34	
	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	●	35-36	
Security Practices	410	Management Approach	○		
	410-1	Security personnel trained in human rights policies or procedures	○		
Rights of Indigenous Peoples	411	Management Approach	○		
	411-1	Incidents of violations involving rights of indigenous peoples	○		
Human Rights Assessment	412	Management Approach	●	33-34	
	412-1	Operations that have been subject to human rights reviews or impact assessments	●	35-36	
	412-2	Employee training on human rights policies or procedures	●	34	
	412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	○		
Local Communities	413	Management Approach	●	70-71	
	413-1	Operations with local community engagement, impact assessments, and development programs	●	72-75	
	413-2	Operations with significant actual and potential negative impacts on local communities	○		
Supplier Social Assessment	414	Management Approach	●	94-95	
	414-1	New suppliers that were screened using social criteria	●	117	
	414-2	Negative social impacts in the supply chain and actions taken	●	118	
Public Policy	415	Management Approach	●	50-53, 111	
	415-1	Political contributions	●		Code of Conduct prohibits contribution to political parties
Customer Health and Safety	416	Management Approach	○		
	416-1	Assessment of the health and safety impacts of product and service categories	○		
	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	●		Refer to the business report
Marketing and Labeling	417	Management Approach	●	66	
	417-1	Requirements for product and service information and labeling	●	66	
	417-2	Incidents of non-compliance concerning product and service information and labeling	○		
	417-3	Incidents of non-compliance concerning marketing communications	○		Refer to the business report
Customer Privacy	418	Management Approach	●	41-42	
	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	●		No violations during reporting period
Socioeconomic Compliance	419	Management Approach	●	50-53, 111	
	419-1	Non-compliance with laws and regulations in the social and economic area	●		Refer to the business report

A JOURNEY TOWARDS A SUSTAINABLE FUTURE

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