

Samsung Electronics Sustainability Report 2021

A JOURNEY TOWARDS A SUSTAINABLE FUTURE



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Interactive User Guide

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CEO's Message



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

A handwritten signature in black ink that reads "Kinam Kim".

Dear shareholders, customers, suppliers, and employees of Samsung Electronics, we thank you for your continuous support and interest in our company.

In 2020, the COVID-19 pandemic shook the world, fueling an unprecedented public health crisis and prompting an economic slowdown as nations closed borders and implemented new safety measures to protect their populations. At the same time, the damaging effects of racial discrimination and a prevalent digital divide have become strikingly clear, while the importance of tackling climate change continues to grow.

Against the backdrop of these unprecedented times, it is no surprise that consumer behavior has changed, with priorities shifting to focus on areas such as health, safety, and sustainability. Expectations also continue to grow on corporations for sustainable business practices and operations.

As a 'sustainable, centennial company', we need to grow together with society to ensure we create a lasting legacy for future generations to come. We have worked hard at every level to help our various stakeholders, supporting local communities and employees overcome challenges and adapt to the new environment as we return to our daily lives in a post-pandemic world.

We provided financial support to suppliers struggling from the COVID-19 situation to help them stabilize their operations. We provided medical staff and those particularly vulnerable to the crisis with medical and relief supplies as well as financial support. We contributed to accelerating COVID-19 testing and vaccine roll-outs by sharing our expertise and knowledge with small and medium-sized enterprises producing test kits and low dead space (LDS) syringes.

In addition, under the CSR vision of "Together for Tomorrow! Enabling People", we donated tools and equipment, such as tablet PCs, to support young students with their studies online, aiming to lessen the digital divide among students around the globe.

The pandemic has also served to remind us of the severe environmental issues we face. Notably, as the new climate regime has been implemented since 2021 in accordance with the Paris Agreement, the international community is now at a watershed moment in the fight against climate change.

As a responsible global company, we are engaged in numerous initiatives to minimize our environmental footprint, from product development to production and, finally, disposal.

As part of our efforts to tackle climate change, we are proud to report that from 2020, all of our worksites in the United States, Europe, and China were 100% powered by renewable energy sources. We plan to build on this success by expanding our renewable energy use in other regions.

Meanwhile, we continue to drive a circular economy through technological innovations and the development of high-efficiency products with greater durability. Our new programs, such as Galaxy Upcycling and Eco-Package, encourage consumers to participate in efforts to build a sustainable future in their day to day lives.

We are deeply aware of the fact that compliance and integrity management are at the foundation of sustainability management. We have updated our Global Anti-Corruption and Anti-Bribery Policy to cultivate a deeply rooted compliance culture, and work with the external Samsung Compliance Committee to strictly monitor and manage any compliance risks, throughout the company.

The unprecedented crisis has brought about rapid changes in the way people live their daily lives. Guided by our management philosophy which states, "we will devote our human resources and technology to create superior products and services, thereby contributing to a better global society," and capitalizing on our technological advances and knowledge gained through many years of experience, we will continue to work with our stakeholders and society as a whole to allow a smooth and successful return to normalcy.

Thank you.

Company Overview

Our goal is to devote our human resources and technology to create superior products and services and contribute to a better global society. To this end, we have used the five Samsung business principles to create detailed action plans, establishing the Samsung Electronics Global Code of Conduct to guide our employees. Our thoughts and actions reflect these core values as we continue our growth and build on our contribution to society.

Business Areas

Samsung Electronics consists of business divisions that are distinguished by product categories – Consumer Electronics (CE), Information Technology & Mobile Communications (IM), and Device Solutions (DS) – which operate independently. The CE division is responsible for the production and sales of TVs, monitors, refrigerators, washing machines, and air conditioners. The IM division focuses on the production and sales of smartphones, network systems and computers, among other products. The DS division, which includes the semiconductor business, produces and sells products such as DRAMs, NAND Flash, and mobile AP.

In addition to the main Korean headquarters, there are nine regional offices for CE and IM divisions and five regional offices for the DS division, responsible for production and sales.

Main product by category

Category	Main Products
CE Division	TVs, monitors, refrigerators, washing machines, air conditioners
IM Division	HHP, networks system, computers, etc.
DS Division	DRAM, NAND Flash, Mobile AP, etc.

Samsung Electronics' Core Businesses



*Sales and operating profit exclude the display business (DS division) and Harman division.

Samsung Electronics Worldwide

At the end of 2020, we had approximately 230 worldwide operating hubs, including our headquarters 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
267,937

Suppliers
2,122

Countries
74

R&D Expenditure
21.2
KRW trillion



Category ¹⁾	Regional Office	Sales Office	Production Site	R&D Center	Design Center	Others ²⁾
Total	15	53	36	39	7	83

1) Regional classification is based on Samsung Electronics' internal management criteria

2) Sales Branches, Service Centers, Distribution Bases, etc.

Corporate Governance

Under the principle of transparent and responsible business practices, our Board of Directors operates to support our management to lead the company in an innovative and proactive manner. The Board of Directors assists management in decision making 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 a part of its supervision of 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 enables us to enhance the independence, transparency, expertise, and diversity of the Board.

Board Composition

Position	Name	Expertise	Career Highlights
Chairman of the Board & Independent Director	Jae-wan Bahk	Public sector, Finance	<ul style="list-style-type: none">Professor Emeritus at Department of Public Administration, Sungkyunkwan UniversityFormer Minister of Economy and Finance
Executive Directors	Ki-nam Kim	DS Division	<ul style="list-style-type: none">Vice Chairman & CEO of Samsung ElectronicsHead of the DS Division
	Hyun-suk Kim	CE Division	<ul style="list-style-type: none">President & CEO of Samsung ElectronicsHead of the CE Division
	Dong-jin Koh	IM Division	<ul style="list-style-type: none">President & CEO of Samsung ElectronicsHead of the IM Division
	Jong-hee Han	VD Business	<ul style="list-style-type: none">President & Head of the Visual Display Business of Samsung Electronics
Independent Directors	Yoon-ho Choi	Corporate management	<ul style="list-style-type: none">President & Head of the Corporate Management Office of Samsung Electronics
	Sun-uk Kim	Law, Human Rights	<ul style="list-style-type: none">Professor Emeritus at School of Law, Ewha Womens UniversityFormer Minister of Government Legislation
	Byung-gook Park	Semiconductor	<ul style="list-style-type: none">Professor at School of Electrical Engineering, Seoul National UniversityFormer President of Institute of Electronics and Information Engineers
	Jeong H. Kim	IT, Business management	<ul style="list-style-type: none">Executive Chairman of Kiswe MobileFormer President of Alcatel-Lucent Bell Labs
Curie Ahn		Medicine, CSR, Human Rights	<ul style="list-style-type: none">Fellow Doctor in Nephrology at the National Medical CenterChair of the Board, Raphael International
	Han-jo Kim	Finance, CSR	<ul style="list-style-type: none">Former Chairman of Hana FoundationFormer Vice President of Hana Financial Group Inc.

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, 2021, 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.

Independence and Transparency of the Board

Since 2018, the position of CEO and Chairman of the Board have been separated in order to ensure stronger independence and transparency. In 2020, we appointed an Independent Director as Chairman of the Board to reinforce responsible management centered around the Board of Directors and to further improve our corporate governance. The Chairman of the Board listens to the opinions of the Executive Directors and the Independent Directors and functions as a mediator so that the company's management may be overseen and supervised more objectively. The Independent Directors hold separate meetings where they can freely exchange their opinions on a wide range of business matters, including on how to enhance value for shareholders.

Appointment and Terms of Directors

Directors are appointed by a resolution of a general meeting of shareholders in accordance with Article 382 of the Commercial Act. According to Article 542-8 of the Commercial Act, Executive Directors are elected among the candidates recommended by the Board, while Independent Directors are named among the candidates endorsed by the Independent Director Recommendation Committee. 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. The term of a Director's appointment is three years, and a Director can be reappointed by the vote of a general meeting of shareholders at the expiration of the term. However, the total term is limited to six years by the Commercial Act.

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 - Consumer Electronics (CE), IT & Mobile Communications (IM), and Device Solutions (DS) - 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.

We seek to form the Board of Directors by considering racial, gender, religious, regional, and national diversities. Our Independent Directors are appointed from various fields, including finance, law, engineering, IT, public administration, and EHS. They are chosen regardless of their nationality or gender. 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 with the company's largest shareholder, have important interests linked to the company itself, or have 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 a pool of 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 against based on religion, race, gender, nationality, or field of expertise

Board Operation

The Board holds seven to eight regular meetings each year to address matters, such as approving quarterly financial statements and convening the Annual General Meeting (AGM) and calls extraordinary meetings when deemed necessary.

Board Meetings

The Board meeting is called by the Chairman, who notifies all Directors of the date, time, location, and agenda at least 24 hours prior to the meeting, as required by Article 30 of the Articles of Incorporation and Article 8 of the Board of Directors Regulations. 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.

Board Decisions

Pursuant to 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 vote cast by the Directors present at the meeting, with more than half of all the Directors present, unless otherwise stated in the relevant laws. In accordance with Article 391 of the Commercial Act, the Board of Directors may hold a meeting by using a remote communications device that allows simultaneous transmission and reception of the voices of all Directors.

To avoid any potential conflicts of interest, we restrict the voting rights of any Director who has a personal interest in any agenda items under Article 9 of the Board of Directors Regulations.

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, Compensation Committee, Governance Committee, Independent Director Recommendation Committee, and Related Party Transactions 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 in two days. 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.

Duties and Composition of the Board Committees

Management Committee	<ul style="list-style-type: none">· Deliberates and decides on matters related to business management and finance, and other matters delegated by the Board of Directors· Composed of five Executive Directors
Audit Committee	<ul style="list-style-type: none">· Oversees matters concerning the overall management including the company's financial status· Composed of three Independent Directors
Compensation Committee	<ul style="list-style-type: none">· Ensures the objectivity and transparency of decisions related to Directors' compensation· Composed of three Independent Directors
Governance Committee	<ul style="list-style-type: none">· Ensures that the company fulfills its corporate social responsibility and enhances the shareholder value· Composed of six Independent Directors
Independent Director Recommendation Committee	<ul style="list-style-type: none">· Recommends candidates for independent directorship by assessing their independence, diversity and capabilities· Composed of three Independent Directors
Related Party Transactions Committee	<ul style="list-style-type: none">· Enhances the transparency of our business management by voluntarily complying with fair transaction regulations· Composed of three Independent Directors

"As sustainability management has emerged as an important agenda, the role of the Board of Directors has become more important than ever.

Key sustainability issues are reported to the Board, and the Board gathers opinions from a wide spectrum of stakeholders on important topics, including human rights, compliance culture, carbon neutrality, supporting of local communities.

The Board gives serious consideration to how these matters should be addressed to enhance corporate value over the long term."

**Jae-Wan Bahk,
Chairman of the Board**

Compliance & Ethics

Compliance Management

At Samsung Electronics, compliance with laws and ethical standards is the top priority among our business principles. As a leading global company, we strive to conduct our business in strict compliance with all applicable laws and regulations to practice ethical management.

We continually work to establish and strengthen compliance management across the organization. We also have dedicated teams at each business division and regional offices across the globe to manage specific compliance issues in each respective business sector and region. Furthermore, relevant departments work together in various fields, including fair trade, intellectual property rights, personal information and privacy, labor and human rights, and environmental safety, to support compliance activities and manage potential risks.

Compliance Management Process



Samsung Electronics operates the three-step compliance management process, consisting of prevention, detection, and response, which we work to continually improve. We have also implemented the Compliance Program Management System (CPMS), an IT system that enables efficient management of compliance tasks.

At the prevention stage, we provide employees with detailed compliance policies and guidelines via CPMS for reference when performing their tasks. We evaluate regulatory trends to reduce legal risks and provide training programs for employees based on our findings. If employees have questions or require assistance determining the legality of specific matters based on the guidelines, they can seek one-on-one consultation with experts at the help desk on CPMS.

At the detection phase, we conduct annual compliance audits and report the results to the Board of Directors at least once a year.

Furthermore, we have established a whistle-blowing system through which violations of law can be reported, and in accordance with our compliance control standard, we protect whistleblowers' identities and prohibit any unfair treatment of whistleblowers.

At the response phase, we devise ways to prevent recurrences of compliance violations by improving the process based on our analysis of the compliance audit results as well as the reporting and response results. In case of any violations, we undertake corrective measures including disciplinary measures or education according to our internal rules.

We continually update our compliance management by regular legal risk assessments. We also evaluate the validity of our compliance control system, including the procedures involved, and report the results to the Board of Directors once a year.

Focus Areas of Compliance Management



Compliance Management System by Field

Field	System	Key Functions	Responsible Units
Compliance	Compliance Program Management System (CPMS)	Provision of manuals and guidelines, reporting of compliance violations, one-on-one inquiry	Compliance Team
Ethical Management	Ethical management System	Posting of management principles, reporting of wrongful practices	Corporate Auditing Team
Protection of Personal Information	Privacy Legal Management System (PLMS)	Protection and management of personal information in products and services	Global Privacy Office
Intellectual Property Rights	IT4U	Prohibition of illegal software use	Corporate IT Strategy Group
Labor and Human Rights	GHPR Portal	Compliance with labor standards and provision of regulations on human resources management	Corporate HR Team
Environment, Health and Safety (EHS)	Global-EHS (G-EHS)	Ensuring environmental safety of worksites and products	Global EHS Center
Others	Global Policies & Procedure Manuals (GPPM) Contract Management System	Standardization of global business process Ensuring compliance with terms of contracts and monitoring the contract implementation and management	Corporate Management Team Corporate Legal Office

Steps Taken to Strengthen Compliance in 2020

1. Strengthened the Compliance Officer's Independence and Authority

The Compliance Team, which previously reported to the Corporate Legal Office, is now directly overseen by the CEO, and the compliance control standard has been updated to strengthen the Compliance Officer's independence and authority. The standard requires that a specific reason be cited when terminating the Compliance Officer in order to prevent any unfair disadvantage in personnel matters for reasons related to performing duties. Additionally, when conducting compliance activities, the Compliance Team has the authority to request resources from relevant teams, including personnel support as well as financial resources. The Compliance Officer has the right to attend all Board meetings, right to make a statement, and the right to call for a Board meeting, strengthening all authority related to Board meetings. Accordingly, the Compliance Officer attends all Board meetings and the Management Committee's meetings to ensure lawful decision-making in compliance with the regulations.

2. Reinforced Reporting Violation of Law

In 2020, in addition to the in-house reporting system in CPMS, we created a new reporting channel that accepts anonymous reports about violation of law from external stakeholders and disclosed the e-mail address, phone number, and fax number for reporting, which has enhanced the effectiveness of the reporting system.

Reporting Violation of Law



In-house Reporting System
(CPMS)



Violation of Law Reporting System
(<https://sec-compliance.net>)



E-mail
(cp.wb.sec@samsung.com)



Phone
(+82-2-1811-6341)



Fax
(+82-31-277-1166)

※ Some channels are only available in South Korea.

3. Intensified Compliance Management for Anti-Corruption

Updating the Anti-Corruption Policy and Detailed Guidelines

We updated our 'Global Anti-Corruption and Bribery Policy' in 2020, reflecting our commitment to complying with all domestic and foreign anti-corruption laws as well as conducting our business practices in an ethical manner. The updated policy has been shared with all employees, and the detailed guidelines on the policy implementation have been posted on CPMS.

[Summary Table of Global Anti-Corruption and Bribery Policy](#)

Samsung Compliance Committee

Purpose and Composition Samsung Compliance Committee (the "Committee") was officially launched on February 5, 2020, with the purpose of implementing Integrity Management, a 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. The Committee consists of six external members including the Chairman and one internal member, and is led by Chairman Ji-Hyung Kim, a former Supreme Court Justice. The external members of the Committee were appointed based on their fields of expertise and experience in law, accounting, economics, administration, and other professional fields in corporate compliance.

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

Key Activities of the Committee The Committee holds monthly regular meetings with compliance officers of Samsung's affiliated companies as well as additional meetings if necessary.¹⁾ The Committee reviews the affiliated companies' external sponsorship expenditures and internal transactions and provides independent opinions. In addition, the Committee reviews report submissions on affiliated companies' compliance violations by whistleblowers through mail, e-mail, and external agencies. On its homepage, the Committee discloses the meeting contents and its statements on the relevant discussions.

The Committee also engages in activities and events, including roundtable discussion with the top management including affiliate companies' CEOs (January 2021), workshops to strengthen compliance management for companies' compliance officers (July 2020), roundtable discussion on the corporate governance structure with external experts (November 2020 and January 2021), and labor-management advisory group (April 2021).

1) A total of 32 events held from February 2020 to January 2021.

Implementation of the Committee's Recommendations and Suggestions Based on the Committee's recommendations and suggestions on further improvements to our compliance management, we devise and instigate action plans.

We formed a labor-management advisory group under the Board of Directors and revised the policies to guarantee the three labor rights. Also, in order to engender the trust of civic organizations, we hold roundtable discussions between civic organization leaders and our company's key executives. We also formed a compliance council with the affiliated companies and carry out quarterly meetings to reinforce the compliance system.

Samsung Electronics will work in collaboration with the Committee to establish an advanced monitoring program and compliance system and carefully manage the legal risks of the company and the management, implementing Integrity Management and building trust and respect from the public.



Roundtable discussion between Samsung Compliance Committee and the top management of affiliated companies (January 2021)

Ethical Management

We provide the Samsung Business Principles to external stakeholders, including suppliers and customers, while operating a channel to report any violation of the Principles. Furthermore, we post "Employee Business Conduct Guidelines" on our intranet to encourage 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 2020, among 728 reports collected through channels around the globe, consumer complaints accounted for 28% of the cases, while issues related to corruption accounted for 11%. All reports related to corruption are fact-checked through inspections and dealt with according to the severity of each case. The results are reported to the Audit Committee twice a year.

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 prohibitions when conducting business, including corruptions and fraudulent conducts.

Reporting Wrongful Practices

Types & Numbers of Reports



1) Contents that are not related to Samsung Electronics, contents related to the personal life of employees, facts cannot be confirmed due to insufficient information, etc.

Business Sustainability

CE | Consumer Electronics Division

Guided by the vision "Screens Everywhere, Screens for All", Samsung Electronics Visual Display Business develops solutions for a sustainable future. The Digital Appliances Business strives for products that are durable, eco-conscious, and accessible.

Samsung Eco-Package [\[link\]](#)

- An upcycling program enabling customers to use our TV and home appliances product packaging to make small, versatile household items
 - Piloted on Lifestyle TV product packing in 2020
 - Planned for application on all TV and soundbars products in 2021
 - Planned for application on small home appliances including vacuum cleaners and air purifiers, etc. in 2021
- CES 2020 Innovation Awards (Sustainability, Eco-Design & Smart Energy)
· IDEA 2020 Silver Award (Packaging Category)
· Korean Ministry of Trade, Industry and Energy Good Design Awards 2020
· 2020 Worldstar Global Packaging Awards



Transformation of TV packaging, the Story of Eco-packaging design [\[link\]](#)

Renewable · Recycled Materials

- In 2020, the CE division used a total of 25,000 tonnes of recycled plastic, and will continue to expand usage.
- 100% of the paper used for product packaging are made from either recycled papers or papers certified by the Forest Stewardship Council for sustainable sourcing.

Accessibility

- Reinforced accessibility of home appliances and TVs, to ensure that all customers enjoy a convenient user experience

- Twice winner of the CES Best of Innovation Award for Smart TV Accessibility (2016, 2021)
- First-ever TV product to receive "Tried and Tested Accreditation" from the United Kingdom's Royal National Institute of Blind People (RNIB)
- MOU agreement with the Korea Blind Union to improve accessibility of Samsung TVs
- Received the Grand Prize for Ergonomic Design from the Ergonomic Society of Korea Grand Prize for Grande AI Washer and Dryer

"We will continue to earn the trust of our consumers by being conscious of the environment and developing products for all."

Kisu Lee, Executive Vice President,
Sustainability Management Office,
Digital Appliances Business

Solar Cell Remote Control

- A solar cell-powered remote control that charges itself through sunlight or indoor lighting using the embedded solar cell panels, rather than requiring single-use batteries
- The remote comes with 2021 QLED product lineup.
- It is designed to use minimal energy – at 86% reduction compared to other remote controls, while receiving additionally needed power from solar cells.
- Power consumption reduction is equivalent to the effect of reducing 6,000 tonnes of greenhouse gas emissions (based on seven years, an average life cycle of TV products)
- Solar Cell Remote Control will be expanded to home appliance products, including air conditioners.



TV for all, enabling full immersive TV experience for everyone. [\[link\]](#)



Preventing environmental contamination from disposable batteries, the Story of Solar Cell Remote Control [\[link\]](#)

Business Sustainability



IT & Mobile Communications
Division

We have delivered unrivaled innovation in mobile technology over the past three decades with our Galaxy products and services. As a leading international company, we remain committed to resolving complex challenges on a global scale, contributing to a more sustainable world.

Galaxy Upcycling

The program takes used Galaxy phones and creates new value, allowing transformative uses for the device.

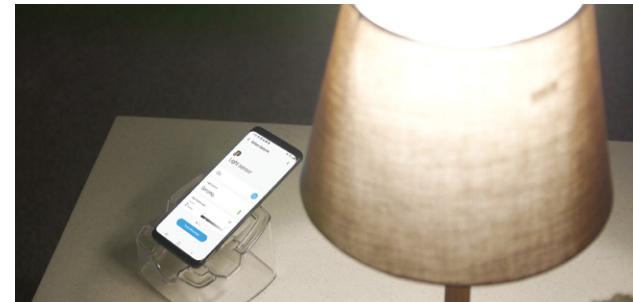
- Sustainable Materials Management Award¹⁾ 2019,
United States Environmental Protection Agency

1) Winner of the Cutting-Edge Award in the Champion Awards category of
"Sustainable Materials Management Awards".



Samsung's EYELIKE™ Fundus Camera Repurposes Galaxy Smartphones
To Improve Access To Eye Care [↗](#)

- Digital Fundus Camera(EYELIKE™): Galaxy smartphones that are no longer of use are transformed into a specialized medical device used for screening eye diseases through upcycling (Provided 90 devices to Vietnam, 200 devices to India, 60 devices to Morocco, and 40 devices to Papua New Guinea)
- Galaxy Upcycling at Home: A smart home solution can be created using an old smartphone. Using the "SmartThings" app on the current device, the user can control sound detection and alerting, light level measurement, and light control by connecting to the old, used smartphone.
- More than 1,500 used Galaxy smartphones are used at manufacturing sites in both Korea and Vietnam for monitoring the production status, barcode scanning for inventory management, on-site training, and as hand-held CB radios.



Galaxy Upcycling at Home:
transforming old Galaxy smartphones into IoT devices [↗](#)

*"We will continually seek to discover new innovations,
take part in resource recirculation,
and make contributions to creating
a sustainable world for all."*

Sung-Koo Kim, Vice President,
Sustainability Management Office,
Mobile Communications Business

Samsung Global Goals

- The "Samsung Global Goals" app: A mobile application that introduces the 17 UN "Sustainable Development Goals" and allows users to give a donation for a goal of their interest
- Generated \$1.5 million in donations (as of Dec 2020)
- An honoree in both Software & Mobile Apps and Tech for a Better World categories at the CES Innovation Awards (2020)
- SDG Impact Award (Highly Commended) at the Reuter's Responsible Business Awards (2020)
- Honorable mention in the SDG Action Awards (2021)



The Samsung Global Goals app engaging Galaxy users [↗](#)
Samsung Electronics-UNDP announced "Generation17,"
an initiative to inspire action among youth leaders to achieve
the Global Goals [↗](#)

Business Sustainability

DS | Device Solutions Division

We are the driving force of the global memory industry. We provide cutting-edge technologies and services and are recognized for our achievements, such as the industry's first commercialization of Extreme Ultraviolet (EUV) lithography. We also seek to enhance our technological competitiveness and expand our presence in the global market by focusing on developing next-generation products in the fabless (a business specialized in semiconductor design) field.

Product Energy Consumption Reduction

- We improved our products' energy efficiency by applying the EUV lithography, which was the first for the DRAM industry.
- We have developed low-power processing and low-power circuits for the System LSI Business' flagship products, including the mobile AP, 5G SoC (System on Chip), CIS (CMOS Image Sensor), and DDI (Display Driver IC) products.

Statistics on Power Consumption Reduction by Product

Category	Products	Reduction in Energy Consumption	Notes
Memory	DRAM	24% ↓ annually	* Relevant Periods DRAM 2010~2020
	DDR Mobile	18% ↓ annually	SSD 2018~2020
	SSD	38% ↓ annually	
System LSI	SoC	41% ↓	
	Mobile DDI	93% ↓	* Compared to 2010

"We will produce eco-conscious semiconductors that maximize energy efficiency, contributing to reducing greenhouse gases and doing our utmost to contribute to humanity."

Seong-dai Jang, Senior Vice President,
Sustainability Management Office,
Device Solutions Division

Carbon Reduction in the Manufacturing Process

- Reduction of carbon emissions from the memory manufacturing process
- Improving processing technologies: Process gases that generate carbon emissions during the memory manufacturing process have been reduced.
- Reducing the power consumption: The amount of power consumption has been reduced by adopting high-efficiency and low-power equipment and parts and by strengthening the power control of equipment and facilities.
- Our Foundry Business developed a 5-nanometer (nm) process, a low-power advanced processing technology, in the first half of 2020, saving the electricity power by 20% compared to the 7-nm process.

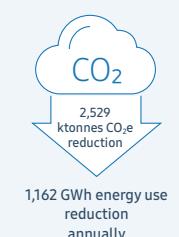
The amount of carbon emissions reduced in the memory manufacturing process:
2,529,411 tonnes

- Reduction made by cutting down power consumption: 212,881 tonnes
- Reduction in GHG achieved by process gas reduction: 2,316,530 tonnes

The foundry processing technologies awarded with the IR52 Jang Young-shil Award¹⁾

- Product Category: SSD (Solid State Drive) controller chip with LPDDR4/5 (Low Power Double Data Rate) applied
- Innovation Category: FDTI (Front-side Deep Trench Isolation) technology used in CIS (CMOS Image Sensor) products

1) Named after a scientist and an inventor, Jang Young-shil, the award recognizes innovative new technologies and the companies or research institutes that have created the innovations



Eco-conscious Products

- Nine products in the memory product lineup acquired the certification for reduction of CO₂ from Carbon Trust
- The LED Business has developed smart lighting products fit for growing plants and maximizing the convenience of human users

Memory products with carbon reduction certifications

SODIMM, HBM2, LPDDR5, GDDR5, UFS3.1, SSD(860 EVO, T7 Touch, PM1733 U.2), EVO Plus microSD Card



Our award-winning human-centric lighting products

- Presidential Award in the 2020 International Light Convergence Expo (November 2020)
- Honoree of Health & Wellness category in the CES 2021 Innovation Awards (January 2021)

Eco-Package

- Reduced the use of plastics by 20% by improving the packaging design of the TV LED Bar Trays

* The reduction target: 791 tonnes; actual reduction amount: 953 tonnes



Sustainability Highlights of Our Key Products



Monitor(T45F)



- Standby power of 0.00W achieved
- Use of recycled plastic materials in the product back cover
- Energy-saving features (Eco-saving plus, Sleep-mode timer)

UHD TV(KU75UT8070FXKR)

- Ambient Light Detection function; Energy-saving mode
- 1st grade energy efficiency in South Korea
- Use of biomaterials for the accessory bag
- Use of sustainable forest certification (FSC) papers (packaging, manual, wrapping paper, etc.)



Memory(SODIMM)

- 32GB DDR4, a perfect solution for high-performance gaming laptops, Possible to increase the DRAM capacity up to 64GB
- Lower energy consumption compared to previous 64GB configuration using four 16GB memory (up to 39% saved in the active mode; up to 25% saved in the standby mode)
- More PC capacity, better performance, and a longer-lasting battery

Smartphone(Galaxy S21+)



Mobile DRAM(16GB LPDDR5)



- The remarkable speed of 5,500MB/s, 1.3 times faster than LPDDR4X
- Features the increased capacity which is two times larger than the existing model (LPDDR4X) package while reducing the power consumption by 20% or more.



Wind-Free Air Conditioner Gallery (AF25AX975VAS)

- Reduces energy consumption by maximum 90% (in wind-free cooling mode)
- Removes 99.95% of fine dusts from the air (Air purifier's capacity for approx. 112m²)
- Semi-permanent use of the filter as water washing is possible

Sustainability Highlights of Our Key Products



BESPOKE Refrigerator (RF85A98T1AP)

- The first refrigerator model with the water purifier to earn the 1st grade energy efficiency in South Korea
- Triple independent cooling system
- Use of high-efficiency Vacuum Insulation Panels
- Customizable door colors, material combination
- The Plasma Ionizer cleans 99% of bacteria inside
- Anti-bacterial handle that kills 99.9% of harmful bacteria



BESPOKE Grande AI Washer (WF24A9500YE)

- 1st grade energy efficiency in South Korea
- AI-enabled customized washing cycles (optimizes the washing and rinsing time by automatically injecting an appropriate amount of detergents and detecting the degree of contamination of a laundry load)
- Use of the EcoBubble™ technology
- Lifetime motor warranty



Baseband (CDU50)

- Low-energy technology applied (energy reduction of 20~38% at full capacity)
- Traffic handling capacity increase by 3.6 times
- Allows simultaneous support of 4G and 5G, saving resources



Power Management Integrated Circuit chip (PMIC)

- Low-power VRoD¹⁾ PMIC for enterprise servers
- Achieves the target efficiency at the Half Load operation (energy-efficiency of 90% or more)

1) VRoD: Voltage Regulator on DIMM (Dual-Inline Memory Module)

LED Module for Automotive (PixCell LED)

- An intelligent headlamp solution for automotive electronic components
- With the optimal contrast ratio of 300:1, it provides a system with 100+ individual pixels separately controlled.
- Reduces carbon emissions with the LED arrays reduced in size. (30-50% smaller than the existing LED product)
- Best Lighting Solution Award at the LED-professional Symposium & Trends in Lighting



BESPOKE Grande AI Dryer (DV19A9740YE)

- 1st grade energy efficiency in South Korea
- High-efficiency inverter heat pump
- AI-based customized dry cycle (energy savings enabled by sensors assessing the temperature and humidity inside the dryer)
- Maintaining of fresh air quality with laundry room dehumidifier kit
- Lifetime warranty for motor and compressor
- Certification obtained for green technology

A photograph of a young girl with her eyes closed, hugging a large tree trunk. She is wearing a bright yellow puffy jacket. The background is a lush green forest with sunlight filtering through the leaves.

16 Sustainability Achievements | 17 Honors and Awards | 18 Sustainability Management Governance | 20 Stakeholder Engagement and Communication | 21 Sustainability in the Pandemic Era

Approach to Sustainability

Sustainability Achievements

Environment

US, Europe, China

100 % use of renewable energy



EHS Management Systems
in Manufacturing Sites

100 % certified



Waste from Manufacturing
sites

95 % recycled



Collected E-waste

4.54 million tonnes



* Cumulative from 2009

Empowering Communities

Total Hours of Employees' Volunteer Service

9,078,857 hours

* Cumulative from 2012



Beneficiaries of the Corporate
Citizenship Activities

21,497,633 people

* Cumulative from 2012

Beneficiaries of the Smart Factory
Support Program

2,530 companies



* Cumulative from 2015

Digital Responsibility

Internal Consultations on Personal Information

20 % increase from 2019



Smart TV, Smartphone Products with Accessibility Features

100 %

* Features vary by model



Our Employees

Growth of Female Leadership

5 -fold increase in female
executives

* Compared to the numbers in 2010

2 -fold increase in female
managers



The Employee Satisfaction Score

80 or above for three consecutive years

* 2018-2020



Sustainable Supply Chain

Supplier Evaluation

73 % suppliers given "Excellent" rating



* Evaluated once a year based on the competitiveness
of the companies in the supply chain

Conflict Minerals Sourcing

100 % (RMAP¹⁾ Certified Smelters)



1) Responsible Minerals Assurance Process.

Honors and Awards

Rankings

Best Global Brands in 2020

No. 5 Interbrand

5



Digital Inclusion Benchmark in 2020

No. 10 World Benchmarking Alliance

10



2021 Green Power Partnership

No. 11 US Environmental Protection Agency

11



World's Best Employer in 2020

No. 1 Forbes

1

Corporate Human Rights Benchmark in 2020, ICT Sector

No. 6 World Benchmarking Alliance

6



Supply Chain Labor and Human Rights Benchmark in 2020, ICT Sector

No. 2 KnowTheChain

2



Awards

CES Best of Innovation Award

2 times winner (2016, 2021)

2

* Smart TV Accessibility



2020 Sustainable Materials Management Award, US EPA¹⁾

* Champion Award in the Program Category

* For the Galaxy S10 Eco-Packaging

* Gold Tier Award

* Leadership in responsible e-waste collection and recycling

1) United States Environmental Protection Agency

Energy Star Awards, US EPA

* Corporate Commitment Award

* Honored with Sustained Excellence eight times



Energy Winner Awards from the Korean Ministry of Trade, Industry and Energy

* Regarding eight products (including the Prime Minister's Award)



Ergonomic Design Award Grand Prix Award, Ergonomics Society of Korea

* Grande AI Washer and Dryer



Certifications

Triple Standard certification¹⁾ in all semiconductor manufacturing sites (The first in the industry), Carbon Trust



Smart TV was the first in the industry to receive "Tried and Tested Accreditation", recognized by RNIB²⁾

RNIB

Tried and Tested

Galaxy S20, Galaxy Note10 was the first in the smartphone industry to receive Amobil Seal³⁾



1) A certification and mark of excellence that enables organizations to demonstrate their success in cutting their carbon, water and waste footprints.

2) Royal National Institute of Blind People.

3) Amobil Seal: Certification award created by ONCE Foundation, a Spanish non-profit organization, and ILUNION Tecnología y Accesibilidad, a management consulting firm.

Sustainability Management Governance

The Board of Directors, the highest decision-making body, oversees our sustainability management. The Governance Committee is tasked by the Board to consider sustainability related matters and items that are of interest to various stakeholders in order for us to fulfill our responsibility as a responsible global company. The Committee provides suggestions and opinions on defining our sustainability management strategy.

In 2020, the Sustainability Council was further strengthened at the executive level. The Sustainability Council is led by our Head of Corporate Management Office, and if necessary, the head of each division participates as well, discussing various issues with those responsible for relevant businesses.

In 2020, we also promoted the Sustainability Management Office to Corporate Sustainability Center, as a direct organization under the CEO to ensure more systematic and professional sustainable management. To reinforce execution of sustainability on our business (product & service planning, R&D, Marketing, and CS), we also established the Sustainability Management Office in main business divisions. The Corporate Sustainability Center is responsible for establishing broad direction of sustainability efforts, performance monitoring, external cooperation, and communication. In order to do so, they work in collaboration with various internal councils or relevant teams in diverse domains, including environment, labor and human rights, health and safety, and supply chain responsibility. The Sustainability Management Offices in each division establish individual sustainability strategies and support execution, considering specialties and conditions at each of the businesses.

Reflect Sustainability Achievements in Performance Evaluations and Compensation

From 2021, we have added sustainability KPIs to the performance evaluation and compensation of executives, encouraging them to consider sustainability management in all parts of the business. The performance indicator reflects appropriate and relevant sustainability items matching the specialties and conditions of each business division and department. This will be supplemented with further development of the performance evaluation and compensation.



- The Board supervises the company's sustainability direction and performance through regular Board meetings and Governance Committee under the Board
- Sustainability agenda reviewed by the Board of Directors, include
 - Environmental matters such as climate change and circular economy, citizenship contributions, labor and human rights, diversity, health and safety, mutual growth with suppliers, compliance and ethics, etc.
- Head of the Corporate Sustainability Center reports to the Board of Directors and the Governance Committee on main issues discussed at the Sustainability Council.

- Company-wide Sustainability Council is held on a regular basis, and the management reviews issues related to sustainability with the person in charge of each area

- The agenda discussed at the Sustainability Council is reported to the Board of Directors and the Governance Committee according to the case

- Sustainability Council is supervised by the Head of Corporate Management Office

- Attendants of the Sustainability Council

[Management Support Department] Corporate Sustainability Center, Corporate Human Resources Team, Corporate Management Team, Partner Collaboration Center, Global EHS Center, Global CS Center, Compliance Team, IR Team, Global Marketing Center, Corporate Communications Team

[Business Division] Sustainability Management Office of CE·IM·DS business divisions

Dedicated sustainability departments

- Corporate Sustainability Center
 - Sustainability Management Office of each business division
- Councils in major fields (Participation of dedicated departments and relevant departments of each business division)**
- [Environment] EHS Council, Eco Council
 - [Digital Responsibility] Personal Information Protection Council, Cyber Security Council
 - [Employees] Labor and Human Rights Council
 - [Supply Chain] Supplier Co-Prosperity Council



Yoonho Choi,
President, Head of Corporate Management Office

"We view our sustainability efforts as an investment for the future."

Sustainability management is a fundamental part of our company growth in a rapidly changing business environment. A positive approach benefits our competitiveness and lays the foundation for a better, long-term future for us all.

We view our efforts in this area as an investment in the future and there is not one part of our world-wide operations that is not influenced by our approach to sustainability.

"We created Sustainability Management Offices in each division to ensure that sustainability practices are executed in all parts of our business."

We continue to enhance our approach to sustainability. In 2020, we promoted the Sustainability Management Office to Corporate Sustainability Center, as a direct organization under the CEO.

At the same time, to incorporate sustainability throughout all phases of our products – planning, designing, producing, and selling – we established Sustainability Management Offices in each business division.

Through our Sustainability Council, we discuss key strategies and activities in each business division as well as across the organization. Any important decision is reported to the Board of Directors, reinforcing Integrity Management with the Board at the center. Further, to build a strong compliance culture, which is foundational to sustainability management, we are putting forth our utmost efforts, including establishing of an external body, the Samsung Compliance Committee. We have also incorporated sustainability management criteria into employee evaluations, so that our ethical, social, and environmental values become integral parts of our business. Additionally, we have implemented a mandatory sustainability education program for employees. Based on our sustainability governance, we will strongly pursue sustainability management.

"We will enable our customers in proactively contributing towards a sustainable society and environment through innovative products and we seek to achieve mutual growth with our stakeholders."

As well as considering our impact on the environment and society at large, we seek mutual growth with stakeholders to build trust and continue to carry out our business.

To that end, we help consumers with sustainability initiatives in their daily lives, through our products and innovations.

We will have aggressive targets for sustainability management and while continuously working towards our goal, and continue to engage in transparent communication with our stakeholders on our progress.

Listening to MZ Generation Employees

To better understand concerns of our MZ (Millennial and Gen Z) Generation the future leaders – and incorporate their insights into our sustainability efforts, we encourage them to share their honest opinions to the management.

[South Korea] Offline interview with employees in each business division
[Europe] Written interview with person in charge of sales, marketing, and sustainability related businesses
[North America] Written interview with NGL (Next Generation Leaders)

Key Opinions

"MZ Generation can focus on issues that may be overlooked by older generations. This is important because these issues can quickly spread out and gain support when going viral on social media."

"I can't wait to see the future of a company that considers their social and environmental responsibilities. What would they be like in 5 years? That is the company that I want to grow with."

"I think we should be more proactive on letting others know about Samsung Electronics' activities on sustainability."

"I wish we can incorporate more sustainability measures to our management activities."

"Samsung Electronics has strengthened its sustainability efforts in recent years, but considering the company's global influence, we need to work harder and do better."

"I hope that Samsung Electronics leverages its technological leadership to lead the industry in terms of social and environmental aspects."

"All employees need to have a deep understanding of our sustainability vision and responsibilities, both of which should be incorporated in day-to-day work. Small changes will eventually lead to genuine growth and development."

Stakeholder Engagement and Communication

Engagement with our stakeholders is essential for us to fulfill our responsibilities as a responsible global company.

We strive to build a cooperative relationship and enhance mutual understanding in sustainability topics with our stakeholders through various activities such as multi-stakeholder forums, surveys, and on-site visits.

Stakeholders	Key Topics of Interest	Communication Channels	Activities
Customers	<ul style="list-style-type: none"> Product and service quality Safe product use Accurate product information Transparent communication 	<ul style="list-style-type: none"> Customer satisfaction surveys Contact centers (call centers), customer service centers Samsung Electronics Newsroom Samsung Semicon Story Young Samsung Community 	<ul style="list-style-type: none"> Enhance product quality and safety management system Provide product information on country-specific websites Gather and address voice of customers
Shareholders and Investors	<ul style="list-style-type: none"> Economic performance Risk management Disclosure of information Sustainability issues (environmental, social, governance, etc.) 	<ul style="list-style-type: none"> Investor relations (IR) meetings General shareholder meetings 1 on 1 meetings Analyst Day 	<ul style="list-style-type: none"> Stable profit generation Enhanced shareholder return policy Transparent operation of external sponsorships
Employees	<ul style="list-style-type: none"> Workplace health and safety Diversity and inclusion Training and career development Employment stability and benefits Labor relations 	<ul style="list-style-type: none"> Works Council Employee counseling centers Employee satisfaction surveys Samsung LiVE (Intranet) Reporting systems (compliance, ethics) 	<ul style="list-style-type: none"> Management Mentoring by Millennial and Gen Z employees Work environment management Creative working culture Customized career development program Business divisions townhall meetings (Employee briefings on business status and other topics)
Suppliers	<ul style="list-style-type: none"> Fair trade Shared growth Labor & human rights protection 	<ul style="list-style-type: none"> Hotline, online reporting system Suppliers conference Partner Collaboration Day Shared Growth Academy Supplier Consulting Office 	<ul style="list-style-type: none"> Promote fair trade and shared growth Support suppliers on their innovation initiatives Tech Trans Fair Support funds for suppliers Responsible management of suppliers' work environment
Local Communities	<ul style="list-style-type: none"> Local recruitment and economy revitalization Indirect economic effects Environmental protection Financial contributions and volunteer work 	<ul style="list-style-type: none"> Local volunteer centers Local community councils Local community blogs (Suwon, Gumi and Gwangju worksites) Yongin, Hwaseong community blog 	<ul style="list-style-type: none"> Local SMEs support including Smart Factory assistance Preservation activity for streams nearby worksites Corporate citizenship programs in education and employment Employee volunteer groups
NGOs, Associations, Specialized Institutions	<ul style="list-style-type: none"> Social responsibility for local communities and environment Contribution to the UN SDGs Prompt and transparent disclosure of information 	<ul style="list-style-type: none"> Corporate conferences Meetings with NGOs Civil organization conferences 	<ul style="list-style-type: none"> Gather feedback from global NGOs RBA and BSR activities EPRM and RMI activities
Governments	<ul style="list-style-type: none"> Indirect economic effect Fair trade Health and safety Compliance 	<ul style="list-style-type: none"> Policy meetings National Assembly Policy consultative bodies 	<ul style="list-style-type: none"> Cooperate with the government to establish and operate SME support program and venture investment system
Media	<ul style="list-style-type: none"> Prompt and transparent disclosure of information 	<ul style="list-style-type: none"> Press releases Samsung Electronics Newsroom 	<ul style="list-style-type: none"> News coverage Media Day

"Risk management has been strong on labor and human rights, sustainability of products, and eco-efficiency, but more transparent information-sharing and communication is needed on the company's sustainability goals and the progress made across different parts of the business."

Michael Rohwer, Director, Information and Communications Technology, BSR

"Samsung Electronics should continue to leverage its capabilities in its business sectors to respond to climate change with innovated solutions and pay more attention to digital inclusion issues, such as respect for human rights in AI and enhancing access to technology. Additionally, diversity needs to be expanded across the organization and both positive and negative developments relevant to ESG should be communicated more transparently."

Lourdes O. Montenegro, Digital Sector Lead, World Benchmarking Alliance

Sustainability in the Pandemic Era

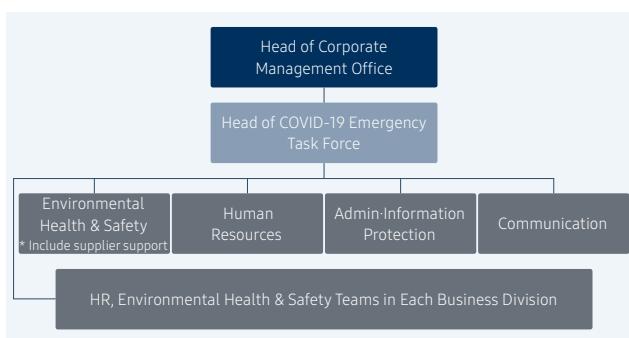
After the World Health Organization (WHO) declared the COVID-19 pandemic in March 2020, the world faced a social and economic crisis. We are dedicated to ensuring the safety of our employees, suppliers, customers, as well as local communities, in the pandemic situation. Despite the economic difficulties, we have contributed to the economic stability of our local community, by continuously hiring new talents and investing in R&D.

COVID-19 Response System

In January 2020, we formed a taskforce comprising members from across the business, including the Global EHS Center, Corporate Human Resources Team and Corporate Communications Team. The taskforce monitors the COVID-19 status and measures, while sharing real-time updates with the management and employees.

Prevention of Employee Infection

To prevent COVID-19 infection, we conduct a mobile questionnaire for employees that helps sort out high-risk, multi-facility visitors and those with symptoms. In addition, we installed thermal imaging cameras and automatic temperature measuring devices at the entrances to the worksites. We are also the first company in Korea to establish an in-house screening clinic to offer prompt examinations for both our own employees and those of our suppliers. There are currently a total of three in-house screening clinics, each located in Hwaseong, Suwon and Gumi.



Providing Hygiene Products for Employees

To ensure employee safety, we provide hygiene products including two masks per person per week and place hand sanitizers in offices and meeting rooms. Some worksites provided quarantine kits (masks, mask straps, and pouches) for employees during national holidays.

Employee Guidance and Call Center Operation

We provide employees with the latest information on our COVID-19 policies, details of the confirmed cases, and the quarantine guidelines. In addition, we have a COVID-19 call center in place that actively responds to employee inquiries about COVID-19 cases, including guidelines regarding symptoms and testing, and procedures for returning to the workplace after quarantine.

COVID-19 Quarantine and Special Inspection on Quarantine Compliance

We conduct disinfection three times a week at a total of 2,888 facilities in business sites in South Korea. In the case of office spaces, disinfection is conducted at night for the convenience of employees. In winter, common facilities are disinfected five times a week to better cope with higher indoor population density.

To prevent the inflow and spread of COVID-19, we daily monitor whether mask-wearing, social distancing, and the provision of hygiene products are well put in place in each business site. We also carry out weekly inspections by dividing all facilities in our worksites, such as internal cafes, banks, public spaces, meeting rooms, education centers, offices, and dormitories, into 26 categories.

COVID-19 Vaccination Support

As COVID-19 vaccination became available to employees in 2021, Samsung Electronics has offered 'vaccination leave days' so that employees can take ample time off for safe vaccination and rest. Employees in South Korea are able to take the day of their vaccination as paid leave, with an additional two days of paid time off in the event of any abnormalities symptom.

Employee Flu Vaccination Against the "Twindemic"

In preparation for the twin challenge of winter flu and COVID-19, we provided free flu vaccination for employees in South Korea, of which about 76% participated.

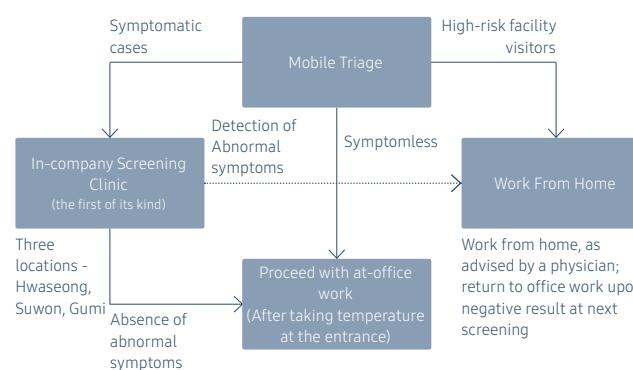
* 76,779 (76.2%) of employees in South Korea received quadrivalent influenza vaccines CE-IM: 35,850 (75.0%), DS: 40,929 (77.4%)

Support for Employees with COVID-19 Symptoms

We provide our employees with a flexible work environment that ensures they continue to work in safety. To enable our employees to work from home, we offer a virtual server and a range of programs to create an office-like work environment. For employees with COVID-19 symptoms or those in close contact with someone with COVID-19, we cover the cost of screening and implement quarantine, as well as providing paid time off. If our employee is infected with COVID-19, he or she is quarantined until fully recovered.

Employees who return to work after recovering from COVID-19 take an in-depth psychological test at the in-house counseling center to evaluate their stress levels and mental health status, and we support them with medical treatment at the in-house mental health clinic to help them return to their normal daily lives.

Employee Worksite Entrance Process



Responses to Business Risks

As COVID-19 brings about shutdowns and logistics disruptions in many countries, timely response to business environment changes is becoming more crucial. We have set up a Stockpile Management Council led by the Global Technology Center and are preparing for any potential crises through scenario planning. We take into consideration the unique business characteristics and product categories, and develop plans customized for material sourcing, product manufacturing, logistics, sales, inventory and sales channel management.

Key Activities for Business Risk Response

Purchasing	<ul style="list-style-type: none">Diversify supply chain for material sourcing
Production	<ul style="list-style-type: none">Secure sufficient supplies through forecasting, diversification of manufacturing bases
Logistics	<ul style="list-style-type: none">Secure safe routes for stable supply of materials
Inventory Management	<ul style="list-style-type: none">Strengthen managing of demands by region through daily monitoring of global sales and inventory, AI-based demand forecasting, and closure of retail outletsElevate awareness of the sales performances and inventories at different outlets and minimize distribution inventory management
Distribution Channels	<ul style="list-style-type: none">Expand online product distribution channels

Protecting our Suppliers and Customers

Suppliers

We provided masks for suppliers located in areas where the initial spread of COVID-19 was high. In addition, considering the possibility that the COVID-19 could pose a threat in terms of human rights such as underage labor and forced labor, we distributed guidelines on health and safety. We offered financial support and logistics expenses to suppliers who were having difficulties in their operations due to the COVID-19 pandemic. Suppliers were supported through various programs such as Win-Win Fund and payment support fund. Fund, and the logistics costs in order to supply materials urgently in the early stages of COVID-19.

Case: Call Center Employees Working From Home

As COVID-19 spread, we rapidly implemented social distancing measures and mandatory masks wearing and placed hand sanitizers to protect call center staffs across the globe. Since the end of May 2020, we also allow all employees to work from home if necessary.

Customers

At Samsung Electronics, customer safety is our top priority. During the pandemic era, we provide differentiated service for our customers to minimize inconvenience. If customers are unable to visit our service centers due to lockdowns and travel restrictions, we offer to visit the customers directly to assist with the product pickup and delivery. In addition, we operate a video consultation service that allows call center consultants to see the products and provide consultations.

Support for Local Communities

Infrastructure Support for Online Education

We donated 1,000 Galaxy Tabs to the United Nations Refugee Agency (UNHCR) for refugee camp youths in Africa, whose educational environment has worsened due to COVID-19.

The Tabs were delivered to 15 schools and community centers at the refugee camps in Kakuma and Dadaab in Kenya, and are used for the Instant Network School, an online education program for refugee youths operated by the UN Refugee Agency.

Medical Support

In March 2020, we converted the Yeongdeok Center, one of our employee training centers, into a residential treatment center for the Yeongdeok community. The center helped address a shortage of beds in local hospitals and treat patients with no or mild symptom, allowing medical staff to focus on treating severely ill ones. Volunteered medical staff from three Samsung hospitals - Samsung Seoul Hospital, Gangbuk Samsung Hospital, and Samsung Changwon Hospital - were dispatched to the Yeongdeok Center, where a joint support group was formed in cooperation with local governments, military, police, firefighters, and volunteers to take care of the COVID-19 patients.

In addition, we provided household necessities, hand sanitizers, and disinfectant tissues for the disadvantaged and those who were in quarantine. We also provided relief supplies such as immunity-strengthening health supplements for the medical staff and made a donation of KRW 23 billion to the Korea Disaster Relief Association.

Support for Small and Medium Enterprises Producing Disinfection Products

Through the Smart Factory Support Program, we shared technological expertise with companies manufacturing masks, diagnostic kits and vaccine syringes.

Support for Companies Producing Diagnostic Kits In April 2020, 16 of our experts were dispatched to help Kogene Biotech, which specializes in genetic analysis, and they identified 40 points of improvement and provided solutions for productivity enhancement. Kogene Biotech increased its capping speed from 33 kits to 125 kits per hour by implementing a jig into the capping (clogging) work that was previously done by hand. In addition, we helped the company with the logistics optimization and the introduction of automated facilities. As a result, an output increased from 5,600 kits to 10,000 kits per week, with a 79% increase in productivity in about one month.

Support for Vaccine Syringe Development and Mass Production

In 2020, 30 experts were sent to Poonglim Pharmatech to support with the development of low dead space (LDS) syringes, production of prototypes, preparation for mass production, and the establishment of the production line. As a result, Poonglim set up a mass production system capable of producing more than 10 million syringes every month. According to the Korean National Medical Center, one bottle of vaccine can inoculate five people with a general syringe, and six people with an LDS syringe. Poonglim Pharmatech's LDS syringe can inoculate up to seven people, achieving the same effect as increasing vaccine production by 20~40%.

Environment

We adhere to the philosophy of green management, designing and delivering eco-conscious products to pave the way to a cleaner future for all.



PlanetFirst – Earth is our foremost priority

"We strive to minimize our products' environmental footprint throughout their lifecycle."

Chanhoon Park
Executive Vice President,
Head of Global Infra Technology
(DS Division)

Goals in 2020 → Accomplishments in 2020 → Future Plans

Use of Renewable Energy

100
%

(US, Europe, China)

Use of Renewable Energy

100
%

(US, Europe, China)

Continue to Expand the Use of Renewable Energy

Reduction in CO₂e Emissions in the Product Use Phase

250 million tonnes
(cumulative from 2009)

Reduction in CO₂e Emissions in the Product Use Phase

301 million tonnes
(cumulative from 2009)

Continue to Reduce the Power Consumption in Key Products.

Waste from manufacturing sites

95
% recycled

Waste from manufacturing sites

95
% recycled

Acquire Zero Waste to Landfill Certification for All Manufacturing Sites

Collected E-waste

3.8 million tonnes
(cumulative from 2009)

Collected E-waste

4.54 million tonnes
(cumulative from 2009)

Collected E-waste by 2030

7.5 million tonnes
(cumulative from 2009)

Eco-conscious Activities Along the Value Chain

We have introduced programs throughout the product lifecycle, to minimize the environmental impact at every phase of the value chain, including product development, raw material procurement, production, manufacturing, distribution, usage, and waste disposal. We conduct research into potential risks and opportunities, and implement proactive measures to combat climate change, which requires an immediate global response. For our part, we have launched a number of Reduce · Reuse · Recycle initiatives to help support the circular economy.



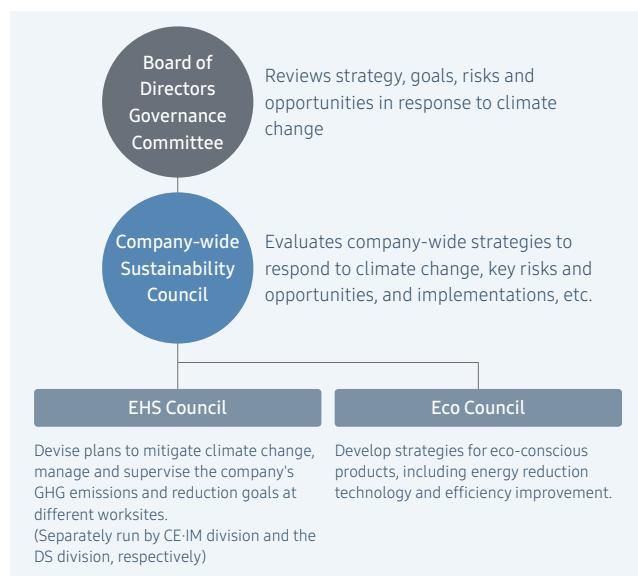
Climate Actions

Governance

Climate change is a priority area for Samsung Electronics as climate risks directly impact our business operations and financial performance. The Board of Directors, as the company's highest decision-making body, receives regular reports on any important agenda related to climate change.

Our Head of Corporate Management Office is responsible for outlining Samsung Electronics' climate change policies, identifying climate related targets, and executing investments. The Head of Corporate Management Office also chairs the company-wide Sustainability Council which is composed of executives from the main pillars of ESG. Environment-related councils are overseen by our Head of Corporate Management Office along with executives from environment-related fields, establishing plans for combating climate change and evaluating progress.

The EHS Council in each business area keeps track of climate change concerns and our progress toward our GHG reduction goals and plans. Meanwhile, the Eco Council is in charge of developing strategies for eco-conscious products, including energy efficient products.



Risk Management

Samsung Electronics continuously tracks various threats, including those related to climate change, at our worksite locations around the world in accordance with our risk management process and manuals for a variety of topics, including environmental protection, energy use, and policy enforcement. The manager at each worksite reports any issue that may arise to headquarters. Through the company-wide Sustainability Council and the EHS Council, we regularly check climate change issues and discuss further actions to be taken before relaying decisions to the related departments.

Climate Change Risk Management Process

We analyze risks and opportunities in the context of climate change and identify priority issues based on each issue's importance and impact on business, reflecting on them in our decision-making process.

Identify and assess risks related to climate change

Based on the environmental safety management systems underpinned by ISO 14001-50001-45001, relevant teams such as EHS, marketing, sales, and compliance teams conduct ongoing assessments on climate change risks in the context of business operations, product planning, and external landscapes

Analyze and manage related risks and opportunities

- The teams in charge of EHS, monitor energy consumption, GHG emission, and use of renewable energy sources
- Regular meeting bodies including the EHS Council discuss and manage climate change issues across worksites worldwide
- The Sustainability Council discusses climate change-related risks and opportunities
- Business opportunities are first reviewed and discussed by the Eco Council, before being assigned to each business unit and relevant teams

Integrate analysis results in the company-wide risk management process

- The company-wide risk management process incorporates and manages the regulatory risks in tackling climate change in each country
- Risk factors include global and regional regulations as well as changes in the market landscape that could impact our business and brand reputation

Our Responses to Climate Change

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. As a result, we have developed energy-efficient products while working hard to reduce GHG emissions. We take into account various climate change scenarios¹⁾ to understand the impacts of climate change and establish our response.

In the short term, we consider carbon prices (prices of carbon credit), extreme weather, and adoption of highly-efficient technology as potential issues, while we see securing carbon credit and saving energy cost as opportunities. In the mid term, we expect changes in consumption patterns and an increase in the use of renewable energy to be opportunities while we perceive physical changes such as the rise in temperature as a long-term risk.

1) Scenarios based on the Representative Concentration Pathway (RCP) scenarios of the UN Intergovernmental Panel on Climate Change (IPCC)' fifth assessment report (AR5), the International Energy Agency (IEA)' Energy Technology Perspectives (ETP), and Nationally Determined Contributions (NDCs) in accordance with the Paris Agreement.

Our Responses to Climate Change by Stage

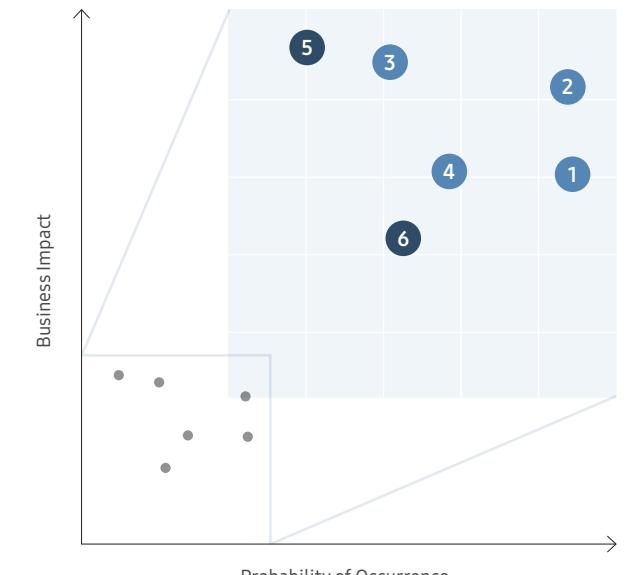
GHG reduction in worksites	<ul style="list-style-type: none">- F-gas¹⁾ reduction facility operation in semiconductor production process- Implementation of GHG reduction Projects- Expansion of renewable energy use
GHG reduction during product use	<ul style="list-style-type: none">- Reduction of GHG emissions in the product use phase by developing highly energy-efficient products- Development of low-power semiconductors with power efficiency min. 10% higher than the previous generation products
GHG reduction in other stages of the value chain	<ul style="list-style-type: none">- Management of GHG emissions from suppliers, logistics operations, employees' business trips, and electric vehicles
Reduction of external GHG emission	<ul style="list-style-type: none">- Acquisition of carbon credits through external emissions-reduction projects including CDM²⁾

1) Fluorinated gas

2) Clean Development Mechanism

Risk and Opportunity Analysis

Risk and Opportunity Factors Related to Climate Change		Financial Impact of Climate Change	
		Risks	Opportunities
Transition Risks & Opportunities	① GHG emissions trading system	Short term →	<ul style="list-style-type: none"> Increase in the costs of purchasing carbon credits due to increasing carbon price and tightening emission regulations * Refer to 'Business Report'
	② Adoption of high-efficiency technologies	Short term →	<ul style="list-style-type: none"> Increase in investments in high-efficiency equipment, and facilities for GHG reduction and water recycling, etc. Increase in R&D investments in carbon reduction technologies
	③ Changes in consumer behavior	Mid term →	<ul style="list-style-type: none"> Increase in cost for certifications on highly-efficient and sustainable products Decrease in sales for products that are rated with low energy efficiency Increase in R&D investments for high efficient and sustainable products
	④ Expansion of renewable energy use	Mid term →	<ul style="list-style-type: none"> Increase in production costs due to increase in electricity charges Decrease in B2B sales due to client's request on using renewable energy
	⑤ Natural disasters such as typhoons and floods	Short term →	<ul style="list-style-type: none"> Increase in investments to prevent natural disaster Increase in cost for loss in business opportunities and emergency relief in case of a disaster
	⑥ Rise in temperature, yellow dust	Long term →	<ul style="list-style-type: none"> Increase in worksite management costs, including air conditioning and heating. Increase in investments for equipment to prevent air pollutants
Physical Risks & Opportunities			



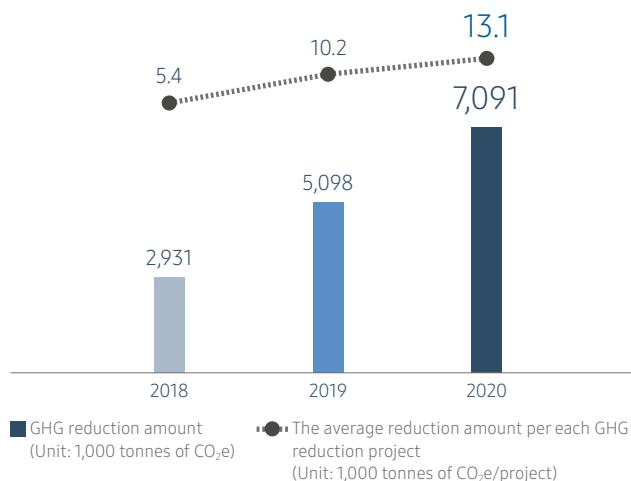
Reduction of GHG Emissions at Worksites

We are dedicated to the safe handling of process gases from manufacturing and to expanding renewable energy usage to reduce GHG emissions from our worksites. We have improved the efficiency of our manufacturing and processing, maximizing reduction in GHG emissions. Each worksite estimates its GHG emissions each year, defines GHG mitigation tasks specific to its manufacturing processes, and develops and promotes appropriate action plans.

In 2020, we implemented a total of 540 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 7,091 thousand tonnes compared to the expected emission amount. This is an increase of 39% compared to the amount of GHG reduction achieved in 2019.

We plan to continue reducing GHG emissions at our worksites by carrying out additional projects, such as reducing process gas usage while improving their treatment rate, expanding renewable energy use, and attaining more efficient product processing.

Achievements in GHG Emission Reduction at Worksites



Breakdown of GHG Reductions in 2020



Expanding the use of renewable energy	39%
Treating process gases	32%
Improving the efficiency of equipment operation	18%
Improving the efficiency of manufacturing processes	10%
Others	1%

Energy Reduction in Manufacturing Process

To minimize energy consumption, each manufacturing site plans and implements projects that are specific to its circumstances and characteristics. The key energy-saving activities include:

- Optimizing the capacity utilization rate of equipment such as HVAC systems, freezers, air compressors, and pumps.
- Blocking airflow in-between clean room doors, and adjusting the supply of air from outside to maintain the positive pressure
- Installing self-cleaning condensers to improve the efficiency of freezers
- Adjusting the expanded polystyrene (EPS) shape molding machine's steam pressure

Reduction of Process Gas from Semiconductor Manufacturing

Reduction of Process Gas Usage We optimize processing time, processing phase, and clean recipe for manufacturing and processing to reduce the input amount of process gases. As a result of such efforts, we have reduced around 90 thousand tonnes of GHG emissions.

Improvement of Efficiency in Process Gas Treatment We added metals to the Regenerative Catalytic System equipment to improve the efficiency of the process gas treatment facilities. As a result, the successful process gas treatment rate increased from 87% to 90%.

Development of Alternative Gases We are creating process gases with lower global warming potential. Notably, we have developed an alternative gas to replace PFCs¹⁾ which are used in the four major semiconductor processing steps – etching, diffusion, chemical vapor deposition (CVD), and metal. 23% of PFCs have been replaced in processing steps of some products since 2018. Samsung Electronics Semiconductor R&D Center continues to research and develop alternative gases.

1) PFCs: Perfluorocarbons

Application of IoT Technology to Infrastructure Equipment

We monitor energy use at our worksites and strive to increase efficiency. To that end, we have applied IoT solutions and technologies to key HVAC systems. HVAC systems consume a lot of energy, particularly in hot climates, so they need to be operated and controlled efficiently. We have extended the use of IoT technologies to our infrastructure facilities around the world, starting with our worksites in South Korea and Vietnam to those in North America, Latin America, and Southeast Asia. We plan to create an IoT-based remote control system that will be used on worksites in other parts of the world, including Southwest Asia.

Energy Reduction in Semiconductor Manufacturing

To reduce our electricity consumption, we make efforts to streamline manufacturing and optimize the operation of equipment. We also work to reduce the time for testing main equipment, optimizing the temperature in auxiliary facilities, using high-efficiency equipment, and wet scrubbers to remove contaminants from gas streams. Furthermore, we are reducing LNG usage by using cooling water systems and heat exchangers to recapture wasted heat and adjust the air temperature and flow rate within the outdoor air handling units (OHUs).

Expanding the Use of Renewable Energy

In 2018, we made a commitment to source 100% renewable energy at 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 to expand renewable energy use in our worksites.

For the past three years, we created and implemented action plans tailored to the needs of each region. The actions included installing solar power generation equipment, purchasing Renewable Energy Certificates (RECs), signing Power Purchasing Agreements (PPAs), and joining the Green Pricing system for renewable power sources. These efforts led to a three-fold increase of renewable energy usage in 2020 compared to 2018, and all action plans have been successfully implemented.

We are looking for more opportunities to expand usage in regions with the necessary systems and conditions. Recently, the conditions surrounding renewable energy use have improved in each country, enabling us to expect that our renewable energy usage will continue to grow.

US, Europe, and China In 2020, 100% of the energy used in our worksites in the United States, Europe, and China was generated from renewable energy sources. Our short-term efforts currently include installation of solar power generation equipment, purchase of RECs, and taking part in the Green Pricing system. In the mid to long term, we seek to gradually expand the scope and number of PPAs.

South Korea We successfully installed solar power generation facilities at our Suwon and Giheung worksites at scales of 1.9 MW and 1.5 MW, respectively. We have added the solar power generation capacity of 0.4 MW and the geothermal power capacity of 200RT in our Pyeongtaek site. In addition, we seek to further expand our renewable energy use by utilizing the Green Premium Pricing launched in 2021.

Latin America Our worksites in Brazil signed PPAs with wind power and hydropower generators, aiming to shift 100% of their energy usage to renewable energy. Our worksites in Mexico have signed a series of power supply agreements including the purchase of RECs, making constant efforts to increase their renewable energy usage. Considering local conditions, we expect that these worksites will be able to achieve 100% renewable energy by 2025.

Southwest Asia In India, we signed a renewable energy supply contract with wind power and biomass power generators, increasing our renewable energy usage. We also installed solar power generation equipment of 1.8 MW capacity on building rooftops and parking lots in the worksites in India. We aim to make the transition to 100% renewable energy by 2025, focusing on expanding usage through PPA.

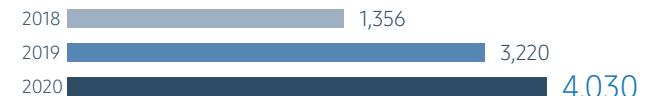
Case: Expanding the Use of Renewable Energy in the United States

Our US subsidiaries expanded the use of renewable energy by not only tapping into wind power as an energy source, but also installing solar power generation facilities, and purchasing RECs. Meanwhile, in November 2019, Samsung Austin Semiconductor, in partnership with Apple, eBay and Sprint, agreed to purchase 75 MW of renewable energy produced by a large-scale wind farm, and is in the process of further increasing the number of PPA.

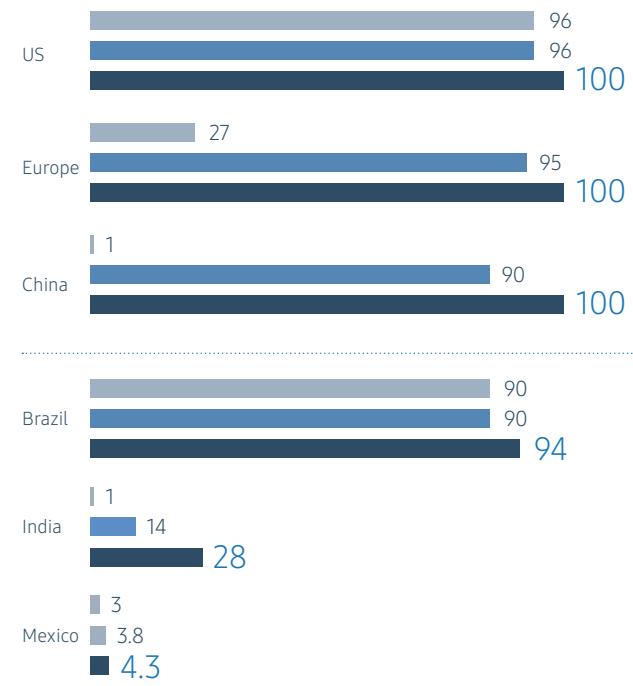
Recognizing our success in expanding renewable energy use, the United States Environmental Protection Agency (EPA) presented Samsung Electronics America, Inc., Samsung Austin Semiconductor, LLC, and Samsung Semiconductor, Inc. with the 2019 Green Power Leadership Award for Excellence in Green Power Use.¹⁾ Furthermore, as of May of 2021, we rank 11th among over 700 companies that participated in the EPA's Green Power Partnership Program and rank 7th in the Tech & Telecom industry group.

1) 2019 Green Power Leadership Award for Excellence in Green Power Use

Renewable Energy Usage by Year (Unit: GWh)



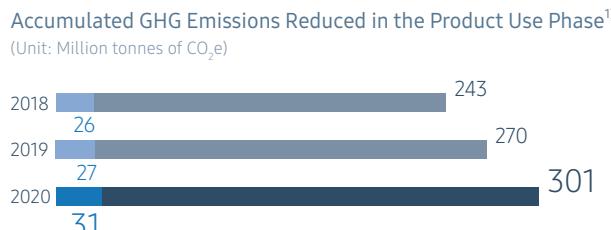
Renewable Energy Usage by Region (Unit: %)



Product Energy Efficiency

In collaboration with the Eco Council and working group for each business, our environmental experts monitor developments in energy-saving technology and environmental legislation and work to apply energy efficient strategies to our new products.

In 2020, we enhanced the performance of our TV backlight technology and implemented the high-efficiency refrigerator compressor. As a result, relative to 2008, we were able to reduce annual energy usage by an average of 32% and for the past three years we have been continuously decreasing the amount of GHG emissions during product use phase.



● Amount decreased in the calendar year

● Cumulative decreased amount in previous years

1) Cumulative from 2009

Display

Our 2021 QLED TVs come with a new solar cell-powered remote control that can be charged through sunlight or indoor lighting. The remote control is charged using the embedded solar cell panels without requiring single-use batteries. This innovation will help prevent the wastage of around 99 million AA batteries.¹⁾

1) Assuming that TV product usage cycle is seven years

(Refer to the scenario for TV in Korean 'Carbon Footprint of Products')

Home Appliances

Our BESPOKE refrigerator line-up (RF85A98T1AP) uses a high-efficiency inverter compressor and high-efficiency vacuum insulation panels to minimize energy loss. As a result, the line-up was able to earn 1st grade energy efficiency in South Korea.

Notably, when it comes to compressors, considered as an essential part for a refrigerator's functioning, our BESPOKE refrigerators use digital inverter compressors that automatically adjust their energy use between 1,050RPM and 4,300RPM according to the frequency of use. The digital inverter compressors use approximately 30% less of the energy compared to the conventional product. Furthermore, the BESPOKE dishwasher model (DW60A8575FG) can reduce the energy consumption for drying by about 22% compared to the existing model.

Mobile

We are committed to using eco-conscious materials when it comes to manufacturing smartphones and tablet PC products. Our Galaxy S21 smartphone, for example, won a "Reducing CO₂" certificate from Carbon Trust, an organization that recognized the Galaxy S21 model's reduction of GHG relative to previous models by reducing packaging and changing the materials used in the product lifecycle. Polyketone was applied to the model's side key internal brackets, which has obtained Green Technology Certifications due to contribution to reducing GHG. Further, we are working to reduce energy consumption with high efficiency battery chargers^{1).}

1) Efficiency rate: 86%, standby power: 0.02W

Semiconductors

Starting with the Green Memory Campaign established in 2009, we have introduced memory solutions with maximized low-power features every year. Our aim is to help protect the environment using IT innovation.

In 2020, nine of Samsung's leading memory products – four DRAM solutions, three solid state drives (SSDs), and two embedded storage (eStorage) devices – earned Product Carbon Footprint (PCF) labels from the UK-based Carbon Trust. The 512GB eUFS 3.1, one of our smartphone storage memory products, was the first in the industry to be certified as a product for reducing CO₂.

Green Technology Certification

We continuously enhance energy efficiency in our products through technological developments, obtaining green technology certifications accredited by the South Korean government.

Over the past decade, starting 2010, we have obtained 10 green technology certifications. A total of 202 models have earned a Confirmation of Green Technology Product, a certification given to commercial products using green technology.

Green Technology Certification

Green Technology Areas	No. of Certifications
CE Division → A technology to improve the energy efficiency of clothing dryers by applying a high-efficiency heat pump and heat exchanger	9
IM Division → A monitor standby power-saving technology → Automated power-saving wireless LAN technology	1

Case: Case: Monitor Standby Power Saving Technology

Samsung T45F Series monitor alleviated the loss from power transition by applying the "Self Wake-up" feature on the power circuit. This application made the monitor's standby power decrease to 0.000W~0.005W, the industry's lowest levels. Users can minimize the electric power consumption without having to unplug the power cable even when they are away from the monitor for many hours.



Reducing GHG Emission from Other Areas

Managing and Supporting Suppliers ↗

We have been part of the CDP¹⁾ Supply Chain Program since 2019, to closely monitoring GHG emissions from our primary suppliers, encouraging them to use more renewable energy.

1) CDP: Carbon Disclosure Project

Optimizing Logistics Efficiency

We pursue various efficiency-related goals throughout our product delivery process, such as optimizing delivery routes, improving load efficiency, and streamlining delivery management. In 2020, despite the surge in delivery loads, we managed to reduce a total of 6.68 million tonnes of GHG, a 19% decreased from that of 2019.

Minimizing Business Trips and Encouraging Video Conference

In 2020, business trips of our employees were restricted due to the pandemic. Naturally, GHG emissions from business trips decreased by about 87% compared to 2019.

Meanwhile, we encouraged the use of video conference systems. During 2020, about 200,000 video conference meetings an average of 559 video conference meetings per day were held. This was an increase of about 9% from the number of video conferences held in 2019. We will continue to improve accessibility and convenience of video conference meetings.

Accelerating the Transition to Electric Vehicles

By taking part in the K-EV100 campaign by the Ministry of Environment of South Korea, our plan is to ensure our entire fleet of corporate vehicles in Korean worksites is electric by 2030. The vehicles to be replaced include corporate sedans, shuttle buses, and cargo trucks. In addition, we plan to increase the number of electric vehicle charging stations at our worksites.

Collaborative Response to Climate Change

Delivering Low-carbon, Eco-conscious Cookstoves

Since 2017, we have supplied low-carbon, eco-conscious cookstoves to the Mombasa region and the UN Refugee Agency's (United Nations High Commissioner for Refugees) Kakuma camp in Kenya. Bioethanol, produced by fermenting sugar waste from the sugar production process, is used to fuel cookstoves as it is six times more energy efficient compared to charcoal. As a result, it decreases a substantial amount of GHG emission.

Acquiring Carbon Credits

Our bioethanol cookstove activity in Kenya has registered as a Clean Development Mechanism (CDM) project managed by the UN Framework Convention on Climate Change (UNFCCC) thereby earning carbon credits issued in proportion to the amount of GHG reduction. As of 2020, we delivered more than 10,000 cookstoves to Kenya, securing carbon credits for about 200 thousand tonnes of CO₂e. In South Korea, we acquire carbon credits by processing landfill gases emitted from large-scale waste landfills and reducing N₂O generated in external production processes.

Case: Industry-wide Collaboration for “Carbon Neutrality”

We participated in the Semiconductor & Display Carbon Neutrality Commission alongside other companies in the semiconductor and visual display industries such as SK Hynix, Samsung Display, and LG Display. Together we pledged to lead the change towards a carbon neutral future by focusing on increasing renewable energy use, speeding up the transition to electric cars, and achieving energy efficiency innovation. The Commission will continue discussions on joint goals such as the development of GHG emission control technologies and eco-conscious process gas. In addition, we joined major electronics and power companies such as LG Electronics, Samsung Electro-Mechanics, LG Innotek, Samsung SDI, and LG Energy Solution, in announcing the joint declaration for carbon neutrality, reaffirming our commitment to achieve carbon neutrality goals. To work towards carbon neutrality, we will be engaging in joint projects and increase mutual cooperation.

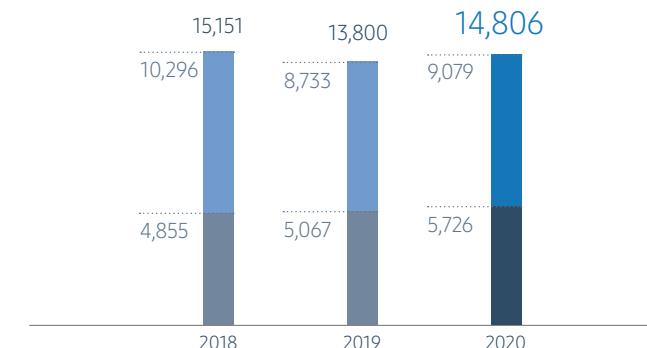
GHG Emissions

Our GHG emission target for 2020 was 1.55 tonnes of CO₂e/KRW 100 million, which was a 70% reduction from 5.17 tonnes of CO₂e/KRW 100 million in 2008.

In 2020, we saw an increase in GHG emissions compared to 2019, as we expanded the operation of our new semiconductor production line and product output. Naturally our GHG emissions, relative to our sales revenue, recorded 3.2 tonnes of CO₂e/KRW 100 million, a 5.1% increase from 2019.

We will continue to put our efforts into reducing GHG emissions through a systematic approach such as increasing the use of renewable energy, enhancing the efficiency of process gas treatment, developing alternative gases, and replacing existing equipment with high-efficiency equipment.

Annual GHG Emissions (Unit: 1,000 tonnes of CO₂e)



● Direct Emissions (Scope 1) ● Indirect Emissions (Scope 2)¹⁾

1) GHG emissions calculated by measuring the total amount of renewable energy used (market-based)

Circular Economy

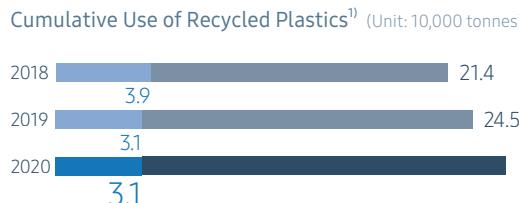
Protecting the world's natural resources is our priority. That is why we actively support a Circular Economy to increase the use of re-used and recycled materials, instead of a Linear Economy, which is based on one-time consumption. As such, we have established Circular Economy Principles to promote various activities that can be applied to the entire product life cycle, including developing re-use/recyclable products, enhancing repair mechanism, and taking back e-waste.

[Circular Economy Principles](#)

Efficient Use of Resources

Renewable or Recycled Materials

We use recycled plastics in various product lines ranging from refrigerators to washing machines, air conditioners, TVs, monitors, and mobile chargers. We use more than 30,000 tonnes of recycled plastics annually, including Post Consumer Materials (PCM) - plastics recycled from e-waste. In 2020, we used approximately 31,000 tonnes of recycled plastic, bringing the total amount of recycled plastics used in product manufacturing to 276,000 tonnes since 2009. We plan to use a total of 250,000 tonnes of recycled plastics from 2021 to 2030 by continuously increasing the use of recycled plastics.



1) Cumulative from 2009

● Amount used in the calendar year ● Cumulative use

Eco-Package

To reduce the environmental effect of packaging, we are replacing product packaging with paper and recycled materials from plastics and vinyl. We are also making efforts to reduce GHG generated during transport processes through smaller and lighter packaging materials. For paper packaging, we use FSC certified paper and recycled paper.

We applied the concept of upcycling for TV and home appliances product packaging materials, enabling customers to use boxes to make various items, such as pet products and small furniture. By scanning the QR code printed on the boxes, customers can check for instructions on making various products. Thanks to the application of a dot matrix design on each side of the cardboard packaging boxes, customers can cut the boxes more easily and assemble them into their preferred shapes.

For all Galaxy smartphones, 100% of the papers used for product packaging are made from either recycled papers or papers certified by the Forest Stewardship Council for sustainable sourcing. Galaxy S21 packaging is only 4% plastic by weight, and by reducing the weight of the packaging to just 51% of Galaxy S7 packaging, we have reduced the costs associated with production of packaging materials and transportation.

We aim to improve the structure of packaging materials in semiconductors to make them easier to recycle and re-use, and to replace packaging materials in all products with sustainable materials. In 2020, all plastic packaging materials for portable SSDs were replaced with paper, and by 2022, all packaging materials for consumer SSDs will be converted to paper or recycled-biomaterials.

Modular Design

The BESPOKE refrigerator, which incorporates a modular design, allows customers to create new designs simply by replacing door panels without having to replace the entire refrigerator, thereby reducing unnecessary resource waste. The Wind-Free Cube Air Purifier, our separable and combinable modular air purifier, enables users to configure units in line with their desired capacity. Additional units may be purchased if necessary, enabling a more efficient use of resource.

Extending Product Lifespan

Durability

During the product development stage, we conduct a very rigorous durability tests that meet international requirements. These tests assess resilience, drop resistance, waterproof capability, and lifespan so that our customers can continue to enjoy the same level of performance for a long time. We also conduct our own durability tests, such as free-fall tests, against various types of floor materials from various angles and various waterproof conditions.

Reparability

Reparability is one of the basic factors that we consider when manufacturing products. We conduct research to develop products that are easy to disassemble, cost-effective for repair, and are comprised of easily recycled parts.

Case: Obtaining the Highest Rating in France's Reparability Index

Starting January 2021, all electronic devices sold in France are labeled with the reparability rating according to the reparability index (Indice de réparabilité). Various smartphone models, such as the Galaxy S21, and all drum washing machine models have obtained the highly coveted dark green badge. Going forward, we plan to provide more information, such as repair manuals, to all of our consumers in the future, and continue our efforts to provide reasonably priced materials and facilitate the seamless supply of parts.

* Refer to our website for details about product ratings.

Software Update

In August 2020, we announced plans to expand support for up to three generations of Android OS upgrades on Galaxy mobile devices. For example, the Galaxy S20 lineup powered by Android 10 will be supported with three OS upgrades starting with Android 11. With the extended support, we expect our customers to enjoy Galaxy mobile devices more reliably for an extended period of time.

Repair Service

An accurate product diagnosis followed by a speedy repair all add up to prolonging a product's lifespan and improving its performance, which subsequently enhances resource efficiency. We are increasing consumer accessibility to our services by operating both global and region-optimized distribution networks, as well as enhancing customer convenience by offering digital services.

Globally-operated Service Channel – Service Centers

In 2020, we operated 12,386 service centers in 183 countries to increase customer convenience worldwide. Managers and repair engineers provide optimized services to customers in accordance with our service process guide. In addition to product maintenance, we provide training programs such as product usage instructions and the implementation of new product features to our customers.

Region-optimized Service Channel

Extended Service Hours During Ramadan in the Middle East

We offer customized services that take into account the lifestyles of our customers in the Middle East during Ramadan, one of the biggest celebrations in the Islamic Calendar. While fasting during daytime, we deliver repaired products to our customers so that they do not have to wait. We also extend our service hours until midnight considering that activities begin in the evening.

Smart Service Booth during Lebaran in Indonesia

In response to heavy traffic during Lebaran, one of Indonesia's major national holidays, we set up smart service booths at airports and rest areas along highways where customers could have their devices tested and software upgraded.

Differentiated Services

Video Consulting

In 2019, we began operating video consulting services where our contact center agents directly observe products used by customers as well as the environment in which they are used. Customers can receive assistance through a link via SMS without having to install an additional application. The agents provide immediate assistance or initiate a repair process, saving our customers repair time and cost. In 2020, we provided this service in 40 countries, including the United States, the United Kingdom, Spain, India and Brazil.

Visible ARS

We provide visible ARS service to enable our customers to access the service on their smartphone screens after calling our service call centers. Through this, we expect to increase convenience for elderly customers or users with hearing loss. In 2020, this service operated in South Korea, Australia and Thailand, and we plan to expand service areas in the future.

Chatbots for Automated Consulting

We run a chatbot service that provides timely assistance 24 hours a day, throughout the week. Established in 2017 by Samsung Research, the AI-powered chatbot service is available in six countries, including South Korea, the United States, and the United Kingdom as of 2020.

Sign Language Service

We provide sign language services for customers with hearing disabilities. Ever since the launch in Turkey in 2015, this service is currently available in six countries as of 2020.

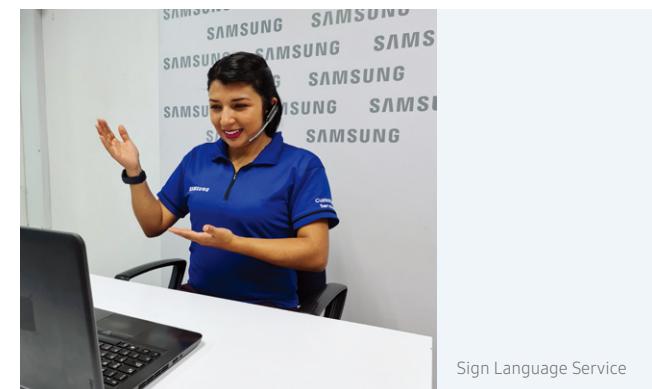
Service Quality Management

Standardized Service Operation and On-site Audit

For service centers and contact centers, we provide streamlined services with defined work standards and process guidelines. Each subsidiary offers customized training based on a localized version of the global guideline, and we share the manuals through the Customer Service Portal, our system for sharing information concerning customer service. In addition, we conduct periodic on-site assessments to check if services are provided in line with the standardized process and make necessary improvements.

Service Skills Training

We offer training programs to our service center managers and repair engineers on new product repair techniques and customer response, as well as country-specific or product-specific remote video or collective training sessions. Managers and repair engineers can check for what they need by accessing training clips and technical materials any time.



Sign Language Service

Take-back and E-waste recycling

We support the circular economy by promoting take-back and recycling of e-waste and run diverse recycling programs in 55 countries, including South Korea. Since we opened the Asan Recycling Center, South Korea's first comprehensive recycling center for e-waste, in 1998, we established e-waste take-back systems in regional logistics centers. Outside South Korea, we promote take back and e-waste recycling, taking into account regional characteristics when partnering with recycling associations and recycling companies.

The collected e-waste is used as raw materials for metals, plastics, etc., through processes such as sorting, pre-treatment and crushing. Some of the raw materials, such as plastic, are used in manufacturing new products. We have also established guidance in Samsung Requirements for Waste Electrical and Electronic Equipment (WEEE) Managing, which includes matters concerning compliance with environmental, health and safety laws and regulations, satisfaction with requirements for suppliers and prohibition of illegal export of waste.

Take-back and Recycle Achievements

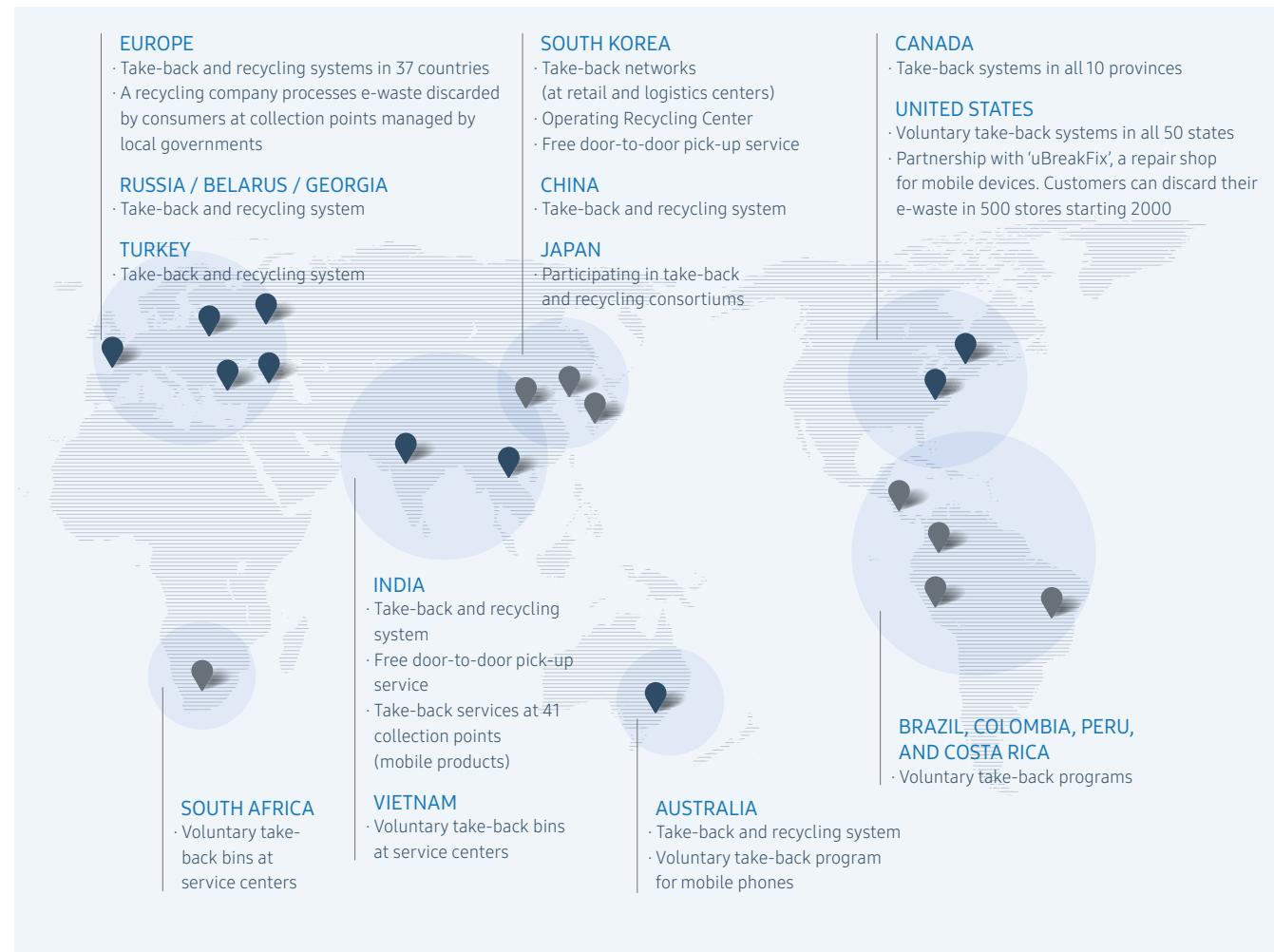
From 2009 to 2020, we collected a total of 4.54 million tonnes of e-waste and the amount has increased continuously for the past three years. Our Asan Recycling Center in South Korea, gathered 29,435 tonnes of valuable resources in 2019, including copper, aluminum, steel, and plastic.

We reused some 3,366 tonnes of recycled plastics collected from e-waste in product manufacturing. Through these efforts, we have reduced the amount of plastic waste and the use of petrochemical raw materials needed to manufacture new products.

Cumulated Amount of Collected E-waste¹⁾ (Unit: 10,000 tonnes)



Operation Status of Global E-waste Take-back and Recycling Programs



Regional WEEE Take-back Scheme ↗

Requirements for Recycling Service Partners ↗

Example of Asan Recycling Center's ↗
Closed-loop Recycling Scheme

Waste

We are continuously improving the manufacturing and product design process to minimize waste. All our global worksites monitor the amount of waste generated and recycled every month. If a target is not fully met, we focus on improving the recycling rate by analyzing ways to process waste. In 2020, we achieved 95% of waste recycling rate. We will make continuous efforts to receive Zero-Waste to Landfill certification for all of our global manufacturing worksites.

Waste Management Activities

	<ul style="list-style-type: none">Operate an eco-design evaluationEvaluate eco-friendliness in the development phase (resource efficiency, environmental hazardousness, energy efficiency)
	<ul style="list-style-type: none">Set waste recycling rate targetsDevelop waste treatment technologyStrengthen environmental impact reduction activities (develop and switch to low-toxic substances, neutralize toxic substances, etc.)
	<ul style="list-style-type: none">Comply with conventions on the border control of hazardous wastesMonitor the routes of waste-carrying vehicles
	<ul style="list-style-type: none">Visit waste treatment service providers and check their compliance level on a regular basisPerform environmental assessments on treatment service providers (operational capabilities, environmental management, etc.)

Recycled Rate of Waste (Unit: %)



Development of Waste Treatment Technology and Process Innovation

To promote a resource circulation system towards zero waste to landfill, we strive to develop waste processing technologies and increase waste separation.

Reduction of Landfill Waste We have applied recycling technology to produce crude copper (97%) by extracting copper from wastewater sludge that was previously disposed in a landfill. Furthermore, we are currently developing technology to extract tungsten from dust extracted in clean rooms. We also developed technology to recycle crushed Epoxy Molding Compound (EMC), which is created during the semiconductor packing process, as a plastic raw material to help us improve our efforts in waste recycling.

Reduction of Incinerated Waste To reduce waste incineration, we have increased waste separation and disposal of waste synthetic resin and recycled it as solid fuel. As a result, we have recycled approximately 1,650 tonnes of waste synthetic resin annually.

Increasing Added Value of Waste During the semiconductor manufacturing process, wastewater sludge is constantly generated. We recycle all wastewater sludge as raw material for cement manufacturing.

Case: All Semiconductor Worksites Certified with Zero-Waste to Landfill

All of our semiconductor worksites¹⁾ achieved more than a 97% rate of recycled waste and received Zero-Waste to Landfill certification²⁾ from Underwriters Laboratories (UL), a global safety certification company. In particular, the Samsung DSR building in Hwaseong, is validated for Zero-Waste to Landfill at the Platinum level, which is the highest level, for reaching a 100% rate of recycled waste. Furthermore, our Gumi worksite which manufactures smartphones also achieved Zero-Waste to Landfill certification and is the first workplace in South Korea that manufactures finished products to earn Zero-Waste to Landfill certification.

1) Five worksites in Korea (Giheung, Hwaseong, Pyeongtaek, Onyang and Cheonan), one in the US (Austin) and two in China (Xi'an and Suzhou).

2) A certification to assess a company's efforts towards resource circulation, divided into four levels - Platinum (100%), Gold (95-99%), Silver (90-94%), Certified (80% and above) according to the ratio of reuse of waste generated from a worksite.

To increase the value of waste, we are developing a new recycling technology using fluorine components in sludge as auxiliary raw materials for the steel making process. We plan to complete the development of this technology and put into mass production by 2021. Additionally, we are developing technology to recycle waste liquid from the semiconductor manufacturing process as cement plaster or cement remover.

Water Resource

Water resources are critical for the production of our products and the operation of our worksites, but they are also linked to natural disasters such as floods and droughts. The use and treatment of water resources can affect local biodiversity of worksites, which is why cooperation with the local communities is a necessity. We discuss the water resource related agenda in our EHS Council held by each worksite on a regular basis, and we escalate the agenda to the Sustainability Council if action is needed.

[Water Resource Policy](#)

Water-Risk Assessment

Every year, we assess whether our locations are in water-stressed or water-risk areas, and separate water-risks at each location to develop and enforce countermeasures. We use water management tools developed by the Food and Agricultural Organization (FAO) to identify water-stressed or water-risk regions. We also use the tools developed by the World Business Council for Sustainable Development (WBCSD), World Wildlife Fund for Nature (WWF) and World Resource Institute (WRI) to identify water-stress of water basins near our worksites and water-risks every ten years. Furthermore, we also use CDP's Water Guidance to respond with risk-specific strategies.

[Strategy to Tackle Water-risk by Region](#)

Status of Worksites with Water-risk (as of 2020) (Unit: 1,000 tonnes)

	No. of Worksites	Amount of Water Intake	Amount of Water Discharged
Total	36	142,294	109,201
Water-risk regions	14 ¹⁾	107,382	84,101

1) Number of worksites by water-risk region: South Korea (10), India (2), Egypt (1), South Africa (1)

[CDP Water Report](#)

Water Management Process

We minimize water consumption while increasing the rate of water re-use by wastewater purification. To increase water re-use in the manufacturing process, we first classify water resources into four categories: sewage, wastewater, industrial water, and ultra-pure water. Each worksite tracks the amount of water reused in each category, and manages the status through the Global Environment, Health & Safety System (G-EHS system) every month.

We also installed underground water pollution prevention facilities, and safely processed discharged water through internal and external facilities. When discharging used water directly into a stream through our in-house treatment facilities, we apply internal requirements that go beyond required legal standards.

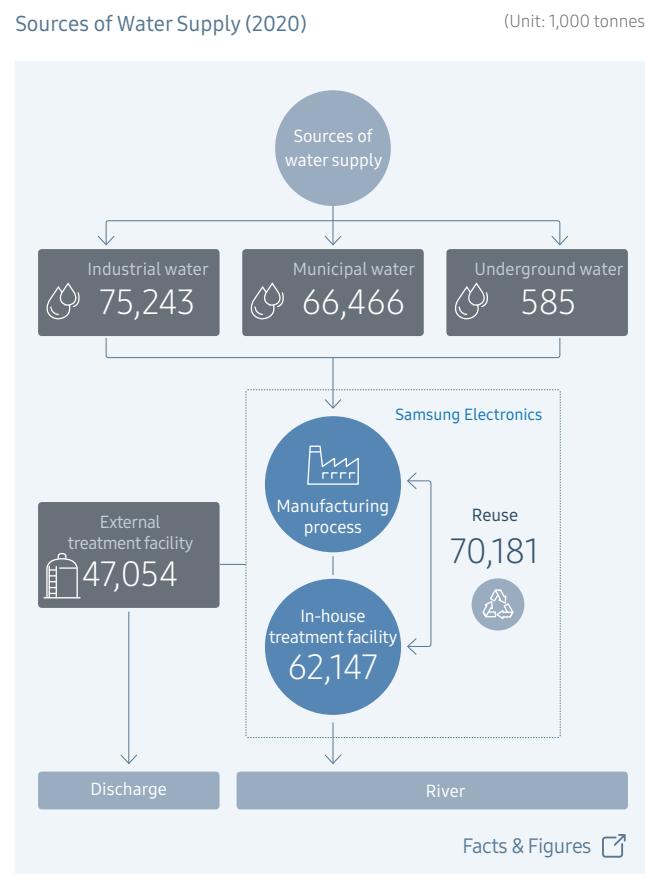
Water Use Reduction Activities

We strive to maximize water 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.

At our semiconductor plants with high water usage, we changed the process of control valves, switched wastewater treatment methods and optimized operations. Due to these efforts, we reduced an average of 4,953 tonnes of water each day. In 2020, we reused 70,181 thousand tonnes of water, a 1.2% increase compared to that of last year.

Case: World Water Day

To celebrate World Water Day, our manufacturing sites across the globe carry out river and marine ecosystem conservation activities together with local governments, civil organizations, and nearby schools. In 2020, due to COVID-19 restrictions, a total of 22 worksites took part in non-contact activities such as environment idea contests, environment protection education initiatives and exhibitions on ecology.



Annual Amount of Re-used Water (Unit: 1,000 tonnes)

2018	62,371
2019	68,555
2020	70,181

Case: Samsung Semiconductor Site in Hwaseong Earned Reducing Water Year on Year Certification

Our DS division was recognized for its unwavering efforts to efficiently manage water resources with an award for "Reducing Water Year on Year" in 2020 - the first in the global semiconductor industry. Samsung Hwaseong Campus, which houses the company's semiconductor manufacturing and R&D facilities, has been awarded the "Reducing Water Year on Year" certification by the UK's Carbon Trust. The certification recognizes organizations with the best approach for using water in worksites for three years as well as each water resource management system. Our Hwaseong Campus reduced its water usage from an average of 50.15 million tonnes during the years between 2017 and 2018 to about 49.11 million tonnes in 2019. This was a decrease of about 1.04 million tonnes of water. The reduction amount is equivalent to the amount of water that about 200,000 people can use for a month.



Case: Improving the Ecological Environment – Reviving Osan Stream

Osan Stream, which flows for 15km from Yongin to Pyeongtaek, was once a degraded stretch river, with dwindling supplies of fresh 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 inhabit clean rivers, were found.

River Biodiversity Conservation Activities

Our worksites in South Korea periodically measure water quality indicators, such as chemical oxygen demand (COD), biochemical oxygen demand (BOD), and acidity (pH scale), to monitor ecological effects in surrounding streams of worksites.

Chemical Management

To protect our consumers and employees, we are committed to minimizing the harmful chemical substances that may be used in our manufacturing lines or included in our products.

Ecological Impact Analysis on Nearby Streams

1	Wonchenri Stream, Hwaseong	[Measurement Authority] Kyung Hee University [Key Findings] · Fish found: 1,493 individuals of 12 species (carp 88%; mudskipper 5%) · Ecosystem benthic invertebrates were observed. (insects 45%; dominant species: Diptera 40%) · Ecotoxicity: The effluent water had no impact on the stream studied.
2	Osan Stream, Giheung	[Measurement Authority] Korea Ecology & Environment Institute (KEEI) [Key Findings] · Fish found: 169 individuals of 14 species (crucian carp 36%; carp 16%) · Ecosystem benthic invertebrates were observed. (insects 64%; dominant species: Cheumatopsyche 12%) · Ecotoxicity: The effluent water had no impact on the stream studied.
3	Seojeongri Stream, Pyeongtaek	[Measurement Authority] Pyeongtaek University [Key Findings] · Fish found: 195 individuals of 10 species (dominant species: crucian carp; subdominant species: carp) · Ecosystem benthic invertebrates were observed. (dominant species: red midge; subdominant species: tubifex) · Ecotoxicity: The effluent water had no impact on the stream studied.

We incorporate international environmental regulations, including the EU's Restriction of Hazardous Substances (RoHS) Directive and the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) when setting company-wide standards to ensure the highest level of control and regulations on chemical substances.

Chemical Substances in Products

We perform comprehensive pre-inspection and follow-up management for parts and raw materials in order to strictly manage chemical substances that may be included in our products. We ensure the highest level of control through the Standards for Control of Substances used in Products, which incorporates international environmental regulations. In addition, we are committed to reducing the use of substances of concern, such as polyvinyl chloride (PVC), brominated flame retardants (BFRs), and allergic dyes. We also operate the Environment Chemicals Integrated Management System (e-CIMS), designed to detect any restricted substances in the components and products of our suppliers so that we can ensure the safety of our products.

Eco-Life Lab for Environmental Analysis We have been operating an environmental analysis laboratory that can analyze RoHS regulations (on the six substances) since 2004 and increased the number of monitored materials that may be of risk, ensuring they are not included in our products. In order to renew our focus on analyzing microorganisms that may cause odors, we have reorganized the laboratory and established an Eco-Life Lab in 2020. The laboratory has expanded the research scope to determine the root causes of odors from our products and devise solutions to these problems. Eco-Life Lab has been certified by TÜV Rheinland, an international product testing institute and Germany's Federal Institute for Materials and Testing (BAM).

Samsung Electronics' Chemical Substances Management History [↗](#)

Chemical Substances in Manufacturing Processes

According to the laws and regulations of each country and our company-wide list of regulated substances, the use of chemical substances is strictly regulated at all worksites. In addition, we support a range of activities to ensure our suppliers and partner companies use chemicals in safe working conditions, such as regular on-site inspections and working environment improvement efforts. To ensure the safe

management of chemical substances, we conduct regular training for those who handle chemicals and inspect chemical storage and handling facilities. In addition, we formulate protective measures to be enforced in chemical handling facilities based on diagnoses provided by environmental safety experts. Furthermore, we have a three-step management strategy to minimize the use of chemical substances: creating substitute substances, decreasing chemical concentration levels, and eliminating the use of chemical substances where possible.

Chemical Management Process We systematically manage every stage of our chemical use from purchase to disposal. Employees who deal with chemicals at each of our worksites are required to request a preliminary evaluation to the expert group prior to purchase. We purchase and use chemicals only after they have been assessed as adequate for use. In 2020, we carried out a total of 7,829 preliminary evaluations.

After chemical substances enter our inventory, we track the entire process from checking exact use amounts and stockpiles to disposing of chemical waste. After use, we ensure that chemical waste is disposed safely through separate chemical waste disposal procedures.

Procedure for managing Chemical from Manufacturing Processes [↗](#)

Strengthened Control of Chemical Substances in Semiconductor Worksites To minimize the damage in case of a chemical accident, we have applied more stringent guidelines on chemical substances in all buildings on our semiconductor worksites. We improved the process by requiring in-depth inspection of each piece of equipment and implemented a system to detect and escalate chemical leakage incidents. We also applied stricter physical steps such as automating chemical injection and deploying disaster prevention and fire extinguishing equipment.

We also improved a system that detects chemical leakage at multiple locations from inside and outside of buildings, rainwater downpipes, and outer fences around worksites. With the strengthened detection and response system, we were able to minimize the danger posed by potential chemical accidents.

Standards for Control of Substances used in Products [↗](#)

REACH SVHC (Substances of Very High Concern) Declaration [↗](#)

List of Regulated Substances in Manufacturing Processes [↗](#)

Empowering Communities



We play an active role in our commitment to corporate social responsibility and welcome our duty to improve the livelihood of local communities and to contribute to a better future for all. Guided by our core values of People First and Co-prosperity, our corporate citizenship programs aim to help individuals achieve their full potential. We harness the power of experience, technological know-how, and innovation to support our society and empower future generations by nurturing talent and providing learning opportunities.

"We believe in the infinite potential of youth, who will lead the positive change for our future. We are committed to supporting them by sharing our advanced technologies, knowledge, experience, and resources, to help them build a better world for all."

Kihong Na
Executive Vice President,
Head of Corporate
Citizenship Office

Total Hours of Employees' Volunteer Service

9,078,857 hours

(Cumulative from 2012)



Beneficiaries of
the Corporate Citizenship Activities

21,497,633 people

(Cumulative from 2012)



Beneficiaries of
the Smart Factory Support Program

2,530 companies

(Cumulative from 2015)



Corporate Citizenship

In line with our CSR vision “Together for Tomorrow! Enabling People”, Samsung Electronics supports young people – the future generation – so that they can develop technological capabilities and make a better world by tapping into their ideas and imagination.

Improving Creative Problem-Solving Skills

Samsung Solve for Tomorrow

For more than a decade, our flagship educational program, Samsung Solve for Tomorrow has encouraged students to use STEM (Science, Technology, Engineering and Math) subjects to find solutions to the world's most pressing problems. With the help of teachers and our employee mentors, participants work to find the root causes of a problem, and the best solutions for those directly affected by it. In 2020, 153,883 students and 8,619 teachers from some 20 countries participated in Samsung Solve for Tomorrow despite the impact of COVID-19 restrictions. More than 1.83 million students have participated in the program to date. Samsung Solve for Tomorrow has been improving young students' interest in STEM fields and contributing to solving various problems in their communities.

Number of student beneficiaries worldwide
(Samsung Solve for Tomorrow) (Unit: No. of persons)



Case: ① Eco-conscious Fuel in Colombia

Students at Colegio Loyola in Medellín, Colombia, created a briquette made from used coffee grounds to tackle rising carbon dioxide emissions. According to their research, coal consumption predicted to create 60% of the total carbon dioxide emissions worldwide by 2030, the students looked at the potential for alternative fuels. They discovered that used coffee grounds made into a burnable briquette emits 10% less carbon dioxide than the conventional coal. As a result, the students won the grand prize at Colombia's 2020 Samsung Solve for Tomorrow, in which 1,500 teams participated.

Case: ② Wildfire Prevention Solution in the US

Delays in locating and tackling recurrent wildfires in California puzzled students from Dougherty Valley High School in California. In an effort to cut damages caused by wildfires and significantly reduce carbon emissions, they discovered efforts by firefighters were hampered by difficulties in accurately detecting the location. To address this, the students developed a Low-Power Wide-Area Network (LPWAN) solution, designed to accurately and rapidly detect early-stage wildfires even in mountainous terrain. Their idea won the grand prize of Solve for Tomorrow in the US among 2,070 teams. The team presented details of their project at a local climate action conference, garnering attention and praise from experts.

Samsung Junior SW Academy

The Samsung Junior SW Academy empowers young students in South Korea to develop interdisciplinary knowledge in order to thrive in an era defined by AI technology.

Since 2013, the program has helped students to develop their logical and procedural thinking and improve their software-based problem-solving skills. As of 2020, we have provided software training to more than 2,400 teachers and 81,000 students. The program also offers teachers additional support to enhance their skills.

Samsung Junior SW Cup

In South Korea, we have been hosting Samsung Junior SW Cup since 2015, encouraging students to propose software-driven ideas and solutions that will contribute to the society. In 2020, 1,747 teams comprising a total of 4,604 participants took part in the competition. During its five-year run, a total of 11,354 teams consisting of 30,967 students have competed in the event.



Case: ③ Speaking Mask

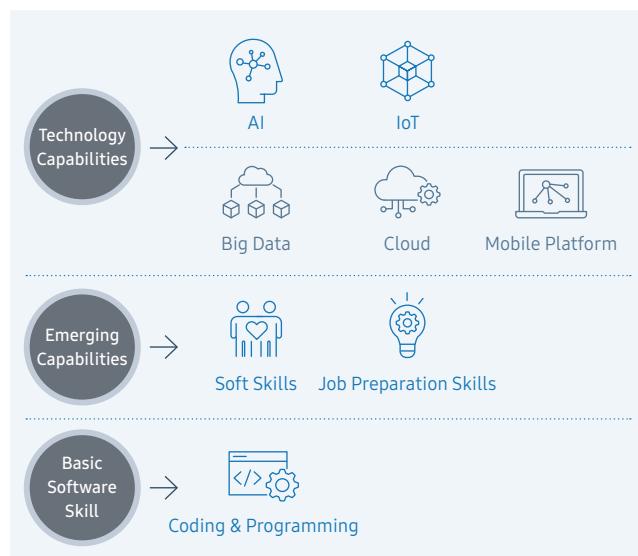
A ground-breaking 'speaking mask' won the Grand Prize in 2020 Samsung Junior SW Cup. The mask, designed by a team called 'Ordinary Girls,' was created to help a friend with a hearing impairment. During COVID-19, masks created a daily challenge for those hard of hearing to communicate effectively. So, the team created the so-called speaking mask, which transcribes the speaker's words onto a visual display on the outer surface of the mask. The team's idea was highly acclaimed by the judges.

Strengthening Technological Capabilities for the Future Generation

Samsung Innovation Campus

Since 2013, we have been running diverse technological education programs for students and unemployed youth to help them land a dream job. Samsung Innovation Campus works in collaboration with local Ministries of Education, schools, and NGOs to construct a curriculum that can best respond to the educational needs of the region it is operating in. In order to enhance students' employability, the program not only explores theoretical lectures, but also provides hands-on projects that equip students with practical skills on programming, AI and IoT.

In 2020, 18,527 students from 13 countries successfully took part in this program. When comparing their test results before and after completing the program, the participants' overall technological capabilities appeared to have improved by 88% on average.



Case: ① App Development Education in Russia

In Russia, Samsung Innovation Campus supports high school and college/university students in more than 50 cities. Employees in subsidiary and R&D center in Russia are directly involved in the program by developing curricula and teaching classes for approximately 3,000 students each year. Students learn a variety of soft and practical skills starting with basic programming and developing mobile apps, to AI and IoT. For instance, a student who participated in the program in 2020 even developed an application that enables users to compose and play music using smartphones.

Case: ② Nurturing Female Engineers in Spain

In Spain, Samsung Innovation Campus partnered with Polytechnic University of Madrid and University of Malaga to provide education on AI. For more than 240 hours, participants gain expertise in the IT sector such as AI, and machine learning. In particular, some of the courses focus on fostering women's IT skills in the Spanish engineering industry and contribute to resolving the gender gap in the IT sector through education. Upon the completion of the program, participants receive an official certification from these universities.



Samsung SW Academy for Youth

Samsung SW Academy for Youth, launched in 2018, is a joint effort with the Korean Ministry of Employment and Labor to support young people build a career in software development. It offers a one year course in theoretical and practical knowledge to make trainees more competitive in the job market. Trainees first start off by learning basic software skills involving algorithms, databases, and coding programming languages. Then, they learn how to utilize the cutting-edge technologies underpinning the Fourth Industrial Revolution, such as AI and IoT, as part of the advanced curriculum. The first three classes of the program have produced 1,623 graduates. As of the end of 2020, 1,009 of them secured jobs that range from IT to financial companies, achieving an employment rate of 62%. Currently in 2021, 1,250 people are attending Samsung SW Academy for Youth's fourth and fifth classes.



Interview: Words from an Engineer with Non-technological Background

"I earned a BA degree in Library and Information Science and I am responsible for developing Starbucks' website and mobile app as part of SHINSEGAE I&C. I applied for Samsung SW Academy for Youth hoping to pave my own way to be a data analyst. Despite the lack of basic technological knowledge at first, a range of hands-on projects helped me quickly acquire coding and other core skills. Also, cover letter feedbacks given during the program had been of great help."



Customized Education for Future Generations

To support the needs of local communities, we run bespoke citizenship programs for young people.

Samsung Dream Class

Launched in South Korea in 2012, Samsung Dream Class provides middle school students that lack of educational opportunities with English, Math, and software education to resolve the education divides among students; and it awards scholarships to undergraduates who participate as mentors. During the prolonged disruption caused by COVID-19 in 2020, many schools had to alternate between online and in-person classes, and students had to go through a year full of changes. To help students overcome such challenges, we provided real-time online classes as well as one-on-one tutoring sessions tailored to each student's needs. Some 2,875 middle school students and 1,052 undergraduate students participated in Samsung Dream Class in 2020.

In 2021, we reorganized the overall curriculum and content in order to motivate middle school students in an deficient educational environment and resolve the dream gap. The revised curriculum includes not only basic learning such as English or Math, but also career exploration and competency training to provide support in forming personal aspirations. We also provide online classes for students to proactively access the learning environment anywhere-anytime. Our employee mentors will be providing counsels to students who have career and academic concerns.



Samsung Semiconductor Science Academy

South Korea | Samsung Semiconductor Science Academy began as a skill-based volunteering program by Samsung Electronics employees in the DS division in 2013. It aims to help seventh-grade students living near our worksites. Taught by the DS division's employees, the class explores the basic theories of semiconductors for electrical and electronic products and puts them into practice. The program's purpose is to spark students' interest in science and technology fields and inspire them to become future science talents. In 2020, we offered online classes due to COVID-19 for 3,531 students at 32 schools.



China | Since 2019, Samsung Electronics Suzhou Semiconductor has been running Semiconductor Science Academy for students at Dong-Sao School and GuangTai Primary School, which are located near our office. The program teaches basic theories of semiconductors and assigns students with hands-on projects to build devices such as Bluetooth speakers and smart trash bins. Ultimately, the program received positive responses from the participating students. In 2020, the semiconductor science class was offered at a youth summer camp hosted by the Volunteer Service Association of Suzhou Industrial Park, and it received positive feedback from the community.



Science Class for Youth

China | Samsung (China) Semiconductor in Xi'an, China offers various programs to teach science and languages, along with health programs to local elementary, middle, and high school students. In the science class, students learn about robot programming and drone assembly, as well as the basics of semiconductor. In addition, we have sponsored various activities catered to local students, including soccer classes, English composition lessons, drawing contests, and Korean language classes.



Academic Mentoring & Education Support for Youth

US | In partnership with public schools in the Manor Independent School District, Texas, Samsung Austin Semiconductor operates the mentoring program and sponsors job training program for people with disabilities and youth from underprivileged households. We also donated close to KRW 400 million by participating in fund-raising for STEM education and job training catered to low-income households, minorities, women, and youth.



Support for Small and Medium-Sized Enterprises & Startups

Since 2015, Samsung Electronics has shared its manufacturing innovations and performance know-how with small and medium sized enterprises (SMEs) through our Smart Factory Support program. This program supports the development of Korea's manufacturing industry and the economic growth of local communities. In addition, we select competitive startups and provide them with business grants, consulting services, and infrastructure.

Support for Smart Factory Project

We dispatched 200 experts in various fields, including quality assurance, logistics, and molding, to help SMEs develop production systems and automation solutions, and achieve manufacturing innovations. Over the past five years, 2,530 SMEs benefited from our projects.

Support Areas for Smart Factories

	Factory Operation System Manufacturing Execution System (MES), Enterprise Resource Planning (ERP), Supply Chain Management (SCM), Product Lifecycle Management (PLM)
	Manufacturing Automation Deploying manufacturing robots leveraging ICT and autonomous guided vehicles
	Process Simulation Simulating the factory's layout and interpreting data
	Ultra-precision Processing Providing solutions to design and process metal materials

Support for Competitiveness Enhancement

We support small and medium-sized companies in driving growth by encouraging on-site innovations, expanding sales channels, nurturing human resources, and transferring technological know-how.

Support to Enhance Competitiveness

Operate on-site innovation activities	Provide support for Low-Cost Intelligent Automation (LCiA) of manufacturing and processing provided by a team of three innovation experts dispatched to SMEs for 8 to 10 weeks to transfer the know-how of innovation
Expand sales channels	Provide support for expanding sales channels by attaining new buyers through global PR activities with Smart Biz Expo and Arirang TV, expanding sales via Samsung internal online mall, participating in Samsung's holiday markets for direct sales. We also provide additional marketing consulting sessions
Cultivate talent	We have trained 11,733 people, through our education programs since 2016, providing vocational training customized to different work positions and smart factory experts. Since 2020, we expanded online education due to COVID-19
Pass on technological know-how	Transfer the technological knowledges and experiences of experts in various fields including molding and automation to 264 companies since 2018
Operate 'Family Innovation' program	Support both selected companies and their partnering suppliers
Operate 'Smart 365 Center'	Support continued maintenance and upgrading of smart factories

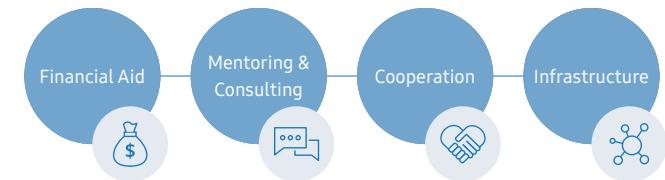
Case: Success Story of a Smart Factory Support

SBB TECH, based in Gimpo, Gyeonggi-do, is the first Korean company to succeed in developing an ultra-precision decelerator for robots, previously produced exclusively by Japanese companies. However, despite its success, the company struggled to improve product quality. When the company was selected as the first smart factory for co-prosperity in the materials, parts, and equipment industry in 2019, we shared our knowledge of ultra-precision processing and measurement technologies. In 2020, SBB TECH participated in the "Family Innovation" program along with its two partnering suppliers, to pursue joint innovation. As a result, the company's defect rate was reduced by 73%, while its productivity increased by 43%. SBB TECH has seen rapid growth and now supplies decelerators to large-scale equipment manufacturers as well as companies specializing in robotics. In January 2021, it was selected as a "leading company in the materials, parts, and equipment industry" by the Ministry of Trade, Industry and Energy.

Support for Startups: C-Lab Outside [↗](#)

In 2018, we launched the C-Lab Outside program, aiming to foster startups outside the company by providing them with our experience and know-how from C-Lab Inside, an in-house venture. We provide selected startups with support for one year, which includes business grants reaching up to KRW 100 million, opportunities to attend local/global exhibitions, and access to sales channels. On top of that, we also offer tailored consulting services on in-depth customer analysis to companies in their growth stage, growth hacking, and marketing capability, which may lead to enhancing business competitiveness.

C-Lab Outside Benefits



From 2018 to 2020, we fostered 182 promising startups, and we plan to support a total of 300 startups by 2022. Also, we are continuously seeking for opportunities towards shared growth through partnership with promising startups. In December 2020, we hosted the virtual C-Lab Outside Demo Day event under the theme Innovation driven by Startups and Samsung Electronics: Create, Great. This provided startups the opportunity to showcase their work to the public and initiate discussions on business and technical collaborations with potential investors and corporate representatives.

Digital Responsibility

Consumers expect flawless connectivity, security, and easy access to a growing range of products and services in an increasingly digital world, especially accelerated by the social disruptions brought on by COVID-19. At Samsung Electronics, we understand that safeguarding personal information at the highest security level is paramount. That is why we review security at every stage of product development - product planning, design, testing, and release - and provide transparent protection of personal information after each product is released. We also strive to ethically utilize Artificial Intelligence (AI), a rapidly growing technology.

We consistently explore new ways to create greater accessibility and inclusivity so that everyone can enjoy our products and services.

"Samsung Electronics is not just pursuing technological innovation, but also endlessly striving to develop technology that supports ethical growth and social responsibility."

Seungbeom Choi
Executive Vice President,
Samsung Research

2020 Digital Inclusion Benchmark
from WBA¹⁾ Ranked

10th

1) World Benchmarking Alliance



Internal Consultations on Personal Information

20% Increase from 2019



Smart TV, Smartphone Products
with Accessibility Features

100%

* Accessibility features vary by models



Personal Information Protection

The protection of personal information is one of the most critical issues in the digital age, where everything is connected. We strive to protect consumers and their rights whenever they share their personal information with us. We collect, manage, and use this information in a fully transparent way that helps us both protect our users while creating innovative and creative solutions for a better customer experience.

Personal Information Protection – Organization Structure



Principles of Personal Information Protection

Samsung Electronics strives to ensure users to trust that we secure their personal information and use it transparently. Their trust fuels our reputation which is why all the products and services we create are developed using the Personal Information Protection Principles.

Management of Personal Information Protection

Our robust "Information Protection Policy" is designed to safeguard personal information and adheres to local policies based on the relevant laws of each jurisdiction in which we operate. We consistently provide our employees with extensive training on the subject, which includes using our "Samsung Information Protection Guidelines" and "Management Guide for Outsourcing Personal Information Processing". We will continue to improve and enhance our processes to ensure information protection remains a top priority.

Personal Information Protection Principles



Transparency

Samsung Electronics transparently discloses the collection and use of personal information, including which personal information is collected and how it is used.



Security

Samsung Electronics' products are designed to not only provide the best service at all times, but also to keep users' personal information secure.



Choice

Samsung Electronics provides an environment in which users can choose the information they want us to collect, access, and share.

Personal Information Protection Management



1 Sensing

Analyze regulatory landscape on personal information protection and monitor trends through joining international associations



2 Establish Policies and Provide Education

Set practice guidelines, including "Samsung Information Protection Policy," "Management Guide for Outsourcing Personal Information Processing" as well as protocols for handling information breaches and provide education



3 Program Operation

Operate personal information protection program by business units and region



4 Audits and Improvements

Audit policies and implement correction measures as needed

Personal Information Protection Training

All employees in South Korea, including senior management, are required to complete personal information protection training every year. Employees who handle personal information for business receive personal information training specialized for the job. In 2020, we produced a modular video guide, based on the Samsung Global Privacy Policy, for each step of a typical workflow (collection→use→destruction). This is used as part of the training given by the Personal Information Protection Administrator.

Number of Participants in Personal Information Protection Training¹⁾
(Unit: No. of employees)



1) Korea-based employees

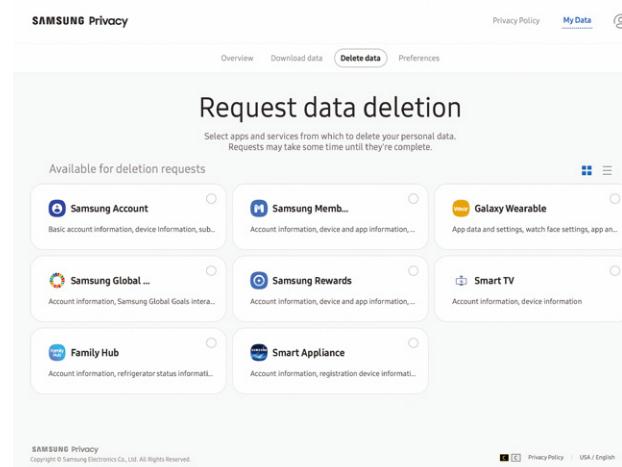
Privacy Legal Management System

We operate a Privacy Legal Management System (PLMS) to comply with various laws and regulations on personal information. This system is linked to product research and development and the product life management system¹⁾. It provides a step-by-step review of personal information issues, from product and service planning, development, operation, to discontinuation. In addition, we provide insights and helpful materials on personal information protection, so that employees can keep track of the latest trends.

1) Product Life-cycle Management System

Privacy Portal [↗](#)

We respect the user's right to choose how their personal information is used. Launched in 2019, the Samsung Privacy Portal allows users to understand clearly how their personal information is managed. Through this portal, customers can check the status of the information accessed on their Samsung devices, as well as services connected to their Samsung Account, and to delete when it is required. They can also control consent to receive marketing advertisements, and check the latest privacy policies.



Case: Visual Display Business Division Obtains Certification for International Standard Data Protection and Personal Data Protection [↗](#)

In March 2021, the Visual Display (VD) Business division obtained the industry's first international standard information security management system certification (ISO/IEC 27001) and the privacy extension (ISO/IEC 27701) for digital signage business.

ISO 27001 certification and ISO 27701 certification are international standards for information protection and personal information protection management systems established by the International Standardization Organizations. The VD Business met the 228 requirements ISO mandated and the 49 requirements for a personal data controller and a data processor.

Acquiring this certification is an important milestone to secure business competitiveness by removing potential risk factors for information security and personal information protection and having an effective response system.



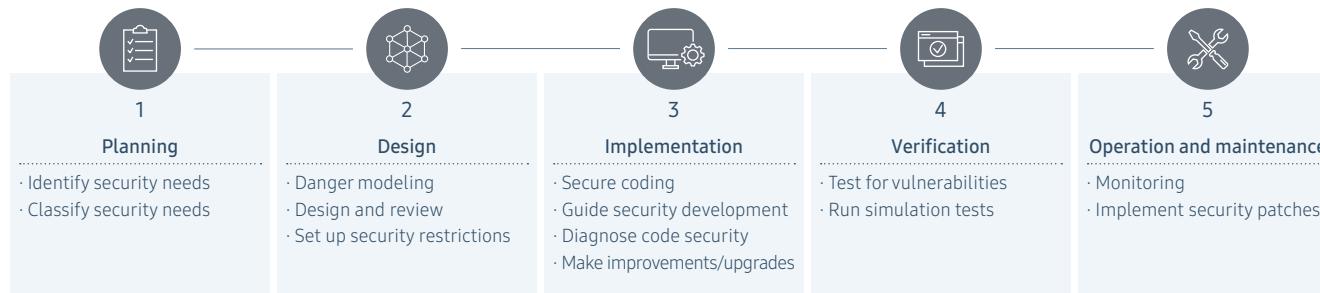
Cybersecurity

Awareness about cybersecurity and the potential for damages caused by increasingly sophisticated cyberattacks remains at the forefront of our security considerations. From the planning stage to the actual use of the product, we provide first-class security solutions so that our customers can use their digital devices with confidence.

4 Principles on Cybersecurity

Prevention & Hardening	Detection	Response	Prediction
<p>We configure our security system under strict standards</p> <p>With the growing number of online services, the importance of information stored in devices is also rising. As such, methods of stealing data are becoming more sophisticated and diversified. To counteract these advances, we have incorporated specialist hardware chipsets in mobile devices to combat any physical hacking. We have built our own security system from manufacturing to end use providing a security processor dedicated to handling sensitive data.</p>	<p>We do not miss a single moment</p> <p>Hacking and information theft can happen instantly. That is why we closely monitor events in digital devices and networks to detect any malicious intrusion and set up an instantaneous defense system. Furthermore, we detect and preemptively block any risks in everyday life such as malware apps or phishing in order to protect user data safe and secure.</p>	<p>We respond quickly and accurately</p> <p>We respond quickly to minimize damage from any problems we detect. We collect and analyze data from various hacking attempts using our security control system to develop protective solutions. Our in-house security experts provide users with security patches and offer our latest security solutions for each application.</p>	<p>We stay a step ahead in preparing for the future</p> <p>We are proactive in our assessment of evolving risks, consistently reviewing our solutions with regular vulnerability assessments. We capitalize on our globally-recognised mobile security expertise and employ big data analytics and artificial intelligence (AI) to ensure we are operating securely at the highest level.</p>

Security Development Life Cycle



Security Vulnerability Search

We engage with external developers to ensure that we build a more complete security system. If they discover security vulnerabilities in Samsung Electronics' products and software, we compensate the developers through our Bug Bounty Program. We receive reports on vulnerabilities through our security reporting website, and e-mails, which we then act on to provide rapid solutions.

[Samsung Security Reporting](#) [Mobile Security Reporting](#)

[TV & Home Theater Security Reporting](#)

Cybersecurity · Information Security Training

We conduct many employee training sessions to raise awareness of cybersecurity and information security. We provide online "Employee Information Security Training," which contains education on cybersecurity and information leak prevention, across the company. In addition, we provide business related training for engineers and related employees in each business division, such as security coding and engineering, security software development process, and vulnerability management.

Samsung Knox

Our focus on reinforcing security competitiveness through continuous security platform development continues to drive innovation. In addition to Samsung Knox, our proprietary security platform, we have developed an embedded Secure Element (eSE), the industry's highest level of security chipset, and a Secure Processor that prevents hardware-level attacks.

Samsung Knox consists of multiple defense and security mechanisms that protect data from malicious software and includes the Basic Principles of the Knox Security Platform. Samsung Knox successfully meets various mandates and stringent security requirements of government certification programs.

It provides powerful security solutions to business customers around the world, and is used in a broad range of applications from smartphones, tablets, and smart TVs to smart home appliances, IoT, and 5G devices.

Samsung Knox Vault adds tamper-resistant security memory to the existing security processor and stores PINs, passwords, biometrics, and block chains.

[Samsung Knox website](#) 

Strengthening Security Updates for Mobile Devices

We provide our customers with swift, regular security updates. We cooperate closely with partners regarding both Android operating system (OS) and chipset partners along with more than 200 mobile operators around the world to update security patches on billions of Galaxy devices when security vulnerabilities are discovered. Working with more than 1,000 partners, we have helped to establish common security standards for all Android devices. At the same time we continue to work with a variety of research organizations to ensure customers continue to benefit from the most secure mobile experience.

In February 2021, the support period for security updates on Galaxy mobile devices was extended to at least four years for models released after 2019. We plan to provide regular updates for more than 130 models worldwide. In August 2020, we announced plans to expand Android operating system upgrades on Galaxy mobile devices to three generations. For example, in the case of the Galaxy S20 series released with Android 10, we will support the next three Android operating system upgrades.

Case: Galaxy S20 Provides Germany's First Mobile Electronic Identification (eID) Service

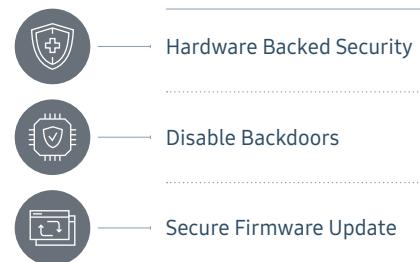
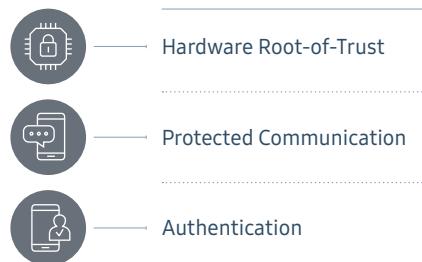
The Galaxy S20 series provides the first mobile eID solution which meets the German National eID standard. Samsung Electronics collaborated with the Federal Office for Information Security (BSI), Bundesdruckerei (BDr), a state-owned company that manufactures national identification cards, and Deutsche Telekom Security GmbH, to develop security package that allows smartphones to be used as mobile electronic identification cards.

The Galaxy S20 series is the first smartphone that meets the eID security standards of the German Federal Intelligence Service (Bundesnachrichtendienst). Under eIDAS (electronic Identification, Authentication and trust Services), EU regulations on electronic identification and trust services for electronic transactions, Samsung Electronics provides a "substantial" level of assurance.

The Galaxy S20 series features a chipset with embedded Secure Element (eSE), which earned the Evaluation Assurance Level (EAL) 6+ under the "Common Criteria (CC)" - 6+ is the highest rating ever obtained by security chips on mobile devices. eSE, a chipset with the highest security, can store sensitive information such as personal data, credit card information, identification cards, and car keys.



Basic Principles of the Knox Security Platform



Knox Certifications

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

AI Ethics

We believe in creating 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. This means that using AI we can create products that put our customers first, offering a service that is "Always There", "Always Safe", "Always Helpful", and "Always Learning", we create "User-Centric" products.

Principles of AI Ethics

We believe it's important to take a social and ethical approach when using AI. As a result, we have opted go beyond compliance with relevant laws and to ensure we honour three core principles of Fairness, Transparency, and Accountability. We apply these principles in developing and providing our products and services.

Principles of AI Ethics



- The company will strive to apply the values of equality and diversity in AI system throughout its entire lifecycle.
- The company will strive to avoid reinforcing or propagating negative or unfair biases.
- The company will strive to provide easy access to all users.



- 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.



- The company will strive to apply the principles of social and ethical responsibility to AI system
- AI system will be adequately protected and have security measures to prevent data breaches and cyber attacks.
- The company will strive to benefit society and promote the corporate citizenship through AI system.

Raising Awareness on AI Ethics for Employees

AI Ethics Guidelines are distributed to employees to put into practice our three AI ethics principles. They are advised to follow these guidelines when using AI technology to design, develop, distribute, implement, and operate products and services. In addition, we conduct employee training to enhance understanding and awareness of the importance of AI ethics. In July 2020, we delivered a remote AI ethics training program to all Samsung Cambridge AI Center (SAIC-Cambridge). Based on the success of this training, we plan to establish an AI ethics curriculum and provide training to our employees in other regions.

Partnership on AI Ethics

We collaborate with various stakeholders to enhance our understanding of AI's social impact and ensure it is used in socially responsible ways. By joining Partnership on AI (PAI), an international initiative on AI ethics in 2018, we regularly participate in discussions with subject-specific expert groups, preparing for responsible AI implementation and establishing best practices. We are also a member of the Public-Private Council on User Protection in Intelligent Information Society in South Korea. This tackles user protection in the domestic intelligent information society, and we engage with users, experts, and related companies about the use of intelligent information services such as AI.

Case: Samsung Electronics Obtains "AI+" Certification for Home Appliances

Our JetBot AI-powered robotic vacuum, BESPOKE Family Hub refrigerator, Grande AI washer and dryer, our wall-mounted and floor-standing AI Wind-Free air conditioner have all received the AI+ certification from the Korean Standards Association.

AI+ certification was created by the Korea Standards Association with reference to international standards of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) to verify the quality of products that incorporated AI technology.

This recognition is a verification from KSA, a reliable third-party entity, that our products have been evaluated on whether the AI algorithm application functions properly and went through a sufficient review process. This is significant in a sense that it demonstrates one of the important elements in AI ethics, technical robustness and safety.



Case: AI Ethics Applied to Bixby Service

Bixby, our virtual assistant that makes it easier to use your phone, is designed and operated with AI ethics in mind. We take caution in providing the service so that it does not create or intensify any unfair bias. Taking into account the laws and regulations in each country as well as societal ethics and consumer sentiments, we have established and put into practice our Sensitive Language Processing Policy and developed a Sensitive Language Database and a Sensitive Language Recognition Engine applied to our services. In addition, we continuously monitor social trends and issues and reflect any relevant changes in the database. Through this process, we work to ensure that Bixby provides both an ethically and socially responsible service to our users.

Accessibility

All our products, content, and services are built around a human-centered philosophy that recognizes and embraces diversity and inclusion. We seek technological innovation to allow equal and convenient access to our products and services by all consumers. We apply the 4C Accessibility Design Principles when developing our products and services. With these principles, we created the "Accessibility User Experience (UX) Design Guidelines" and monitor how the accessibility principles are implemented.

Samsung's 4C Accessibility Design Principles

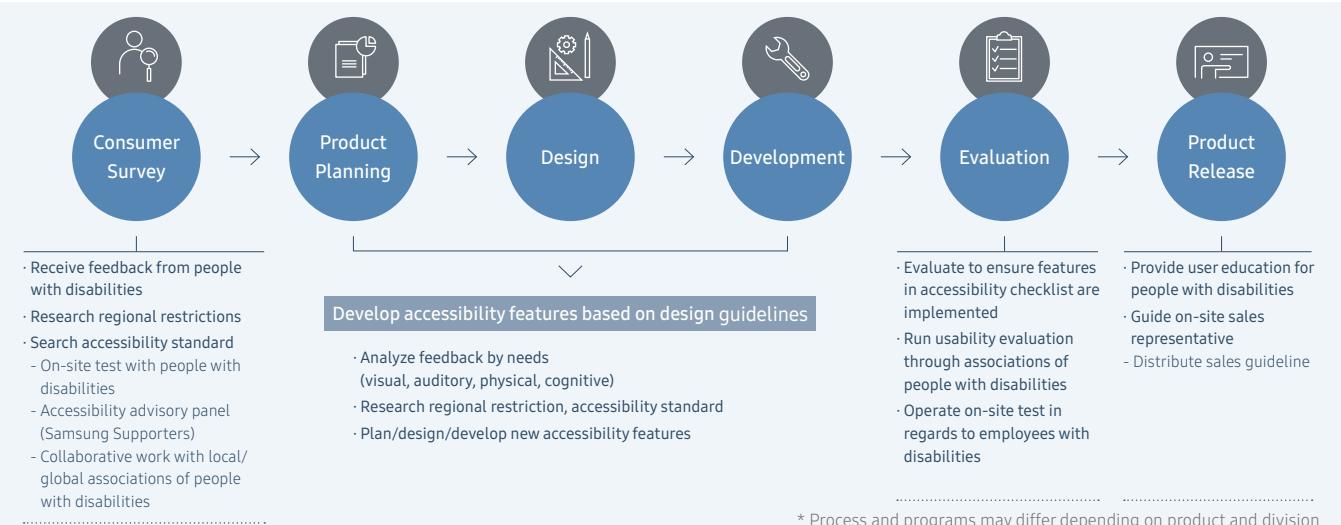
Consideration	Comprehensiveness	Coherence	Co-creation
Empathetically designed with attention to detail for all our users	Balanced and equally designed for all	Consistent design experience for all products	Designed together

Accessibility UX Design Guidelines

Vision	Hearing	Dexterity/ Mobility	Cognition
<ul style="list-style-type: none">Provide for basic accessibility in device useImprove voice feedbackEnsure features enhance users' awareness of their surroundings while walkingAllow users to enjoy pleasant experiences such as movies, music, and games	<ul style="list-style-type: none">Enable smooth communication and full expression of feelingsFacilitate communication through text messagesEnsure features that enhance users' awareness of surroundingsProvide feedback for accessing information devices	<ul style="list-style-type: none">Allow for one-handed operationEnsure clear and easy operation methodsEnable accurate interaction	<ul style="list-style-type: none">Enable smooth communication and full expression of feelingsAllow for diminished attention and concentration capacities

Accessibility Considerations During Product Development

During the entire process of product and service development, we strive to enhance accessibility in various ways. Not only do we check inconveniences and apply solutions, but we also reflect regional restrictions, and accessibility standards on our products. We also continuously check to see if the products are aligned with our internally developed UX design guide and checklist. We work together with disability associations as well as our employees with disabilities, to support the development of accessibility features on our products. To provide better products and services for all, we will continue to look for comprehensive ways to improve accessibility by considering the entire life cycle of our products and services.



Accessibility Highlights

TV



Features

- SeeColors application immediately optimizes screen color for those who have difficulty in detecting color
- Enlarge sign language screen automatically searches for a sign language with AI technology and allows users to enlarge the sign language screen by up to 200%
- Multi-Output Audio Functionality allows family members with hearing difficulties to watch the TV together by differentiating volume output from the TV speaker and a Bluetooth device
- Relocate subtitle allows viewers to relocate subtitles according to their needs
- Color inversion inverts the colors of the text and background displayed on the TV screen for improved legibility

Activities, certifications, awards

- Received 5 awards for Accessibility by CES (2015-2018, 2021)
- Received 2 Best of Innovation Awards for TV Accessibility features by CES (2016, 2021)
- Our Smart TV was the first TV product to receive "Tried and Tested Accreditation" from the Royal National Institute of Blind People (RNIB) in August 2020
- In October 2020, we signed a business agreement with the Korea Blind Union to enhance accessibility of TV products
- The Korea Communications Commission nominated Samsung Electronics as the supplier of the TV supply business for people with visual and auditory disabilities (2020-2021)

Home Appliances



Features

- Braille Labels and tactile point were applied to buttons of major features so that they are easy to locate. We have applied these to all new washing machine products released after 2019
- Accessibility Sound UX enables users to distinguish features using a sound scale. We have installed this feature in all refrigerators and washing machines
- AddWash door allows users to easily add laundry items with minimal effort

Activities, certifications, awards

- Samsung Grande AI was awarded the Grand Prize for Ergonomic Design from the Ergonomics Society of Korea
- Door-to-door survey: Starting 2017, we have visited the homes of customers to better understand user environment and characteristics
- Preference study on Braille labels and tactile points: In order to expand application of tactile points and Braille labels on more products, we examined usability and location preference in 2020

For more information on Accessibility Feature [↗](#)

Mobile-Wearable Devices



Features

- Integrated Talk Back Feature is a tool that combined the strengths of both our Voice Assistant and Google's Talk Back
- Feature Recommendation for You recommends other accessibility functions that are likely to be beneficial for those who only use a limited selection of accessibility features
- Accessibility maximized with Bixby Vision
 - Quick Reader reads out text messages in real time
 - Scene Descriptor describes images seen through the camera
 - Color Detector distinguishes the color of the object detected by the camera

Activities, certifications, awards

- First smartphone manufacturing company to receive the Amobil seal certification¹⁾
- *Galaxy S20 and Galaxy Note 10
- 1) Amobil seal, an accessibility certification created by ONCE Foundation and ILUNION (ILUNION Tecnología y Accesibilidad), an accessibility consulting foundation
- Samsung Supporters: Starting 2016, we have been operating a program that enhances user experience through engaging with our customers with disabilities and receiving feedback

Digital Wellbeing

As the use of digital technology becomes more prevalent in our daily life, this has brought many societal changes. Not only does technology allow us to acquire knowledge but it also enhances communication, increasing work productivity and improving the quality of life. But, at the same time, there has been increased concerns about the increasing dependency on digital devices such as using mobile devices for many hours. As such, we have developed various digital wellbeing features to help users enjoy a healthy and well-balanced digital lifestyle.

Case: Samsung's NEO QLED TVs wins Industry-First 'Eye Care' Certification from VDE

Samsung's 2021 QLED TV lineup including the 2021 Neo QLED¹⁾ received the first-of-its-kind Eye Care certification from Verband Deutscher Elektrotechniker (VDE).

Eye Care certification is a comprehensive assessment that includes Safety for eyes, gentle to the eyes, flicker level, uniformity and color fidelity. Safety for eyes certification is assigned to products with the levels of emission of blue light, ultraviolet rays, and infrared rays that fall into the Exempt Group according to classification of emission limits set by the International Electrotechnical Commission (IEC).

Through the certification, Samsung's QLED TVs have also been recognized for meeting the standards of picture quality uniformity and color fidelity, both elements of which evaluate content delivery performance.

1) Models that have completed testing: QN900, QN800, QN95, QN90, QN85, Q80, Q70, Q60.

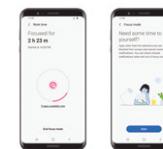
Four Values of Digital Wellbeing and the Corresponding Functions



Focus on the present

· Focus Mode: Pause or silence notifications

Focus Mode allows users to temporarily pause or silence notifications from selected applications when there is a need to focus on conversations with loved ones, a break from daily routines, or learning opportunities. To help users focus and enhance productivity, this feature blocks notifications from certain applications. This is particularly useful when there is a need to concentrate, including reading, studying or even when enjoying some down time.



Recommendations for Safe and Healthy Enjoyment of Digital Devices

· Blue Light Filter, Volume Monitoring: Settings for comfortable vision and hearing

· Weekly Report: Provides analysis on digital usage pattern while driving

Blue light filter adjusts the light on the screen to avoid straining vision. Similarly, volume monitoring protects users from harming their hearing with the data that flags unusually loud volume. The weekly report allows users to check undetected dangerous habits such as using their cellphones while driving.



Well-balanced Usage Pattern

- Weekly Report: Provides analysis of application usage pattern
- Bedtime Mode: Pause all notifications that disturb users from sound sleep

Our devices provide a weekly report based on the accumulated application usage data. Users can check their sleeping patterns through sleep mode and block any notifications that keep them awake. In addition, the feature can adjust the screen to black and white and curb users from accessing their devices when the set sleep time approaches.



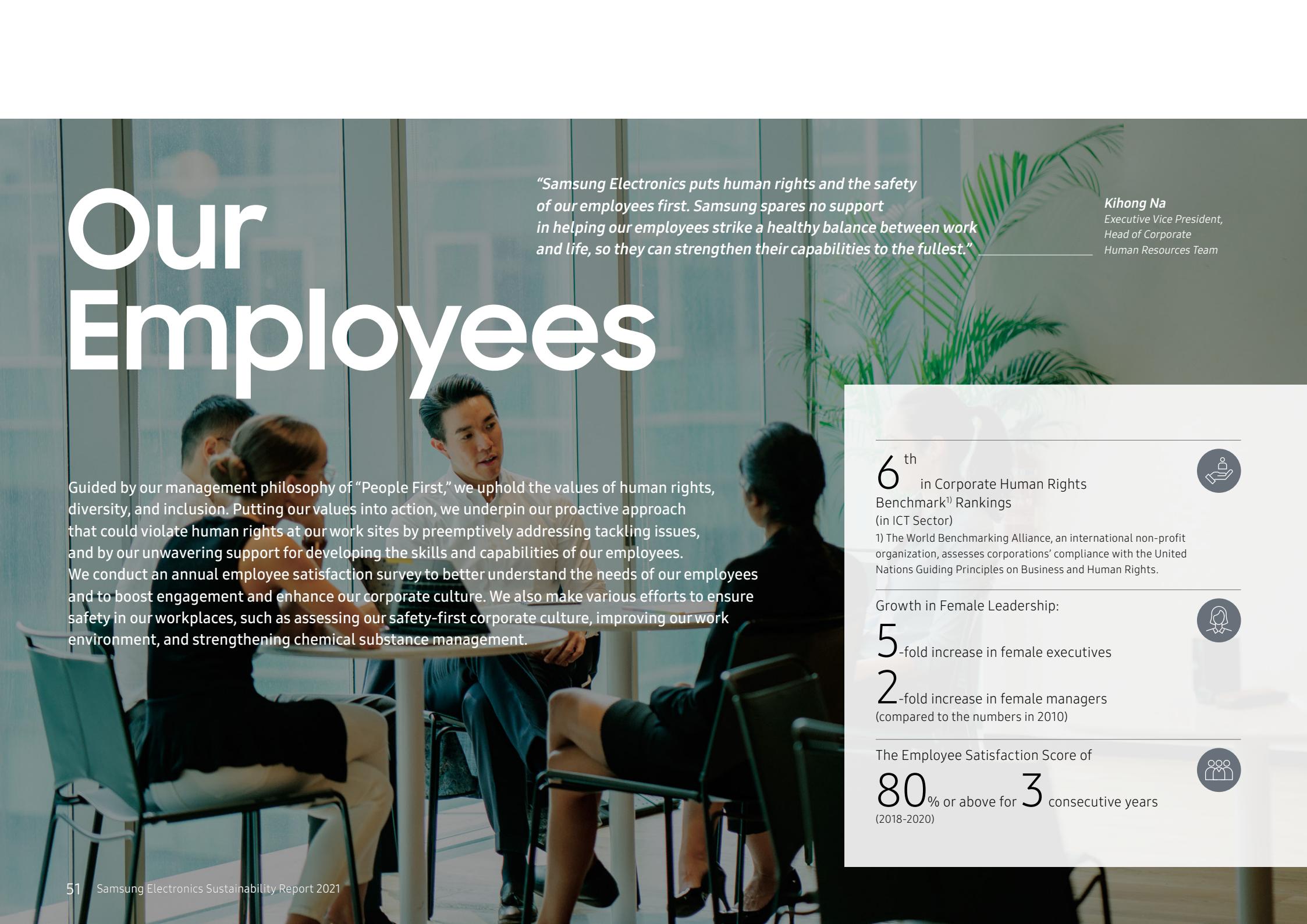
Healthy Digital Habit for Kids

· Samsung Kids: Only allows access to safe content and limits screen time

Users can easily activate the service by tapping on the Samsung Kids button on the quick panel. Once activated, children will be able to enjoy a wide variety of content, from creative games to help and inspiration in drawing pictures. Parents can also limit the time children spend on the device and protect them from harmful content.



Our Employees



"Samsung Electronics puts human rights and the safety of our employees first. Samsung spares no support in helping our employees strike a healthy balance between work and life, so they can strengthen their capabilities to the fullest."

Kihong Na
Executive Vice President,
Head of Corporate
Human Resources Team

Guided by our management philosophy of "People First," we uphold the values of human rights, diversity, and inclusion. Putting our values into action, we underpin our proactive approach that could violate human rights at our work sites by preemptively addressing tackling issues, and by our unwavering support for developing the skills and capabilities of our employees. We conduct an annual employee satisfaction survey to better understand the needs of our employees and to boost engagement and enhance our corporate culture. We also make various efforts to ensure safety in our workplaces, such as assessing our safety-first corporate culture, improving our work environment, and strengthening chemical substance management.

6th in Corporate Human Rights Benchmark¹⁾ Rankings (in ICT Sector)

1) The World Benchmarking Alliance, an international non-profit organization, assesses corporations' compliance with the United Nations Guiding Principles on Business and Human Rights.



Growth in Female Leadership:

5-fold increase in female executives

2-fold increase in female managers (compared to the numbers in 2010)



The Employee Satisfaction Score of

80% or above for 3 consecutive years (2018-2020)



Labor & Human Rights

We respect the freedom and human rights to which all people are entitled. Based on the United Nations Guiding Principles on Business and Human Rights (UNGPs), we have established our own framework to identify, prevent, mitigate and account for any adverse human rights impacts across our business activities. We expect our partners and suppliers to take the same approach to the rights of those with whom they work.

Labor and Human Rights Policies

We work continuously on strengthening our labor and human rights management system. In June 2020, we amended our 'Child Labor Prohibition Policy' and 'Migrant Worker Policy', while stipulating the freedom of association in our Global Code of Conduct.

Child Labor Prohibition Policy

In 2014, we collaborated with The Centre for Child Rights and Business¹⁾ to develop a child labor prohibition policy and a juvenile workers policy that would apply to our Chinese worksites. We partnered with The Centre again in 2020 to integrate the policies as well as amend

Labor and Human Rights Framework



and extend it to all of our worksites around the world, making explicit what was already practice.

We have a zero-tolerance policy for the use of child labor at all worksites and across our entire supply chain. To support the implementation of the policy, we have developed the 'Remediation for Child Labor' guidelines in collaboration with The Centre providing guidance in taking corrective measures if child labor is found to be working at any of our worksites or within our supply chain.

- 1) A social enterprise working with businesses on child rights issues including eradicating the use of child labor, previously known as CCR CSR

Migrant Worker Policy

In 2016, we collaborated with BSR²⁾, a global non-profit organization specializing in human rights, to develop our Migrant Worker Policy. Since then, we've updated the policy to reflect recent developments in international standards relating to migrant workers such as the International Labour Organization Definition of Recruitment Fees and Related Cost, as specified in the RBA²⁾ "Definition of Fees". We have a zero-tolerance policy towards workers paying fees for their employment and are committed to banning participation in or imposition of any form of forced labor. In addition, the provisions related to the prohibition of forced labor in the policy have already been applied not only to migrant workers, but also to all of our employees, expanding the scope of the provisions on forced labor to all employees.

- 1) Business for Social Responsibility.
- 2) Responsible Business Alliance, the world's largest industry coalition dedicated to corporate social responsibility in global supply chains.

RBA "Definition of Fees"

Global Code of Conduct

In 2020, to reinforce our policy on respecting the worker's rights to freedom of association and collective bargaining, we added a new clause to our Global Code of Conduct: "The Company will respect the rights to freedom of association and collective bargaining in accordance with the local labor laws where our worksites operate in order to maintain and develop our cooperative labor-management relations based on mutual trust and integrity."

Labor and Human Rights Training

Every year, we provide labor and human rights training customized to the needs and characteristics of each worksite, with the goal of raising employee awareness on labor and human rights and to ensure compliance with our policies.

Training in Progress

Our in-house human rights experts, in collaboration with BSR, developed a labor and human rights training course for all employees in 2020. The 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 with regard to respecting labor and human rights, and how to bring labor and human rights into practice.

Due to the COVID 19 pandemic, we concentrated on offering the course at all South Korean workplaces as well as overseas sales offices and R&D centers where online education was possible. As a result, 100% of employees in South Korea and 95% of employees in sales and R&D centers outside of Korea completed the labor and human rights training.

In 2021, the labor and human rights training for our overseas production sites resumed in compliance with the strict COVID-19 safety guidelines of respective countries and worksites, which were previously postponed due to the COIVD-19 pandemic.



Jesse Estevam Derzi Da Silva of Education Development team in Samsung Electronics Brazil lecturing on human rights

Interview: Human Right Champions 50

In 2020, we selected more than 50 employees, most of whom are HR (Human Resource), ER (Employee Relations), and LND (learning and development) staff at our overseas subsidiaries to cultivate them as Human Rights Champions. After certification through completing the Human Rights Champion Course co-designed by Samsung Electronics and BSR and passing the final exam in 2020, the Champions have become certified lecturers on human rights at each of their worksites. They are empowered to identify potential human rights-related risks at our worksites, engage with their peers and provide a human rights lens to their respective functions and relevant advice, where needed. Our global human rights experts recruited from outside conduct regular webinars to further educate them on priority human rights topics, helping the Champions in fulfilling their positions as human rights champions for their respective subsidiaries.

Human Rights Champion Interviews



Lan Phuong Bui, Corporate Affairs,
Samsung Vietnam Manufacturing Complex



Christina Shepherd, Talent Development Team,
Samsung Austin Semiconductor, USA



Jesse Estevam Derzi Da Silva, Education Development
Team, Samsung Electronics Brazil – Manaus

What makes the Human Rights Champion community unique is that we learn and grow together in our efforts to understand the different realities, being more vigilant to potential and new forms of violations, to reflect on and provide human rights lens to operational issues, to bring in good practices from externally, to provide confidence, guidance and motivation to our colleagues to do better. The results can either be immediate in our everyday operation or it may take longer time to see bigger changes, but this is a very inspiring learning process for individual members and for the company. We are committed to doing so through nurturing a healthy communication and 'sharing is caring' culture across the functions of our business.

Human rights are the foundational element of any diversity and inclusion initiative, which is a key focus area for our subsidiary. The Human Rights Champion program has allowed me insight into the full range of issues affecting Samsung subsidiaries globally. Communicating not only our local practices but also increasing awareness of Samsung's global focus is important for both employees and prospective hires. By serving as a Human Rights Champion, I can help communicate the company's commitment to worker's rights and responsible sourcing. I can show how Samsung is acting upon its values of People, Integrity and Co-Prosperity, which builds employee pride and engagement.

Being a Human Rights Champion is a great opportunity and responsibility. We received deep knowledge through training given by our internal human rights experts and BSR as well as regular, on-going deep dive sessions. We have the mission of contributing to strengthen relationships characterized by trust within the company and in the construction of a more ethical and inclusive workplace. As Human Rights Champion, I have in a team-effort trained our factory workers on human rights and look forward to train employees further to better support them in understanding their rights, thereby increasing the engagement and retention of talents. I also hope to contribute to the advancement of our business, the creation of new opportunities and the positive strengthening of the brand.

Human Rights Due Diligence

We actively pursue additional ways to conduct due diligence. This includes online audits to maintain a sustainable and efficient due diligence system that reflects changes in social, geopolitical, and environmental issues, including COVID-19.

Third-Party RBA Audits

In 2020, restrictions as a result of COVID-19 lockdowns and border closures challenged due diligence activities. Despite that, we conducted RBA VAP¹⁾ at five sites in Korea and four overseas sites after carefully considering the COVID-19 situation in each country, the feasibility of third-party audit firms approved by RBA and the safety of our employees. As a result, a total of five sites including those in Indonesia, Thailand, China, and Korea (two sites) received RBA platinum recognition by attaining the full score of 200 points, three sites received gold recognition, and one site achieved silver recognition.

1) Validated Assessment Program

* Check the RBA VAP assessment standards

We conducted audits of the four regional subsidiaries that hire migrant workers – Malaysia, Slovakia, Hungary, and Poland – to assess their compliance with the guidelines. All complied with the applicable policies and guidelines without exception. We will continue to perform audits to assess the adherence of these internal guideline for our Migrant Worker Policy and to identify potential gaps and work towards closure of those gaps.

Stakeholder Engagement

We engage with stakeholders through various channels, addressing our position on their interests as well as our major activities. We also communicate with our employees to ensure that we respect employees' rights and improve employees' working conditions.

Multi-Stakeholder Forum

Since 2018, it has become a tradition to host the annual multi-stakeholder forum in Vietnam with the aim to proactively engage with key stakeholders as well as to explore synergies on collaboration prospects. In 2020, we co-hosted the third "Samsung Multi-Stakeholder Forum" with the Vietnam Chamber of Commerce and Industry (VCCI) and the Vietnam General Confederation of Labour (VGCL).

To accommodate COVID-19-related restrictions, the panel discussions were held in a studio and live-streamed online. A total of 270 diverse stakeholders from the government, NGOs, corporations, labor groups and media attended the 2020 forum.

The 2020 forum discussed the following themes, "Responsible crisis management & resilient leadership in time of crisis: lessons learned from COVID-19 pandemic", "Manpower for resilience, post-crisis recovery and rebuild" and "Technology for resilience, post-crisis recovery & rebuild". The themes were based on stakeholder feedback. Prior to the gathering, the forum collected stakeholder questions for panelists, resulting in increased attention and more active participation.



Joo-ho Choi, Executive Vice President of Vietnam Manufacturing Complex, delivering the opening remarks at Samsung Multi-stakeholder Forum

The forum also featured the videos of Samsung Electronics' efforts for the COVID-19 prevention, our employees' voices wishing for the end of the pandemic, and Samsung Electronics Vietnam (SEV)'s choir titled "Thank you, Vietnam". These videos sent a clear message to stakeholders outside the company that we put a top priority on our employees' health and safety in the COVID-19 situation.

Many external stakeholders appreciated the forum saying, "The consistent between the forum's theme and sessions and the panelists' expertise were outstanding, and the diverse voices and professional views were of great help to all participants." As we prepare for the 2021 forum, we will chose the forum's theme by gathering input from various stakeholders and enhance our engagement.

Assessing the Effectiveness of Grievance Resolution Procedures

The grievance resolution process of SEV was evaluated from August to December in 2020 as a follow-up action to the Human Rights Impact Assessment conducted with BSR in 2018. The effectiveness assessment was carried out by an external organization, CSR Europe¹⁾, to ensure objectivity of the evaluation.

SEV received high evaluation scores in most areas which were assessed based on the eight effectiveness criteria of non-judicial grievance mechanisms specified in Clause 31 of the UNGPs.

SEV was recognized in particular for providing a variety of grievance reporting platforms, for raising awareness among employees and providing transparency throughout the process as well as considering workers preferences when remediating cases. Grievance mechanisms have furthermore been found to allow for open dialogue with employees and provide clearly defined roles and responsibilities for grievance handling. SEV is continuing to make efforts such as developing social networking platforms for grievance reporting, further strengthening the hotline infrastructure and reinforcing the promotion of the grievance reporting channels to allow for a more accessible dialogue with its employees.

1) Leading European business network for Corporate Sustainability and Responsibility

Communication with Global Investors

By hosting the ESG¹⁾ roadshows, we have been showcasing our key activities, such as the development of human rights related policies and our Human Rights Impact Assessment, and accounting for how we address human rights issues to our global investors.

We held a Q&A session in 2020 to discuss the human rights risk management across our supply chain and the audit results of our partners and suppliers as well as to share our plan for future activities. We will reflect investor feedback received into our strategies and activities for our long-term management and will continue to improve the engagement with our key investors by using a variety of communication channels.

1) Environment, Social, Governance

Communication with Employees' Committee

Labor Unions We have a total of 32 labor unions formed at our worksites around the world. We negotiate working conditions with the labor unions and sign collective agreements on agreed items in accordance with the laws and regulations of the respective countries.

Works Councils A total of 36 worksites around the world operate works councils according to the laws of respective countries and the requirements of each worksite. Employees elect their representatives under the principles of direct and anonymous voting.

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.

Grievance Resolution Channels and Status

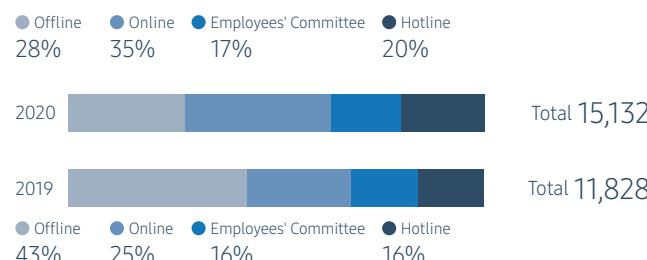
We operate various grievance channels depending on the characteristics of each worksite, including hotline, online, offline, and employee committees. An employee with a grievance can file a report anonymously. In addition, worksites employing migrant workers provide information on grievance resolution channels in their native languages to enhance employee accessibility and grievance channel effectiveness.

Although offline grievance submissions decreased in 2020 as a result of the COVID-19 pandemic, virtual channels such as online channels and hotline calls increased. Furthermore, we have seen a rise in complaints about occupational health and safety, such as requests to increase disease prevention activities at our workplaces and improving our working environment to comply with social distancing restrictions.

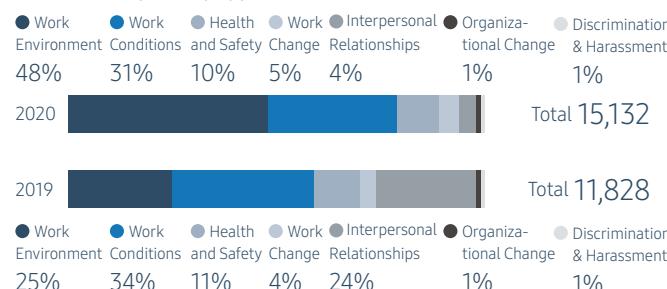
Case: Grievance Resolution in Brazil

In 2020, the number of domestic violence reports sent through the hotline of Samsung Electronica Da Amazonia in Campinas, Brazil increased by 50% compared to the previous year. We became aware that many female workers were having trouble performing their duties due to domestic violence and we took steps to protect and support them. When a domestic violence grievance is reported to us, we appoint a female person-in-charge to counsel the victim and provide advice relevant to the circumstances. We take various support measures, including providing leave for emotional recovery, changing the work shift, and, if possible and desired by the grievant, reporting the matter to the police or other official authorities. In addition, grievances are handled with utmost care towards non-disclosure and data privacy.

Grievance Report Ratio by Channel



Grievance Reports by Types



Activities to Uphold the Fundamental Labor Rights¹⁾ (South Korea only)

We uphold the fundamental labor rights guaranteed by the Constitution of the Republic of Korea.

1) Fundamental Labor Rights refer rights of association, collective bargaining, and collective action as prescribed in the Constitution of Korea.

Labor-Management Advisory Committee

In order to promote constructive labor-management relations, we established the labor-management advisory committee in August 2020 under the Board of Directors and appointed four external advisors to the group. The advisors conduct meetings with management and HR executives and listen to and reviews the company's labor-management issues and makes suggestions for the improvement of mid- to long-term labor-management relations.

Conducting training to uphold the fundamental Labor Rights

We have provided a training course titled 'To Guarantee the fundamental Labor Rights and Prevent Unfair Labor Practices' to all employees, including the senior management, to raise their awareness on the fundamental labor rights and uphold these rights.

In particular, in order to hear the improvement of our labor-management relations from an external perspective and suggestions for establishing constructive labor-management relations, the labor expert from outside the company was invited to give our top managements a special lecture, creating the foundation for promoting labor-management harmony.

In addition, for executives, heads and personnel in charge, we invited external experts including labor and academic personnel and civic activists to conduct a enhanced compliance education, learning the relevant systems and laws and sharing examples of external unfair labor actions and implications to prevent unfair labor practices that may occur in the field, such as organization management and personnel management.

Communication with Labor Unions

In order to build a mutually cooperative relationship between management and employees based on trust, we hold regular meetings with each labor union from time to time, listening to the suggestions made by the labor unions and discussing improvement items.

Links to each labor union's official website have now been added to our intranet main page, providing the necessary infrastructure to support labor unions' public relations activities to employees.

Progress in Collective Bargaining

In August 2020, four labor unions formed one joint collective bargaining group and requested negotiations for a collective agreement. In response to the call, the company has been holding regular collective bargaining meetings with the joint collective bargaining group. In addition, prior to the commencement of collective bargaining for constructive negotiations, a union office was provided to the joint collective bargaining group and union members were guaranteed the necessary time for bargaining in accordance with the basic labor-management agreement.

Diversity and Inclusion

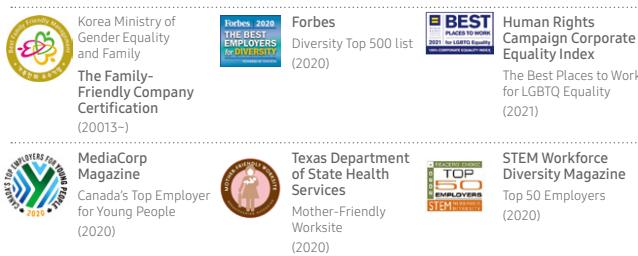
"Be yourself. We build a better tomorrow."

In every organization, diversities such as sexual diversity, racial diversity, and people with disabilities exist. At the same time, diversities also exist in people's values, experiences, views, working styles, and preferences. Embracing diversity means not only acknowledging differences but also respecting others as they are. Samsung Electronics aims to create an inclusive corporate culture in which everyone respects the differences in experiences and opinions, providing emotional support so that everyone can achieve their full potential.

Certifications and Recognitions

In recognition of our efforts to embrace diversity and encourage inclusion, the Korean Ministry of Gender Equality and Family has certified Samsung Electronics as a family-friendly company for eight consecutive years since 2013. In 2020, we were designated as the Mother-Friendly Worksite by the State Government of Texas and credited as the 'Top Employer for Young People' in Canada.

Our US subsidiary is recognized for its inclusive practices for LGBTQ+ employees, earning top marks in the Corporate Equality Index assessment by the Human Rights Campaign Foundation for two consecutive years.



Policies and Programs

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 have equal opportunities and maximize their potential. We have created a global strategy to support our vision around diversity and inclusion. Under the ethos 'Be yourself. We build a better tomorrow', we have developed various events and campaigns to raise awareness of diversity and inclusion among global employees.

Through the worldwide network among regional D&I managers, best practices are shared and adopted. We remain committed to seeking opinions and insights on diversity and inclusion from all stakeholders, including our employees, consumers, and investors.

Principles on Prevention of Discriminations

By going beyond compliance with social and legal standards to prohibit discrimination, we aim to strengthen our core capabilities and drive our competitiveness by embracing diversity as a driver to success.

Our Global Code of Conduct and the Guidelines on Prevention of Harassment reflects our principles on preventing discrimination and form part of our credentials as a leader in positive corporate responsibility.

Samsung Electronics' Principles on Prevention of Discrimination

Case: Gender Pay Gap

We published details of our gender pay gap in the UK in 2020, which shows a steady reduction in the disparity of pay between male and female employees. With a focus on supporting women's employment, cultivating the female talents, and expanding the female leadership, we have successfully closed the gap by 10% over the past three years.

Women

Work Support We are committed to creating a culture that enables talented women to realize their full potential as leaders and role models for future generations. To assist female workers in continuing their careers, we have developed numerous policies and facilities related to childbirth and childcare. In South Korea, we were among the first companies to introduce parental leave, subfertility leave, and extended childcare leave. We continuously strive to go beyond our legal obligations to provide benefits to fulfill our vision¹⁾. As of 2020, we had 16 in-house daycare centers for up to 3,300 children, and our teacher-to-student ratios were higher than mandated by the relevant laws. We require all our production sites overseas to provide rest areas to protect the health of pregnant women and their babies, and offer a place for breastfeeding. The Vietnam subsidiary operates 22 Mommy Rooms with in-house obstetrics and gynecologists.

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 female leaders, we have increased the number of female executives and managers and provided leadership training and mentoring programs for women. As a result, we saw a five-fold increase in female executives and a two-fold increase in the manager level over the past ten years. We will continue to nurture the next generation of women leaders, by supporting female talents who are excelling in their fields to increase the ratio of women in leadership positions.

1) Statutory Requirements (Korea) vs. Samsung Electronics Policy

	Statutory Requirements	Samsung Electronics Policy
Paternity Leave	Up to 10 days	Up to 20 days for multiple births
Parental leave	Up to one year per child Children under eight years old or 2nd grade	(CEIM Division) up to two years per child Children under 12 years old or 6th grade
Infertility Leave	None	Maximum of three times, up to one year
Extended Childcare Leave	None	(DS Division) up to three months for children under 12 years or 6th grade
Reduced working hours for infant care	Up to one year Children under eight years old or 2nd grade	(CEIM Division) up to two years (*Up to three years total if combined with parental leave period) Children under 12 years old or 6th grade

Ratio of Women in Leadership (Unit: %)



People with Disabilities

Work Support We provide an environment in which people with disabilities can achieve their full potential. We place our employees with disabilities in roles based on their individual needs and competencies, and we hold regular sessions to discuss their work and life challenges and help them remain productive at work. We have also expanded our supporting services to help employees with disabilities feel more comfortable at work. For example, in Korea, we introduced Samsung Barrier Free (SBF), our internal facility certification system. Since SBF was introduced in 2011, we have reviewed the accessibility of all our major buildings and facilities and have improved accessibility of facilities such as elevators, specialist restrooms, and low-floor buses for people with disabilities.

Interview: From Our Employee

Q. Tell us about the work environment or the atmosphere at your Samsung Electronics office.

A. One of the best attributes of Samsung Electronics is its tireless efforts to provide the best environment possible to all employees including those with disabilities to help improve their productivity at work and support them even in their lives outside work. As soon as I joined the team, the automatic doors were installed on the team's floor, and a restroom was made more easily accessible for wheelchairs, meeting my needs. Even our company shuttle buses are equipped with wheelchair lifts, giving me greater mobility. Also, as the company offers flexible working hour system, I can adjust my work schedules according to my special needs as a person with disabilities. I am very satisfied with the horizontal organizational culture, various facilities for employees' convenience, and the delicious meals at the cafeteria.

Hyemi Kim,
Networks Business R&D Team (Korea)



Addressing Generational Gap

Our Millennial Committee provides a channel for inter-generational understanding and discussion with senior management to help narrow the generational gap.

Visual Display Business (VD) The VD Business has an 'MZ Board' through which the thoughts and experiences of employees in their 20s and 30s can be shared with the Head of the VD Business. Utilizing the MZ Board, the VD Business provides a platform to discuss our products and trends and share opinions on lifestyles and major current issues that are trending on social media.

Mobile Communications Business Since 2018, our Mobile Communications Business has selected 100 employees from different age groups and different job responsibilities, in order to discuss the business division's key issues from the perspectives of consumers, millennials, and Generation Z. The selected employees were given a chance to directly communicate with key executives, including the business unit's head. Through this channel, latest market trends, insights, and candid suggestions for changes are shared with the management. This allows for their ideas and suggestions to be taken into account in a broader direction of the company.

Corporate Design Center We have the 'Creative Board' formed of designers from MZ age groups. The board not only provides opinions on designs, trends, and the corporate culture, but also functions as a bridge between the views and voices of MZ employees and project leaders.

Corporate Management Office To foster mutual understanding between generations, we offer a mentoring program through which junior employees can discuss career growth with senior executives and the management can learn from and better understand the views of MZ employees about product trends and insights from the customer's perspective.

Memory Business We hold monthly roundtable discussions to engage with employees at various job levels and of different generations. The discussion sessions enable executives to understand the interests of MZ employees, hear their opinions, and hear their thoughts on various topics affecting the company.

System LSI Business In order to share the status of the business updates and pending issues between executives and employees, the System LSI Business holds the "Where S.LSI to go?" event, under the leadership of head of business. The event features a real-time Q&A session through which questions about the company and key projects are asked by MZ employees, which has received positive employee feedbacks.

Interview: From Our Employees

"It's great that I can broaden my horizon and grow further by participating in the decision-making on many business issues."

"Having a chance to voice my opinions and ideas to contribute to the development of our company's products and services gives me a greater sense of ownership."

"It was a chance for me to share ideas about the growth and future of our company with our executives, understand and agree on the directions we need to take for further growth. Also, thanks to discussions with the mentors with various responsibilities from many different departments, I was able to broaden my view and further develop my capabilities."

Employee Resource Groups (ERGs)

ERG Operation

Our employees are the source of various ideas and our most valuable assets. We are committed to creating an environment where all of our employees feel a sense of belonging and are provided with equal support and opportunities for their career development and individual success.

ERGs are organized and operated voluntarily by our employees to foster diversity and inclusion in our company. They represent diverse groups among our employees, including people of different genders, generations, races, disabilities as well as veterans.

ERGs activities within Samsung Electronics

Women	<ul style="list-style-type: none">• Women in Samsung Electronics (WISE+)• Women in Technology at Samsung (WITS)• Women in Tech• Women@Samsung (W@S)• Women+• W+	
LGBTQ+	<ul style="list-style-type: none">• Samsung Equality Alliance	
People of Color	<ul style="list-style-type: none">• Galaxy of Black Professionals (GBP)• Black, Asian, African ERG• UNIDOS	
Veterans	<ul style="list-style-type: none">• Samsung Veterans Community• Military Appreciation Group (MAG)	
Generational	<ul style="list-style-type: none">• Next Generation Leaders (NGL)• Leaders of Tomorrow	
Working Parents	<ul style="list-style-type: none">• Working Parents	

Some 3,200 employees in North America, Europe, and Latin America have organized more than 17 ERGs and have carried out various activities, including in-house networking, mentoring, volunteering, and trainings.

Examples of ERG Activities

Women In North America, female ERGs in the six regional subsidiaries have joined forces to promote networking and career development of our women employees. Notably, 'Seoul Sisters' conference, held annually since 2017, provides a platform for women's career development where all participants, women and men, share ways to increase women's representation in the leadership pipeline. Meanwhile, women employees of our sales subsidiaries in Brazil have put forward a number of ideas for ERG activities to improve working conditions for women amid the COVID-19 pandemic.

People of Color The Galaxy of Black Professionals (GBP) ERG was established in North America in February 2020 to help expand networking opportunities for Black employees. It also supports external pipeline building, professional development and retention, community impact, and brand support. In support of the 'Black Lives Matter', the GBP hosted a large-scale forum where the voices of our Black employees were heard, strengthening the solidarity among our employees.

Furthermore, celebrating the 2020 Juneteenth¹⁾, the GBP held panel discussions on racial discrimination, imparting information about the historical backgrounds of racial issues to all of our employees.

1) Juneteenth, celebrated each year on June 19th, is a US holiday that commemorates the end of slavery.

LGBTQ+ Samsung Equality Alliance, an ERG in North America, has been engaging in various activities since its founding in 2017, including support for LGBTQ+ communities, fund-raising activities, and campaigns to raise awareness on LGBTQ+ issues. In 2020, Samsung Equality Alliance forged a partnership with Galaxy of Black Professionals (GBP) and co-hosted an event open to LGBTQ+ communities along with all of our employees. Furthermore, the Alliance runs various activities to support the LGBTQ+ community in their respective local communities. In 2020, in collaboration with the world's largest support group for the LGBTQ+ youth, the ERG members participated in volunteer service work to support the youth community.

Campaign and Education for Awareness-Raising

We have incorporated a curriculum for diversity and inclusion in the training for new employees, and more than 11,000 employees have completed the training program since 2020. We have also provided training for division heads to promote inclusive leadership. Moreover, we started awareness campaigns on unconscious bias, embracing differences, and bridging the generational gap. In September 2020, we announced a guideline on inclusive language usage to eliminate discriminatory terms in business documents and work systems.

Workplace Health and Safety

Workplace Safety Management

To ensure a world-class safety culture across all our worksites, we continuously assess and plan for potential risks. Our activities to foster a robust safety culture at work includes using our company-wide safety management index, regularly evaluating our safety procedures, assessing the working environment, and enhancing safety capabilities.

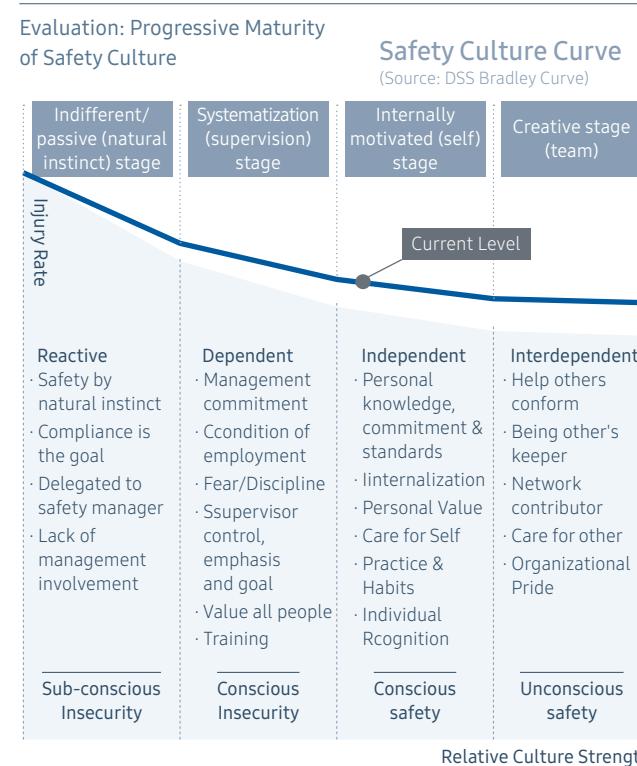
Health and Safety Management System Certification

All of our worksites are being managed based on the Health and Safety Management System. After the application of ISO 45001, an international standard for an Occupational Health and Safety (OH&S) management framework, to our business in 2018, our worksites around the world, beginning with those in South Korea, have converted their current OHSAS 18001 certification to ISO 45001. As of end of 2020, all of our manufacturing worksites had acquired ISO 45001 and implemented an OH&S management framework that meets the latest ISO 45001 specifications.

[Our OH&S Management System Certifications](#)

Safety Culture Evaluation

To sustain an advanced safety-first culture in our worksites, we evaluate the level of our safety culture on an annual basis. The safety culture evaluation assesses the management's commitment, roles and responsibilities, risk management, communication and participation, environment and safety capabilities, compliance, cause analysis and corrective measures, monitoring and performance management. In 2020, we conducted a comprehensive survey of 26 sites to pinpoint any potential flaws in our approach to safety. The questions were aimed at safety-related performance management and accident prevention and management. Based on the survey results, we have identified several significant challenges and are working on making improvements. To evaluate the safety culture of our semiconductor business, we employed specialist external agencies. As a result, our semiconductor worksites were found to have a Level 3 safety culture among the four assessment levels. This ensures that workers engage in safety prevention efforts willingly. We will continue to enhance our practices to provide a world-class safety culture throughout the business.



Accident Prevention Process

	Identification of Risk Factors	<ul style="list-style-type: none">Deterioration of equipmentNon-compliance with safety regulationsPoor worksite management
	Setting Preventive Measures	<ul style="list-style-type: none">Estimation of equipment's life cyclesEstablishing ways to meet safety regulationsBuilding on-site management systems
	Improvement Activities	<ul style="list-style-type: none">Monitoring of equipmentSafety educationOn-site audits
	Monitoring	<ul style="list-style-type: none">Performance assessmentComplementing processes

Creating a Safe Work Environment

We make constant efforts to identify risk factors such as aging equipment, non-compliance with the safety regulations, and the lack of management and control at worksites and devise ways to address such risk factors.

Infrastructure Facilities Management System To prevent risks related to factory facilities at our worksites, we established a Facility Life Management System (FLMS) to facilitate the entire process of procurement, repair, replacement, and disposal of equipment. The FLMS system manages the whole infrastructure management process: from registration of the information about infrastructure and material to operational steps of devising the maintenance plan for equipment and recording inspection results, and analysis of malfunction types based on big data. In addition, we periodically examine the status of the on-site management system and conduct training on compliance with the safety regulations and responses devised for each accident type.

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

Accident Response Process

	Occurrence of Accident	<ul style="list-style-type: none">Identify of information on the accident.Identify of the accident type and analyze the crisis level.
	Emergency Actions	<ul style="list-style-type: none">Activate the emergency management committee.Take emergency evacuation and first-aid steps.
	Investigation	<ul style="list-style-type: none">Analyze the cause based on investigations.Prevent the secondary damage.
	Recovery	<ul style="list-style-type: none">Set and carry out the recovery plan.Activate the business continuity plan.
	Prevention of Recurrence	<ul style="list-style-type: none">Devise ways to prevent recurrence.Review the validity of the accident response process.

Enhancing Safety Capabilities

Safety Training for Employees We provide regular training to prepare our employees to respond to safety-related accidents. The training includes drills such as fire evacuation and responses to earthquakes and chemical spills. In 2020, we carried out a total of 2,686 emergency drills, which amount to an average of 1.1 sessions and 14.9 hours of emergency preparedness training completed by each employee.

Environment & Safety Training for Employees

Training Target	Details	2020's Training Result
All employees	Introductory training, basic statutory training, safety leadership training	Total 1,853,706 hours of training completed; 269,462 employees participated.
Employees responsible for environment and safety (S. Korea)	Internal inspector course, certification courses (to obtain certificates such as master craftsman and engineer), statutory refresher courses, etc.	Total 62,892 hours of training completed; 17,367 employees participated.
Employees responsible for environment and safety (overseas)	Global EHS Conference, core leaders' training courses held in South Korea, and additional courses run by each worksite	Total 1,933,022 hours of training completed; 122,632 employees participated.

Non-face-to-face training & education Training and education on EHS and emergency situations were carried out without in-person interactions in 2020 due to the COVID-19 pandemic. We improved the impact of these non-face-to-face education sessions through variety of special events and campaigns carried out virtually. Additionally, periodic trainings were carried out through simulation to ensure each response system effectively addresses the relevant crisis scenario.

Professional Training Course to Produce Risk Assessment Masters

The DS 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 processing-related risks.

In 2020, 1,425 employees completed the Risk Assessment Masters training. We also conducted advanced training on complex risk and danger assessment for 547 employees who have excelled in the previous year's training.

Statistics on the Risk Assessment Masters (Unit: No. of persons)



Program

2020's Training Result

- | Program | 2020's Training Result |
|--------------------------|--|
| Work-Related Risks | <ul style="list-style-type: none">Theories to discover risk factors based on the on-field situations, education about assessing risk levels and enhancing the workplace safety based on the review of the accident casesThe third-party assessment by the panel comprising process operators, EHS personnel, and external experts |
| Processing-Related Risks | <ul style="list-style-type: none">Selecting 60 representative equipment pieces for each processHands-on training based on case studies using HAZOP¹⁾ and What-if evaluation tools |

1) HAZOP: Hazard & Operability analysis

EHS Innovation Day

Since 2013, we have held the annual 'EHS Innovation Day' event to enhance workplace safety management. Since 2019, the event has been divided into two separate programs for the CE-IM division and the DS division, respectively, reflecting the divisions' differences in the manufacturing processes and business operations. Adding manufacturing problems to the theme, we renamed the event the "Global Manufacturing/EHS Innovation Day," where case studies of evaluating EHS risks with an emphasis on manufacturing and processing and improvement of EHS management are shared.

In 2020, the CE-IM division organized an online event in which three South Korean worksites and 20 international worksites presented and discussed climate change, building and improving the health management system, and achieving risk-free protection at our workplaces. The DS division and Samsung affiliates¹⁾ shared best practices in manufacturing, as well as 61 different case studies in innovation in three domains, safety awareness improvement, unmanned technology and autonomy, and environmentally responsible practices.

At the EHS Innovation Day event, our employees in South Korea and overseas, as well as employees from our partner companies, can listen to expert lectures on how to forge a creative and healthy workplace and hear about each partner company's best innovation cases and know-how.

1) Samsung Electronics, Samsung Display, Samsung SDI, Samsung Electro-Mechanics, Samsung Biologics



Employee Health Management

We are dedicated to supporting our employees to maintain good health. For more than a decade, our DS division has operated a health research center, South Korea's first research organization that specializes in research on the health of workers and prevention of occupational hazards. Meanwhile, the CE·IM divisions operate the Health Management Office.

In addition, we support our employees in improving their wellbeing by running various health facilities and health promotion programs, including in-house clinics and pharmacy stores, fitness centers, physical therapy rooms, the center for the prevention of musculoskeletal disorders, and counseling centers to support mental health.

Health Management System



Health Improvement

3-Care Comprehensive Management The 3-Care Comprehensive Management is a collaborative system between the EHS department, human resources team, and department heads to champion employee health. We provide various health management programs from face-to-face consultations through primary care 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 solution' to address Burnout, Obesity, Overdrinking, Smoking, and Take-care groups. With the implementation of BOOST solution, we identify employees with at least one of the above high-risk factors to designate them as part of the 'take-care' group and provide comprehensive support to improve the group's health.

Health Campaigns We run regular campaigns targeting all employees to encourage them to walk more, drink moderately, and quit smoking.

Virtual Programs to Promote Musculoskeletal System's Health



Fitness Center for the Prevention of Musculoskeletal Disorders

Since 2010, we have operated a fitness center for the prevention of musculoskeletal disorders and help our employees maintain good health. Employees can receive examinations to analyze their basic body composition, their sense of balance, and measure their somatypes and the core muscle strength. Employees can also participate in various workout programs after having a 1:1 consultation with professionals. In particular, we offer corrective exercise programs and post-treatment rehabilitation for those with symptoms common to office workers, such as scoliosis. In 2020, we offered the virtual programs to enhance our employees' musculoskeletal health due to the COVID-19 precautions.

Improving Work Environment

Ergonomic Line Certification We analyze the effect of the work environment on wellbeing by studying the production processes at our workplaces. We use the Rapid Entire Body Assessment (REBA) analysis to evaluate each manufacturing process from the perspective of ergonomic design and record its operational status by measuring the results in percentage terms. In 2020, we developed the automatic analysis system to assess the ergonomics of our worksites and applied it to the movements of workers. The analysis found several potential health risks. In total, we analyzed 613 production lines and identified 152 issues to be improved. As a result, we continue to make improvements to our work environment.

Comprehensive Health Management System for Employees Overseas

We established a comprehensive system that manages information about the health and work environment of our employees. Using the system, we analyze the correlation between individual workers' health and the work environment, enhancing the system to prevent occupational hazards and health risks.

In 2020, our worksites in Vietnam developed and enhanced the medical check-up system, post-diagnosis treatment and support, the work environment management system, the in-house diagnosis system, and the system for personal health, deploying the comprehensive health management system. Using this system, we plan to manage the health history of each employee and strive to build the optimal work environment for our employees.

Human Resources Development

One of Samsung Electronics' core values is "People First." Based on the firm belief that a company is only as good as its employees, we provide active support to executives and employees so that they can reach their full potential.

Employee Training Programs

We provide leadership training programs to nurture creative and bold leadership and to strengthen specialization at work. We also offer support to enrich life after retirement for our people.

Employees map their career development paths with their managers and participate in relevant development programs. Employees can pursue career development, including an MBA, academic training, job expert course, regional expert class, and AI expert courses.

The Regional Expert Program was established in 1990 in response to the globalization trend, with the goal of training employees to learn the language and culture of the country to which they are assigned to through one- to two-year work relocation to the relevant region. Employees who have worked at Samsung Electronics for more than three years can apply for this program.

To date, this program has fostered more than 3,500 regional experts from 80 countries and is a reflection on our commitment to our employees and their development.

While the COVID-19 pandemic has impacted the program in 2020, we plan to restart this year.

We operate an internal job posting system to allow employees to transfer to new posts within the company. In the past three years, 1,657 employees applied for and successfully changed their job positions within the company.

The Samsung Institute of Technology (SSIT), founded in 1989, began as an in-house semiconductor technology university to improve employees' technical capabilities. As a result of its success, it was recognized as an official university by the Korean government in 2001. SSIT offers a four-year bachelors' course for Equipment, Infrastructure, and Display. We have also established a Semiconductor and Display Engineering Department and DMC Engineering Depart-

ment at Sungkyunkwan University to grow the next generation of future tech leaders. So far, 1,002 Bachelors, 1,150 Masters, and 177 Doctors have graduated from this program.

Meanwhile, the Samsung Electronics Leadership Center (SELC) in Seocheon, Yongin City, Gyeonggi Province, established in 2014, operates a wide variety of training programs to nurture key talents. It can host up to 2,300 people and house 500 residents.



Talent Fostering System

	Internal Fostering			External Fostering
	Core Program	Leadership Program	Expertise Program	Key Areas
Operation Objective				
Education Curriculum	<ul style="list-style-type: none">Instilling Samsung's vision, value, and culture in employeesOnboarding education for new hires, and annual presentation of strategic direction to all employees	<ul style="list-style-type: none">Foster Core global leadersSamsung Leadership DevelopmentFramework Basic TrainingSuccession Plan Integration	<ul style="list-style-type: none">Develop top experts by job categoryFor each of the major categories¹⁾, respective specialized organization²⁾ provides tailored training	<ul style="list-style-type: none">Samsung MBAAcademic TrainingAcademic-industrialCooperation In-house graduate school
WORKPLACE LEARNING mentoring, coaching, On-the-job training				
KNOWLEDGE NETWORK (Web 3.0, Social Media, Mobile-based)				
			<ul style="list-style-type: none">Samsung U Learning Portal	<ul style="list-style-type: none">L&D open innovationS/W Expert AcademyKnowledge Contents

1) R&D, marketing, sales, services, logistics, procurement, manufacturing, and corporate management & support

2) Samsung Advanced Institute of Technology (R&D), Samsung Marketing Academy (Sales & Marketing), Global Customer Satisfaction Center (Quality, service), Partners Collaboration Center (procurement), and the Corporate Design Center (design)

Corporate Culture

We continue to change in organization culture, working toward an efficient work process, creative work environment, and trust between colleagues.

Employee Benefits

We offer a wide range of benefits to increase work satisfaction, promote a strong work-life balance, drive motivation, and increase employee engagement. We pay contributions to private pensions to help employees plan for and enjoy a more fulfilling retirement and offer tuition and medical expenses for employees and their family members. We also support health checkups and group insurance policy and provide optional employee benefits tailored to different individual lifestyles.

Employment Benefits Overview (applicable in Korea)

 Employees' Health	<ul style="list-style-type: none">Coverage of medical expenses for employees / spouses / childrenCoverage of medical expenses for treatment of disabilities or critical diseasesComprehensive medical check-upsOperating of in-house clinics
 Family Events	<ul style="list-style-type: none">Time off and monetary support for celebrations or bereavement leaveProviding of funeral-related support
 Tuition Support	<ul style="list-style-type: none">Support for kindergarten tuitionsScholarships for elementary, middle, and high schools and collegeLeaves of absence for professional training or self-development
 Refresh	<ul style="list-style-type: none">Providing resort tickets at special priceTickets to water theme parksFitness centers
 Others	<ul style="list-style-type: none">Employee discounts for Samsung productsOptional employee benefitsFinancial support in case of fire or other natural disastersAllowance for extended leave

Policies to Support Work-Life Balance

We are working to expand flexible and efficient working hours considering the unique demands required in different positions. We implemented a selective working hour system and allow the employees to plan out their annual leaves so they can set flexible work hours, strengthening the level of empowerment and accountability to create a Corporate Culture.

We have implemented a work-from-home policy to improve Work-Life Balance and to navigate the impact of the COVID-19 pandemic. At the end of 2020, 66%¹⁾ of Samsung employees in sales and research positions overseas were working safely from home. A survey of employees working from home, found communication was more efficient as employees and their supervisors were corresponding more frequently using emails, messenger and video conferencing. It also showed performance was evaluated more objectively, and work efficiency and satisfaction also improved.

1) 15,070 out of 22,758 employees working in sales and research labs overseas.

In South Korea, we have designated the payday of each month as a 'family day,' encouraging workers to leave the workplace by 5 p.m. to spend time with their families at home. In certain divisions, family day is now a weekly or bi-weekly practice. When COVID-19 broke out in 2020, we encouraged employees with young children to freely use the 'family care leave'²⁾ which was well utilized by around 8,200 employees in Korea (8.2% of all employees).

2) Employees who need to take time off to take care of their family members (grandparents, parents, spouse, spouse's parents, children, or grandchildren) because of the family member(s)'s illness, an accident, or old age can use this leave for up to 10 days a year (applicable only in Korea)

Aside from parental leave, employees can also receive a leave of absence and medical expenses to receive fertility treatments. We also prioritize the health and wellbeing of pregnant employees and have created a lounge with a lactation room for mothers. We also operate in-house daycare centers to help employees with the burden of child rearing, so they can better manage their work-life balance.

Our worksites are equipped with various sport facilities where employees can exercise and enjoy sports activities, including soccer, baseball, basketball, ping-pong, squash and swimming. We also sponsor various hobby clubs among employees so they can further develop their creativity and skills in their pursued activities.



On-site Daycare Center



On-site Gym



Employee Clubs

Samsung Culture Index (SCI)

We conduct an annual employee survey to identify our strengths and areas for improvement in our organizational culture. The Samsung Culture Index (SCI) survey asks questions about the core values of our company: Work Smart, Think Hard, and Build Trust. In 2020, approximately 170,000 employees across 135 locations took part in the survey, although COVID-19 prevented manufacturing employees from participating.

Since the SCI was adopted in 2012, the scores have increased every year, and in 2020, the total score was 84 (excluding employees in manufacturing), which indicates that 84% of the employees are satisfied with the company.

The basic elements and concepts of SCI

	Performance-oriented working Prioritizing achievement of results through work efficiency
	An environment conducive to creativity and innovation Finding new ideas and creative solutions outside the traditional bounds
	Mutual trust based on respect and care Building mutual trust based on successful collaboration and close communication

Keywords most frequently associated with the satisfaction with the corporate culture

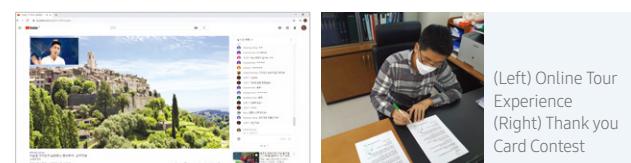
- | | | |
|---|-------|-------------------|
| 1 | | <i>Innovation</i> |
| 2 | | <i>Care</i> |
| 3 | | <i>Leader</i> |
| 4 | | <i>Team</i> |
| 5 | | <i>Challenge</i> |



In 2020, we sought to empower our employees by adopting family care leave (additional support), expanding our work from home policy and promoting health and wellbeing initiatives. This helped contribute to the higher SCI score. In addition, we held online events such as the online fundraising bazaar, virtual team dinner, and online gaming competitions, such as At-home Fitness Challenge and Thank you Card Contest.

Rethinking the Way We Work. Re:Work TF

Starting with the Development Teams in 2017, we initiated the Re:Work TF project with the aim of identifying any inefficiencies in our work practices and processes and improving our work environment. The Re:Work T/F tasks have been introduced on a yearly basis in several teams, including marketing, sales, and procurement. With the three goals of 'Efficiency, Engagement, and Energy,' the Re:Work TF sheds light on inefficient practices by listening to employees' opinions, reviewing the work processes, and carrying out on-site audits, and improves our work efficiency by tackling inefficiencies found.



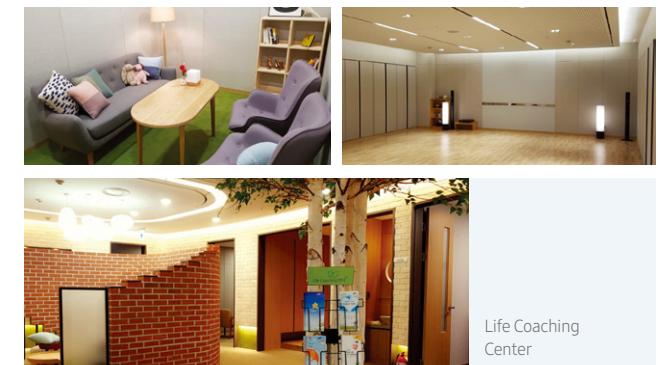
The Life Coaching Center

To support mental wellbeing, we have 14 specialized counseling centers and 10 mental health clinics in South Korea, as well as 11 counseling centers in 20 manufacturing branches around the world. The centers are run by certified specialists and full-time psychiatrists work at the mental health clinics, providing one-on-one counseling and care to workers dealing with a range of issues, including relationships, marriage, family affairs, or stress management.

Each counseling center located in our worksites has a meditation room where programs such as muscle relaxation, meditation, color therapy, and pain relief are offered.

We also provide medical prescriptions and psychotherapy sessions to prevent and treat mental illnesses such as depression, anxiety, panic attacks, mood dysregulation disorder, and insomnia.

In line with the counselors' code of ethics and the Medical Service Law, individual counseling and treatment information are protected and remain confidential.



Sustainable Supply Chain

We work in partnership with our suppliers and create an environmentally sustainable and responsible supply chain. In doing so, we consider not only the suppliers' competitiveness, but also labor and human rights, the environment, and health and safety. We also support our suppliers to grow in the global marketplace through various support programs and we continue our efforts to address the societal and environmental issues of mining minerals.

"We strive to build an ethical supply chain ecosystem by managing the various risks along the chain and collaborating with suppliers to achieve mutual prosperity."

Earn-key Joo
Executive Vice President,
Head of Partner Collaboration Center

Supplier Evaluation

73% (suppliers given "Excellent" rating)

*Evaluated once a year based on the overall competitiveness of the first tier suppliers in the supply chain



Win-Win Index

9 Consecutive years (highest index rating)

*Rating of conglomerates by the Korean government based on measurement of support provided to small and medium-sized enterprises and surveys



Supply Chain Labor and Human Rights Benchmark

2 nd highest score (KnowTheChain, ICT Sector)

*Global project to check and evaluate human rights performance along the supply chain



Conflict Minerals Sourcing

100% (RMAP¹⁾ Certified Smelters)

*Assure that minerals used in the supply chain are sourced in ways that are respectful to human rights, the environment and comply with social responsibilities



1) Responsible Minerals Assurance Process

Supply Chain Management Enabling Mutual Growth

Based on our vision for purchasing, "We Buy Value, We Pay Trust," we strive to share growth within the entire supply chain, taking into account the sustainability of our suppliers. In order to do this, we prioritize our suppliers' competitiveness and sustainability in the entire process starting from selection to collaboration. Based on our criteria, we only select suppliers that meet our standards. In addition, we are also continually improving our system to minimize negative impact from various issues and risks in the supply chain.

Selecting New Suppliers

When selecting new suppliers, we evaluate the candidates in five key areas: procurement and quality; EHS; labor and human rights; Eco-partner certification; and financial stability. In particular, we focus on the monitoring of EHS and labor and human rights issues using a checklist based on the RBA Code of Conduct¹⁾. For accurate assessments of supplier candidates, our in-house experts in various domains visit the suppliers to conduct on-site audits, and we also review the financial stability by looking at the credit rating.

1) RBA: Responsible Business Alliance

Key Criteria for Selecting New Suppliers 

Standard Agreement with Suppliers

The standard agreement that we enter into with our suppliers includes labor practice and human rights clauses based on international standards along with social responsibility obligations mandated by Samsung Electronics, including our Supplier Code of Conduct and workplace safety standards.

Open Sourcing

Companies seeking to become a Samsung Electronics' supplier can propose product parts or material supply through our Open Sourcing Program. If the company proves to be competitive and meets the established standards, it would be able to participate as one of our suppliers. In 2020, approximately 400 proposals were reviewed, of which 86 were chosen for application to our products.

Open Sourcing 

Supplier Management

Our activities related with supply chain management are governed by an integrated procurement system. We have a dedicated teams responsible for managing our supply chain from every angle. We assure stability in the competitiveness of supply chain by an integrated evaluation system.

Management System

Global Procurement Code of Conduct All of our purchasing personnel must adhere to our Procurement Code of Conduct including the Standards and Principles of Purchasing, Ethical Standards for Purchasing, and Socially Responsible Purchasing.

G-SRM (Global Supplier Relationship Management) We utilize our integrated procurement system (G-SRM) for supply chain management information sharing with our suppliers, including supplier evaluation and registration management, risk management, and integrated management of suppliers' compliance and work environments. We also share our Supplier Code of Conduct and provide a self-assessment checklist through this system.

Dedicated Teams We support and assess our suppliers through a dedicated work environment management team and currently operate various support programs that promote R&D, employee training, and competitiveness enhancement.

Supplier Evaluation

We conduct an annual supplier evaluation to assess suppliers' competitiveness. The evaluation is based on criteria which includes Technology, Quality, Responsiveness, Delivery, Cost, EHS, Finances, and Business Ethics. The evaluation is based on various information, including transaction data and data uploaded by suppliers. The evaluation results are reflected in the following year's purchasing policy which will help retain the competitiveness of the supply chain while also encouraging suppliers to improve their capability.

In 2020, we conducted a supplier evaluation of 92% of our suppliers, excluding the suppliers registered for less than one year. As a result, 73% received an "Excellent" rating while 1.7% was rated "Under-performing." For suppliers that have been rated "Excellent," we give them incentives such as preference in allocating purchasing volume for the following year.

Supplier Evaluation Process



Supply Chain Risk Management

In order to minimize risks related to business continuity, we are operating a system that analyzes and responds to risks that have been monitored by professional disaster management analysts. Also, our supply chain is going through diversification to respond to supply disruptions coming from unexpected disruptions including the pandemic, trade disputes, and export regulations.

Partner Collaboration

To enhance the competitiveness of our supply chain and our suppliers, we offer support in the form of training, funding, new technology development. As a result, we were the first in the industry to receive the highest 'Win-Win Index' rating for nine consecutive years in Korea, which takes both the growth index evaluation and the assessment of fair trade agreement implementation into consideration.

Training and Hiring

Partner Collaboration Academy We operate the Partner Collaboration Academy in order to share Samsung Electronics' know-how. We provide around 500 courses in various fields including leadership, R&D, global, quality control, sales, and management, free of charge. 70% of the education is allocated to job skill training in order to ensure practical improvements in professional capabilities.

Semiconductor-facilities Technology Academy Our semiconductor business has been operating the Semiconductor-facilities Technology Academy (SFTA) since 2018 for a more systematic and stable hook-up talent development. In 2020, we created courses, including pipefitting, plan drawing, demolition, and skill certification that were completed by 408 people.

Samsung Supplier Job Fair We have hosted the Samsung supplier job fair since 2012 with affiliated companies, to help suppliers find the best talents. From 2018, we also operate the Samsung Supplier Recruitment Center online.

Funding

Win-Win Fund We manage a Win-Win fund and to help suppliers in Korea with financing and provide liquidity. Win-Win funds offer loans of up to KRW 9 billion for investments in facilities and technological development. Starting in 2010, we provided a KRW 1 trillion fund for first and second tier suppliers and added KRW 400 billion for third tier suppliers in 2018.

Payment Support Fund The payment support funds are designed to provide interest-free loans to suppliers to make cash payments to their sub-suppliers within 30 days. Starting in 2017, we established a KRW 500 billion fund to improve the payment terms between first and second tier suppliers. Then, we added KRW 300 billion in 2018 to support transactions between second and third tier suppliers, resulting in a total of KRW 800 billion in support.

Incentives for On-Site Suppliers Starting from 2010, we provide incentive bonuses based on productivity and safety for on-site suppliers at semiconductor plants who have shown excellent performances in their annual evaluations. In 2020, we paid KRW 77.7 billion bringing the total paid out to KRW 425.4 billion over the past decade.

New Technology Development and Commercialization Support

Technology Trans Fair We share our technology development expertise and new technology trends with our suppliers, thus helping them grow. As part of these efforts, we offer the 'Advanced Technology Trans Fair', which highlights technologies held by universities and public research institutes. In addition, we hold the 'Biz Technology Trans Fair' that showcases advanced, commercialized technologies to help our suppliers identify new business opportunities. In 2020, we hosted 3 virtual tech fairs considering the pandemic situation.

R&D Funding Support Since 2013, we have been participating in the 'Technology Development Based on Private-Public Joint Investment' initiated by the Korean Ministry of SMEs & Startups. This promotes the technological development in SMEs that have ideas and technological capabilities, but lack financial resources. We also support suppliers secure mass production by participating in a program hosted by the Korean Ministry of Trade, Industry and Energy, which evaluates mass production potential of materials, components, and equipment.

Free Transfer of Patents We have shared our patents with small and medium enterprise since 2015 to help them enhance their technological competitiveness. We also transferred more than 1,400 patents without any compensation from suppliers, including SMEs and venture companies without prior business affiliation with Samsung Electronics.

Case: Providing semiconductor technology support

Samsung Electronics has been supporting technological development of semiconductor suppliers by providing patter wafers to local material, parts, equipment companies and laboratories. From 2015 to 2020, we have provided 6,000 patter wafers.

Supporting Suppliers' Innovation Efforts in Korea

Our Supplier Consulting Office is an internal network of around 100 professionals, with 20-30 years of on-site experience, to share technology and know-how with our suppliers.

With our annual cost innovation programs, we support suppliers to increase profits by improving quality, work processes, and identifying and eliminating waste. In 2020, we helped a total of 25 suppliers and which brings a total of more than 140 suppliers who have been supported since the program began in 2014. Among them, the DS division provided consultancy to six suppliers in 2020 to improve the quality competitiveness of semiconductor equipment and parts suppliers.

At the same time, we support suppliers with a presence overseas to build market share and secure global competitiveness. We also provide tailored support to second and third tier suppliers that use government-designated hazardous chemicals, by helping address areas of weakness, including replacing the hazardous chemical with an alternate substance, ensuring safe work environment, and addressing any issues in HR, finance, development, system, etc. The Supplier Consulting Office, made up of executive level consultants, also provides advice in various domains, sharing their know-how based on professional knowledge and on-site experiences.

Responsible Supply Chain

Samsung Electronics requires that all suppliers comply with the Supplier Code of Conduct based on the Responsible Business Alliance (RBA) and global standards on labor and human rights, the environment, health and safety, ethics, and management systems.

To ensure a responsible supply chain, we operate an integrated management of work environments composed of self-assessment, on-site audit, and third-party audit.

The results from on-site audit and third-party audit are reflected in the supplier evaluation, and we present exemplary suppliers with excellence awards. We also require our first-tier suppliers to apply the same standards and manage their sub-suppliers based on Samsung Electronics' Supplier Code of Conduct.

Our efforts to improve the work environment were recognized in 2020 when we achieved the second highest score among all ICT global companies in the KnowTheChain benchmark.

Supplier Code of Conduct

We require that all suppliers comply with our Supplier Code of Conduct, which reflects updates to the RBA Code of Conduct (7.0) as well as other global standards. To ensure this, we expressly require compliance with the code in our contract, and also require a separate written agreement committing to compliance of our code. We also provide our Supplier Code of Conduct Guide for the effective implementation of the Code and to put compliance management processes into practice.

[Supplier Code of Conduct](#) 

[Supplier Code of Conduct Guide](#) 

Work Environment Management Process

Self-Assessment

We have developed a self-assessment tool using 85 items based on the RBA Code of Conduct and have distributed it to all our suppliers. Using this tool, suppliers conduct a self-assessment once a year. We also advise suppliers to obtain international certifications such as SA8000, encouraging suppliers to develop and apply socially responsible practices in the workplace and we have incorporated such certification as a self-assessment category.

On-Site Audit

On-site supplier audits are conducted by a dedicated team at Samsung Electronics. To enable thorough inspection of the working environment of suppliers, we collect and examine the opinions of suppliers' employees and identify issues that need improvements. We upload these findings in the G-SRM system and let suppliers submit corrective action plans and implement. We require suppliers to take immediate measures whenever possible, and conduct subsequent audits to determine whether necessary steps have been taken within three months after issues have been flagged. For matters that require substantial time and financial resources, such as investments in facilities and certifications, we check the progress and monitor the improvements based on the corrective actions plans developed by the suppliers.

Work Environment Management Process



Self-Assessment

- Annual self-assessment using a checklist based on RBA criteria
- All first-tier suppliers are subject to the assessment



On-Site Audit

- On-site audits of high-risk suppliers and identification of items to improve
- 376 suppliers were audited in 2020
- The completion of tasks is checked at subsequent audits



Third-Party Audit

- RBA-certified third-party auditor randomly selects suppliers and conducts initial audits based on RBA criteria
- Take action on issues that can be addressed immediately. Verify the correction through Closure Audits

In 2020, we conducted on-site audits on 376 suppliers considered to be of high risk¹⁰. The RBA standards were applied to on-site audits and corrective action plans were implemented, resulting in an average compliance rate of 95%.

1) Criteria for determining high-risk suppliers: Companies in countries with geopolitical risks related to labor and human rights or highly influential suppliers (based on business volume and ratio in their transactions with Samsung Electronics, low rank in self-assessment, or mentioned in the context of work environment issues raised by stakeholders such as NGOs)

We enforce immediate corrective measures for serious violations such as child labor or forced labor, and impose penalties including business volume reduction based on the supplier evaluation score.

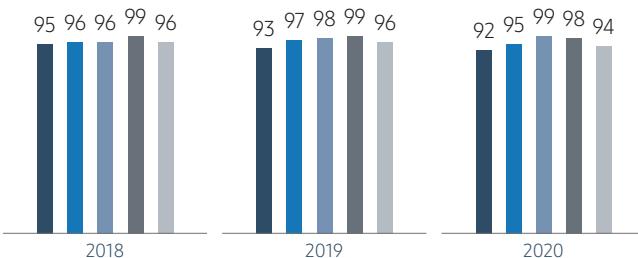
Case: Special Audit on Child Labor

We hold a zero-tolerance policy against suppliers that use child labor, which is why we conduct annual special audits for child labor prohibition. From the audit results of 177 suppliers in 2020, we found that there was no supplier that hired children, but we requested improvements to some suppliers with insufficient controls in their hiring process, such as lack of ID verification, and ensured they addressed the issues.

Third Party Audit

Although COVID-19 posed considerable challenges in conducting audits in 2020, third-party audit results have found that suppliers' compliance rate in 2020 was similar to that of last year and that efforts to improve the working environment were well in progress.

Compliance Rate by Category (Unit: %)



* Compliance rate after closure audit

● Labor and Human Rights ● Health & Safety ● Environment
● Ethics ● Management Systems

Managing Ongoing Improvements We require suppliers to provide detailed action plans to address the findings during the initial third-party audit and follow up on the status of required improvements and complete the closure audit. In cases where improvement measures on key areas take a prolonged period of time, we continually collaborate with suppliers to ensure that the necessary corrections are made.

Improvement Rate by Category

	Improvement Rate	Examples of Violations
Labor and human rights	64%	Work hours
Health and Safety	84%	Contingency scenario
Environment	89%	Waste storage management
Ethics	72%	Monitoring process
Management System	80%	Internal audit review
Total	77%	

* Improvement rate: (# of findings at initial audit - # of findings at closure audit) ÷ # of findings at initial audit

Supporting Compliance Improvement Efforts

Compliance Education

Since 2015, Samsung Electronics has been hosting annual compliance management workshops for the management and working-level staff at suppliers. At these workshops, we share our Supplier Code of Conduct and updates on global and local laws and regulations, the supplier audit results and notable cases of improvements, as well as EHS trends in various regions. Furthermore, we provide specialized training for handling chemical substances and also award notable suppliers in the fields of labor and human rights and EHS. In 2020, we conducted these workshops across 321 global companies, and have encouraged suppliers to further share these training contents to sub-contractors based on the principles outlined in Samsung Electronics' Supplier Code of Conduct.

Labor and Human Rights Education

In 2020, we provided labor and human rights education covering various topics including mutual respect, humane treatment, and anti-discrimination to our global suppliers. A total of 583 suppliers and 977 supplier HR staff were trained in face-to-face or online sessions.

We plan to enhance our educational efforts and expand participants by developing additional curricula and strengthening the contents, including video materials, and taking a more systematic approach to the operation.

Fair Trade Education in Korea

In 2020, we rolled out training to 408 suppliers in order to prevent unfair business practices. The training covered Korean regulation regarding fair business transactions in subcontracting and mutual cooperation with small and medium enterprises.

Compliance Special Audit

We strive to enhance the compliance level in Malaysia where issues regarding work environments such as migrant workers were raised. After the special audit on forced labor in 2019, from January to April 2020, we visited 26 local suppliers to address the areas of vulnerabilities, and provided customized consulting.

Grievance Resolution

We support suppliers in establishing and operating an internal grievance resolution process to facilitate communication between the management and employees. As an extension of this effort, we have been operating a direct hotline for all suppliers since 2013 to receive reports on suppliers' work environment or workers' rights issues. In local languages at workplaces, reports are submitted via landline, email, or mobile phone. Posters in local languages are also displayed including offices, hallways, manufacturing sites, dormitories, and cafeterias to provide guidance on the hotline. All grievances are inspected within seven days, and we give feedback to the grievant and track the status of corrective measures.

In 2020, the most frequently reported complaints were regarding employees' managers and wages, which we swiftly addressed through appropriate training and reinforcement of communication with suppliers. We have confirmed that improvements were made. In particular, we resolved an unpaid wage claim by a resigned employee, paying out the correct amount owed. This confirmed the effectiveness of our hotlines in addressing grievances and showed that it was an effective channel through which even resigned workers could easily access support.

In addition, in order to establish a more reliable grievance process, we collected opinions regarding improvement of the hotline from suppliers and conducted informant satisfactory surveys. The results found that the necessary measures were applied to all reports and they were handled while protecting the identity of the grievants. We will continue to further improve this system by working with suppliers.

Hotline Reports Status (Unit: No. of reports)



Environmentally Responsible Supply Chain

We work in collaboration with suppliers to highlight their responsibility in ensuring the clean production of eco-conscious products. We advise on a range of topics, including reducing environmental impact, reducing hazardous chemicals, and improving workplace health and safety. We plan to further expand support in this regard moving forward.

Environment, Health and Safety (EHS) Improvement Support

Consulting and Training

Samsung Electronics has formed a separate organization to support suppliers' EHS management, and we operate programs to elevate the level of supplier's EHS performance, provide EHS consulting, and assist with hazardous chemical handling where needed. In 2020, we conducted regular EHS inspections for a total of 511 key suppliers and provided on-site consulting to suppliers in need of improvements. We provided one-on-one customized consulting to 36 suppliers in urgent need of improvements to raise the level of EHS management. Through this, we raised the level of EHS by implementing 373 specific improvement projects including regular training, risk assessment, and pollutant management.

The DS division's "EHS Academy for Suppliers" offers specialized training courses, which were attended by 230,000 employees of suppliers received in 2020.

EHS Academy for Suppliers Education Curriculum (DS division)

Categories	No. of classes	Educational Content
Legal Education	2	Establish mandatory safety training, required prior to entering semiconductor business sites
Certification Education	7	Foster qualified managers at suppliers by assessing on-site skills and with question bank method
Skills Improvement Education	15	Operate curriculum, including safety and health manager courses, safety leadership courses for employees and managers at suppliers

Establishing EHS Management System

We encourage our suppliers to acquire international EHS certifications, including for environmental management (ISO 14001) and occupational health and safety management (ISO 45001), and take these certifications into account for supplier evaluation.

In the semiconductor business, we have supported 129 companies over the past seven years to acquire a safety and health management system (KOSHA 18001) certification from the Korea Occupational Safety and Health Agency. This helps them build more robust safety and health management systems.

Strengthening Safety Culture

In 2020, we began the "Pacemaker" program to select and cultivate five suppliers with excellent EHS management in semiconductor manufacturing process and support the suppliers to elevate the safety culture through industry benchmarking. In addition, we continue to support suppliers through risk prediction training and competitions, sharing of safety management methods, establishing the EHS education system, and industry benchmarking.

Chemical Substance Management

Chemicals Management in Manufacturing

We run a variety of programs to guide safe use of chemicals in the manufacturing process to our suppliers.

We conduct on-site inspections to make sure that they maintain safe work conditions and offer consulting on improvement measures for handling and control of the regulated chemical substances. We also support improvements of facilities, such as the local exhaust ventilation systems, chemical storage facilities, and chemical leakage prevention.

In 2020, as a result of these programs, 13 suppliers replaced hazardous chemicals with safer substances, and 7 suppliers improved the local exhaust ventilation systems.

Chemicals in Products

We operate the "Eco-Partner Certification" program for all suppliers to look at both products and the components carefully. Qualifications are granted by reviewing the compliance with the Standards for Control of Substances used in products and the environmental quality management systems of the suppliers.

Suppliers submit to Samsung Electronics the data received from raw materials vendors as well as a warranty letter certifying that the information on hazardous substances is true, and Samsung Electronics visits the supplier's manufacturing site to accurately verify the documents.

Suppliers must undergo an audit every two years in order to maintain the Eco-Partner certification, and companies that do not pass the audit are restricted from further business with Samsung Electronics.

Reducing Suppliers' Environmental Impact

GHG Emission Reduction

We have joined the CDP Supply Chain program since 2019 to reduce environmental impacts by our suppliers. We provide incentives, such as additional points for supplier evaluation to those who submit information in accordance with CDP standards, and have set goals for greenhouse gas reduction, and we also host regular seminars for our suppliers in collaboration with CDP.

In the survey of the CDP supply chain conducted in 2020, 163 suppliers participated, indicating a response rate of about 71%. The number of suppliers that obtain the higher levels on the CDP rating is also increasing.

We plan to expand education so that more suppliers can participate in the CDP supply chain program. In addition, we will focus on programs to increase the use of renewable energy.

Responsible Minerals Sourcing

Samsung Electronics is dedicated to minimizing the negative societal and environmental impacts in the process of mining minerals, including human rights abuse, child labor exploitation, and sexual violence, as well as environmental degradation. Recognizing the gravity of the problems of human rights abuse and environmental degradation caused by mineral mining in conflict-affected and high-risk areas, we manage responsible minerals¹⁾ sourcing in accordance with the OECD Due Diligence Guidance²⁾.

- 1) Minerals mined through a process which respects human rights as well as the environment, lives up to societal responsibilities and denounces financing of conflicts.
2) OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas

Management Process for Responsible Minerals

We comply with the OECD Due Diligence Guidance and abide by the 5-step procedures. We work to raise awareness from all our suppliers and conduct reviews of responsible mineral sourcing practice, and preliminary verification and early improvement measures on risk factors. We block any minerals that do not meet the standards from being brought in at our purchasing phase.

We regularly disclose updates on our responsible mineral management through our website and the sustainability report. We also publish our annual Responsible Minerals Report to ensure full transparency for all stakeholders.

All suppliers that conduct business with Samsung Electronics comply with the requirements of our responsible minerals policy, and we only use minerals supplied by smelters that have obtained the RMAP¹⁾ certification.

We do not use any minerals illegally mined from conflict-affected areas, such as the Democratic Republic of the Congo.

We have strengthened our internal management standards, disposing of any wastes containing minerals only to RMAP-certified smelters. We are encouraging urban mines that refine, smelt, and recover types of metals to participate in RMAP as well.

1) Responsible Minerals Assurance Process

External Cooperation

In order to source minerals responsibly and minimize the negative social and environmental impacts in mineral sourcing, we work jointly with our global stakeholders and participate in global organizations such as the RMI¹⁾ and EPRM²⁾.

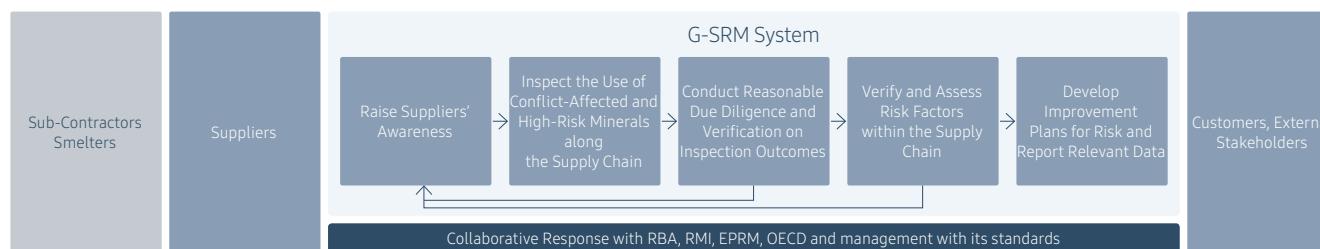
We support sustainable cobalt mining and are part of the "Cobalt for Development", a project in cooperation with German International Cooperation Corporation (GIZ), Samsung SDI, BMW Group, and BASF in order to contribute to resolving the human rights and environmental issues arising from mining in the Democratic Republic of the Congo. Our goal in this project is to improve the work environment and the living conditions of the surrounding communities impacted by artisanal mining.

In 2020, Volkswagen joined as a new partner in the project, and together we opened a school for local children and have reached over 2,000 residents with our agricultural and financial education workshops.

1) Responsible Minerals Initiative

2) European Partnership for Responsible Minerals

Samsung Electronics Responsible Minerals Management



Responsible Minerals Report [↗](#)



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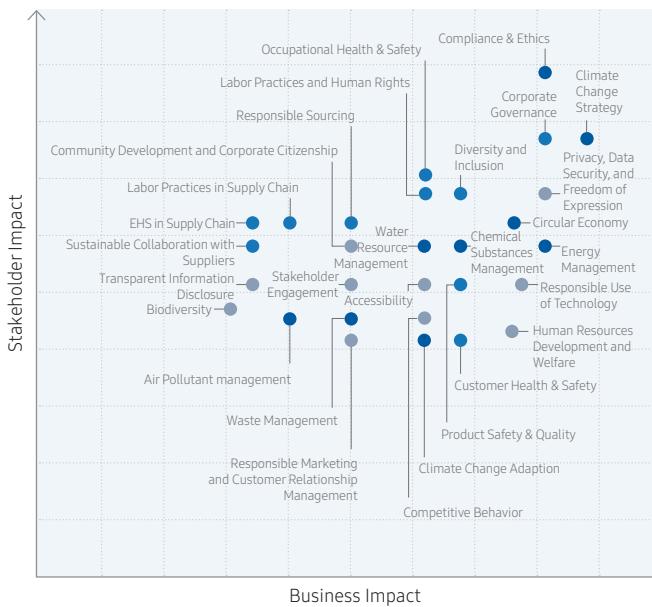
Sustainability Foundation

Materiality Assessment

We identify sustainability issues that impact our business and actively respond as needed, sharing our progress with stakeholders in a transparent manner through our sustainability report.

We pool and review all relevant issues based on media reports, peer benchmarking, global standards and initiatives in sustainability management, and expert opinions. Based on a comprehensive analysis of the level of impact on our stakeholders from economic, social, and environmental perspectives as well as the business impact on Samsung Electronics, including revenues, costs and reputation, we identify and prioritize the most meaningful and relevant material issues.

Materiality Assessment Matrix



Pooling Material Issues	Prioritization	Internal and External Expert Review
<ul style="list-style-type: none"> Assemble a pool of relevant issues based on media reports articles, peer benchmarks, global standards and initiatives (UN SDGs, TCFD, GRI, SASB, WEF Sustainability Metrics, etc.) We identified 29 material issue through interviews with sustainability management experts and relevant departments within our company 	<ul style="list-style-type: none"> Prioritize sustainability issues according to analysis of stakeholder and business impacts <p>Stakeholder Impact</p> <ul style="list-style-type: none"> Assess the economic, social, and environmental impact on stakeholders (customers, shareholders, investors, employees, suppliers, local communities, NGOs, industry organizations, industry experts, the government, the media, etc). <p>Business Impact</p> <ul style="list-style-type: none"> Assess of impact on Samsung Electronics, including its revenues, costs, reputation, etc. 	<ul style="list-style-type: none"> Review by the company's senior management and Corporate Sustainability Center Review by external sustainability experts

Materiality Assessment Results

Material Issues	Major Activities	Relevant Section
Compliance, Ethics	<ul style="list-style-type: none"> Enhanced the independence of the Corporate Compliance Team, which reports directly to the CEO since reorganization An independent expert group, Samsung Compliance Committee, in operation, overseeing the business 	Our Company (Compliance & Ethics)
Corporate Governance	<ul style="list-style-type: none"> Independent Director appointed as the Chairman of the Board 	Our Company (Corporate Governance)
Climate Change Strategy, Energy Management, Circular Economy, Chemical Management	<ul style="list-style-type: none"> 100% renewable energy use in the US, Europe and China High energy-efficient product development Sustainable packing, designing of products easy to repair, zero waste to landfill 	Environment
Local Community Development, Corporate Citizenship, Stakeholder Engagement	<ul style="list-style-type: none"> Education program for youth to help them learn future technology and grow creative problem-solving capabilities Assistance to small and medium enterprises with Smart Factory technology and fostering the growth of venture companies 	Empowering Communities
Responsible use of technology, Accessibility	<ul style="list-style-type: none"> Consider accessibility from product development to launch Apply AI ethics policy to AI services 	Digital Responsibility
Diversity & Inclusion, Occupational Health & Safety, Labor and Human Rights	<ul style="list-style-type: none"> Strengthen company policies and employee education on labor and human rights issues Expand the company's vision, policies and programs on diversity matters 	Our Employees
Responsible Sourcing, Supplier Labor Practices	<ul style="list-style-type: none"> Provide consulting on work environment inspection and improvements for suppliers, support EHS improvement efforts 	Sustainable Supply Chain

Alignment With UN SDGs

In September of 2015, the United Nations General Assembly adopted the Sustainable Development Goals (SDGs) for the purpose of establishing a sustainable society across the world through community, environmental protection and inclusive economic growth. The timeline for these UN SDGs run from 2016 until 2030. As a responsible global business, we take account of the SDGs in how we run our business. We focus on the SDGs most relevant to our business, base our sustainability targets based on them, and engage in a broad range of sustainability activities in pursuit of these goals.

SDGs	Our Approach	Main Activities	SDGs	Approach	Main Activities
 3 GOOD HEALTH AND WELL-BEING	<p>We are committed to minimizing health and environmental impacts related to the use of chemicals of concern.</p> <p>We strive to create an environment where our employees can work without concerns over their health and safety in the manufacturing processes.</p>	<ul style="list-style-type: none"> Disclosure of regulated substance in manufacturing process In-house health-related facilities including hospitals, gyms, physical therapy centers, musculoskeletal treatment center, and mental health counseling center 	 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	<p>We strive to improve the accessibility of our IT devices and technology to enable 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, maintaining world-class security for our products and services.</p>	<ul style="list-style-type: none"> Product development based on the 4C Accessibility Design Principles Expanded Knox platform-adopted products range
 4 QUALITY EDUCATION	<p>We run customized education programs to promote the development of local communities, while providing a variety of support through ICT knowledge and expertise to enable local residents and communities to build capabilities necessary to plan for a better future.</p>	<ul style="list-style-type: none"> Customized education curriculum support for future generations Samsung Innovation Campus Samsung Solve for Tomorrow 	 10 REDUCED INEQUALITIES	<p>We offer equal opportunities to all employees and applicants. In addition, we do not tolerate any kinds of discrimination 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.</p>	<ul style="list-style-type: none"> Support system for employees with disabilities
 5 GENDER EQUALITY	<p>We believe that ensuring equal opportunities is key to economic growth, political stability, and social change.</p> <p>We endeavor to find new ways to support women across the globe and prepare the youth for a better future.</p>	<ul style="list-style-type: none"> 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 	 12 RESPONSIBLE CONSUMPTION AND PRODUCTION	<p>We minimize the environmental impact of our products through reuse and recycling. We pursue 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 the products.</p>	<ul style="list-style-type: none"> Expanded eco-package Expanded renewable or recycled materials such as recycled plastics Expanded Zero Waste to Landfill certification
 6 CLEAN WATER AND SANITATION	<p>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 goes beyond the legal requirements of each country to minimize the impact on water resources.</p>	<ul style="list-style-type: none"> World Water Day Event Received an "A" in CDP Water 	 13 CLIMATE ACTION	<p>We prioritize climate change issues according to the degree of their importance and impact, devising a strategy to respond to them. Furthermore, we invest in facilities and optimized the operation of equipment to reduce GHG emissions.</p>	<ul style="list-style-type: none"> Investment in equipment to reduce GHG emissions High energy-efficiency product development GHG emission reduction efforts in working with suppliers, logistics, employee business trips, electric vehicles and others.
 7 AFFORDABLE AND CLEAN ENERGY	<p>We are expanding our renewable energy use to respond to global climate change. As such, we strive to expand the use of renewable energy at our worksites via the installation of solar panels and geo-thermal units, Power Purchasing Agreements, and Green Pricing.</p>	<ul style="list-style-type: none"> 100% renewable energy at all worksites in the US, Europe, and China by 2020 	 15 LIFE ON LAND	<p>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.</p>	<ul style="list-style-type: none"> Stream ecosystem protection activities
 8 DECENT WORK AND ECONOMIC GROWTH	<p>We are committed to pursuing innovation and new growth drivers to share technology with society. We run programs and systems to build an innovative culture and expand investments in R&Ds and productivity growth.</p>	<ul style="list-style-type: none"> C-Labs (Creative Labs) Smart Factory support program 	 17 PARTNERSHIPS FOR THE GOALS	<p>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.</p>	<ul style="list-style-type: none"> Samsung Global Goals App Galaxy Clean-up partnership Public-private partnership for AI Ethics Cobalt for Development program for responsible sourcing

Sustainability Value Creation

Since 2016, we have used the KPMG 'True Value' methodology to measure the positive and negative effects of our sustainable management activities and achievements in sustainable value creation. To convert our sustainable value creation activities to monetary value, we reviewed and selected measurement indices. Our sustainability value is composed of 1) financial, 2) socio-economic and 3) environmental values and each are expressed in positive (+) or negative (-) numerical values. We will continue to closely monitor global trends in social economic value measurements and work to accurately assess our sustainability value creation.

Value Measurement Method

Category		Type	Calculation Methodology ¹⁾
Financial Value		Benefit	Net income generated by the company during 2020 fiscal year
Socio-economic Value	Investor Value	Benefit	Dividends and interest payments to investors and creditors
	Supplier Support	Benefit	Win-Win funds
	Local Community Development	Benefit	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	Worskites GHG Emissions	Cost	The social cost related to GHG emission ⁵⁾
	Environmental Impact on the Atmosphere	Cost	The social cost related to air pollutant (NOx, Sox, PM) emissions ⁶⁾
	Environmental Impact on the Water System	Cost	The social cost related to water usage based on the level of water shortage at the location of the business ⁷⁾
	Environmental Impact of Waste	Cost	The social cost related to waste landfill, incineration, recycling ⁸⁾

1) Exchange rate based on rates as of December 31, 2020 (1 USD = 1,088 KRW; 1 EURO = 1,338 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) US EPA, Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide (2021).

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

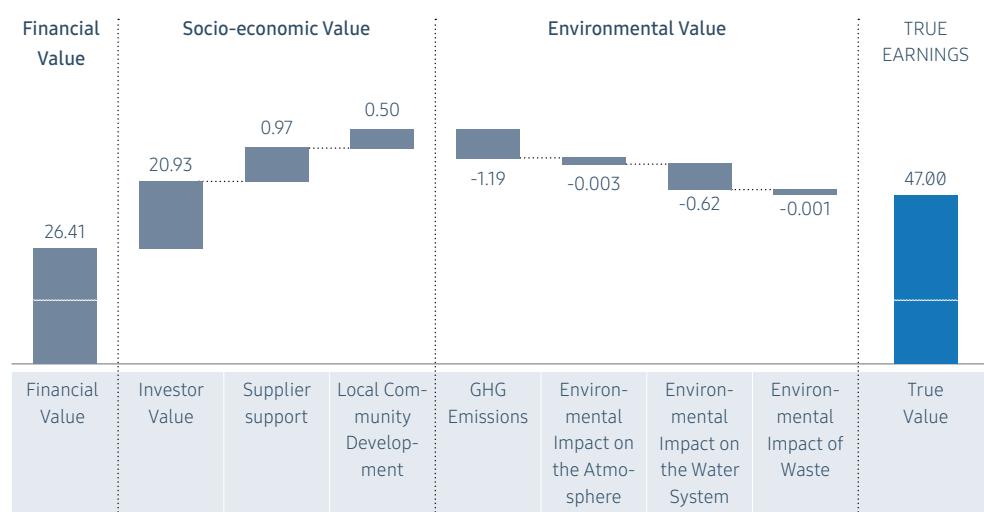
7) TruCost PLC, Natural capital at risk: the top 100 externalities of business (2013).

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

2020 Value Creation Achievements

From January 1 to December 31 2020, the total value of sustainability management created by Samsung Electronics amounted to approximately KRW 47 trillion. The financial value was KRW 26.41 trillion, up 21% from 2019 due to increased net income. Under the CSR vision of "Together for Tomorrow! Enabling People" which pursues socio-economic value creation, we increased our support for future generations and consistently strengthened our partner collaboration programs to improve the competitiveness of our supply chain. Furthermore, we delivered on our commitment to 100% renewable energy in the United States, Europe and China to improve the environmental value. As a result, we generated a total socio-economic and environmental value of KRW 20.59 trillion¹⁾ in 2020.

Sustainability Value Creation by Samsung Electronics in 2020 (Unit: trillion KRW)



1) Includes KRW 10.7 trillion special dividend payment for end of the fiscal year in 2020

Socio-economic and Environmental Value Created by Samsung Electronics (Unit: trillion KRW)

2018 10.58

2019 10.43

2020 20.59

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Facts & Figures

Economic Performance

		2018	2019	2020	Unit
Key Financial Performance		* Based on the consolidated financial statement			
Sales		243.8	230.4	236.8	KRW trillion
	Operating profit	58.9	27.8	36.0	KRW trillion
	Net income	44.3	21.7	26.4	KRW trillion
Sales by Business Division & Region		* Based on net sales			
Sales by business division	Absolute value	CE	42.6 ¹⁾	45.3 ¹⁾	KRW trillion
		IM	100.7	107.3	KRW trillion
		Semiconductor	86.3	64.9	KRW trillion
		Display Panel	32.5	31.1	KRW trillion
		Harman	8.8	10.1	KRW trillion
	Ratio	CE	16	18 ¹⁾	%
		IM	37	41 ¹⁾	%
		Semiconductor	32	25	%
		Display Panel	12	12	%
		Harman	3	4	%
Sales by region	Absolute value	Americas	81.7	73.9	KRW trillion
		Europe	43.0	42.7	KRW trillion
		China	43.2	38.0	KRW trillion
		South Korea	33.9	34.2	KRW trillion
		Asia & Africa	42.0	41.6	KRW trillion
	Ratio	Americas	34	32	%
		Europe	18	19	%
		China	18	16	%
		South Korea	14	15	%
		Asia & Africa	16	18	%

1) The Health & Medical Equipment Business Unit was consolidated with the CE division and the 2018 and 2019 data have been altered accordingly.

		2018	2019	2020	Unit
Economic Value Distribution		* Based on the consolidated financial statement			
[Suppliers]	Procurement costs	156.0	173.3	168.7	KRW trillion
[Local Communities]	Social contributions	0.4	0.5	0.5	KRW trillion
[Shareholders & Investors]	Dividends	9.6	9.6	20.3	KRW trillion
[Shareholders & Investors]	Dividend payout ratio	22	45	78	%
[Creditors]	Interest expenses	0.7	0.7	0.6	KRW trillion
[Employees]	Employment Costs	27.8	28.1	31.0	KRW trillion
[Government]	Taxes and duties in each region	17.8	9.7	11.1	KRW trillion
Taxes and duties in each region	Asia	6	15	11	%
	South Korea	86	69	73	%
	Americas & Europe	7	14	14	%
	Others	1	2	2	%
Ratio of Economic Value Distributed in 2020 (Unit: %)					
Suppliers ¹⁾	Local Communities ²⁾	Shareholders & Investors ³⁾	Creditors ⁴⁾	Employees ⁵⁾	Government ⁶⁾
72.7	0.2	8.8	0.2	13.3	4.8

1) Total cost of materials, products, facilities, and services procured for business operations.

2) Total cost of corporate citizenship activities.

3) Dividends.

4) Interest expenses.

5) The sum of salary expenses, severance payments, and welfare benefits included in the cost of sales, R&D expenditures, and SG&A expenses.

6) The sum of consolidated corporate income taxes, other taxes, and public duties.

Social Performance

	2018	2019	2020	Unit
Compliance-Ethical Management				
Compliance education completion ¹⁾	83,368	81,634	88,150	No. of employees
Reported cases of ethical management violations ³⁾	375	584	728	No. of cases reported
Ratio of corruption-related reports	20	11	11	%
Ratio of consumer complaints	32	28	28	%
Others	48	61	61	%
Completion of anti-corruption education ⁴⁾	303,445	276,621	184,441	No. of employees
	2018	2019	2020	Unit
Corporate Citizenship				
Total employee volunteer hours	1,131,915	878,499 ⁵⁾	635,564	No. of hours
Volunteer hours per Employee ⁵⁾	3.66	3.06	2.37	No. of hours
Total number of beneficiaries of Corporate Citizenship Programs	1,495,826 ⁶⁾	1,675,710 ⁶⁾	1,838,212	No. of persons
Samsung Solve for Tomorrow	2,956,087 ⁶⁾	4,022,344 ⁶⁾	4,131,285	No. of persons
Samsung Smart School	107,923 ⁶⁾	119,774	128,706	No. of persons
Samsung Tech Institute	-	17,275 ⁶⁾	35,802	No. of persons
Samsung Innovation Campus	92,881	103,143	107,070	No. of persons
Samsung Dream Class	-	6,100	9,631	No. of persons
	2018	2019	2020	Unit
SMEs Support				
Smart factory support beneficiaries	505	566	373	No. of companies
Samsung Electronics Suppliers	81	41	71	No. of companies
SMEs without business affiliation with Samsung Electronics	424	525	302	No. of companies
	2018	2019	2020	Unit
Protection of Personal Information				
In-house consultations	3,987	4,749	5,716	No. of consultations

1) Scope of data collection: Employees in South Korea.

2) Duplicates uncluded starting from 2021 report.

3) Based on the data collected from the Samsung Electronics business integrity website (sec-audit.com).

4) All employees.

5) Total number of employee volunteer work hours divided by total number of employees.

6) Data from 2018-2019 have been corrected.

	2018	2019	2020	Unit	
Labor and Human Rights					
Total number of employees ¹⁾	309,630	287,439	267,937	No. of persons	
Global (excluding Korea)	209,925	185,380	161,607	No. of persons	
South Korea	99,705	102,059	106,330	No. of persons	
Employees by contract type	304,640	282,874	264,030	No. of persons	
Regular (no fixed-term contract)	4,990	4,565	3,907	No. of persons	
Contract employees ²⁾	150,565	124,442	99,823	No. of persons	
Employees by age group	106,226	105,862	106,236	No. of persons	
Under 30	52,839	57,135	61,878	No. of persons	
30-40	66,328	69,370	71,539	No. of persons	
40 and above	164,530	144,744	127,256	No. of persons	
Employees by job function ³⁾	22,793	20,555	19,354	No. of persons	
Manufacturing	25,731	24,067	22,704	No. of persons	
Quality Assurance & EHS	30,248	28,703	27,084	No. of persons	
Sales & Marketing	240,135	213,916	190,507	No. of persons	
Others	68,156	72,175	76,057	No. of persons	
Employees by job position	1,339	1,348	1,373	No. of persons	
Staff ⁴⁾	99,705	102,059	106,330	No. of persons	
Managers	137,365	121,819	101,929	No. of persons	
Executives ⁵⁾	29,110	20,649	18,099	No. of persons	
Employees by region	25,630	25,270	25,004	No. of persons	
South Korea	14,681	14,061	12,861	No. of persons	
Southeast Asia & South-west Asia & Japan	2,552	3,008	3,160	No. of persons	
China	587	573	554	No. of persons	
North, Central and South America	2,581	2,527	2,504	No. of persons	
Europe	17.9	19.5	18.1	%	
Middle East	2.3	2.5	2.1	%	
Africa	4,096	4,490	4,655	KRW billion	
Turnover rate ⁶⁾	Global (excluding South Korea)	17.9	19.5	18.1	%
	South Korea	2.3	2.5	2.1	%

1) Number at the end of 2020 (excluding staff dispatched third parties, employees on leave, interns, and those on leave of absence for full-time education).

2) South Korea: Those classified as such according to the Act on the Protection of Fixed-term and Part-time Workers; Overseas: Number of contractors and apprentices.

3) "Manufacturing" job position has been separated into "Manufacturing" and "Quality Assurance & Environment and Safety."

4) Includes those working flexible work hours and holding non-executive, non-manager positions.

5) Includes executives working globally (outside of Korea) who hold the position of Vice President or higher.

6) Ratio of employees who resign during the relevant fiscal year against the average number of employees.

Social Performance

	2018	2019	2020	Unit	
Diversity and Inclusion					
Percentage of female employees ¹⁾	43.0	40.2	37.3	%	
Percentage of female employees by job function ²⁾	Product development Manufacturing Quality assurance & EHS Sales & Marketing Others	17.2 56.8 43.5 30.8 36.0	17.5 53.2 41.3 31.2 36.1	18.0 48.9 41.3 31.5 35.8	%
Percentage of female employees by region	South Korea Southeast Asia & Southwest Asia & Japan China North, Central and Latin America Europe Middle East Africa	25.2 59.9 40.3 34.4 34.7 14.5 36.5	24.9 56.3 34.9 35.1 34.5 14.0 37.7	24.9 52.7 33.4 35.4 33.8 11.3 42.4	%
Percentage of female employees by job title	Staff Managers Executives ³⁾	51.6 14.2 6.3	49.0 14.7 6.5	46.3 15.3 6.6	%
Employees who took parental leave ⁴⁾	3,305	3,894	3,897	No. of persons	
Return rate after parental leave ⁴⁾	95.9	93.7	98	%	
In-house daycare center capacity ⁴⁾	2,980	3,080	3,349	No. of persons	
No. of in-house daycare centers ⁴⁾	14	15	16	No. of centers	
No. of employees with disabilities ⁴⁾	1,538	1,589	1,465	No. of persons	
Ratio of employees with disabilities ⁴⁾	1.5	1.6	1.5	%	

1) Based on the total number of employees.

2) "Manufacturing" job position has been separated into "Manufacturing" and "Quality Assurance & EHS."

3) Including executives at overseas worksites who hold Vice President position or higher.

4) Based on South Korea.

	2018	2019	2020	Unit
Human Resources Development				
No. of employees who received training ¹⁾	268	242	734	10,000
Global (outside South Korea)	157	143	350	10,000
South Korea	111	99	384	10,000
Average training hours per employee ²⁾	62.2	67.2	55.8	No. of hours
Global (outside South Korea)	57.1	61.7	46.0	No. of hours
South Korea	72.8	78.9	70.8	No. of hours
Training expenditures	1,469	1,465	1,014	KRW 100 million
Total costs for training ³⁾	1,473	1,435	953	KRW thousand
Total costs for training per employee ⁴⁾	0.06	0.06	0.04	%
Ratio of costs for training against sales ⁵⁾	1.2	1.3	0.6	%
Ratio of costs for training against compensation and employment costs ⁶⁾				
Employees who applied for re-employment through the Career Development Center ⁷⁾	7,126	7,319	7,561	No. of persons
Employees re-employed through the Career Development Center ⁷⁾	6,187	6,432	6,679	No. of persons
Percentage of employees re-employed through the Career Development Center	86.8	87.9	88.3	%

1) Total training hours divided by eight. The data in 2018 has been updated using this calculation method.

2) Both online and offline training hours.

3) Scope of data collection: South Korea.

4) Total training expenditures divided by the number of employees in South Korea.

5) Total training expenditures divided by total revenue based on consolidated financial statements.

6) Total training expenditures divided by total employment costs.

7) On a cumulative basis since 2001.

	2018	2019	2020	Unit
Health & Safety				
Frequency rate ¹⁾	0.036	0.059	0.031	%
Injury rate ²⁾	0.008	0.009	0.006	%

1) (No. of injuries ÷ annual total 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.

Social Performance

		2018	2019	2020	Unit
Sustainable Supply Chain					
Supplier Evaluation	Suppliers evaluated ¹⁾	91	86	92	%
	Suppliers rated Excellent	64	70	73	%
	ISO 14001-certified suppliers ²⁾	87	84	86	%
	OSHAS 18001-certified suppliers ³⁾	37	42	43	%
Investment in the Win-Win Fund		8,339	8,630	9,736	KRW 100 million
	1st-tier suppliers	6,113	6,274	7,294	KRW 100 million
	2nd & 3rd-tier suppliers ⁴⁾	2,226	2,356	2,442	KRW 100 million
Supplier Incentive in Monetary Value		821	741	777	KRW 100 million
Supplier participation in training		877	890	720	No. of suppliers
	1st-tier suppliers	589	558	511	No. of suppliers
	2nd-tier suppliers	288	332	209	No. of suppliers
Employee participation in training ⁵⁾		18,777	20,144	16,756	No. of persons
	1st-tier suppliers	13,673	15,170	13,107	No. of persons
	2nd-tier suppliers	5,104	4,974	3,649	No. of persons
1st-tier suppliers supported in their innovation initiatives		124	122 ⁷⁾	28	No. of suppliers
	Global (outside South Korea)	26	23	0	No. of suppliers
	South Korea	98	99	28	No. of suppliers
Management of suppliers' working environment	Third-party audit of our suppliers' working environment ⁶⁾	306	399	477	No. of suppliers

1) All suppliers, excluding those registered for less than a year, are subject to annual evaluation of eight categories.

2) Compliance with ISO 14001 or other corresponding standards is mandated in the standard supplier contract.

3) The 12 SA8000-certified suppliers are included in 2020 data.

4) 3rd-tier suppliers are included in the data starting in 2018.

5) Duplicates.

6) The data are cumulative since 2013.

	2018	2019	2020	Unit
Responsible Minerals Sourcing				
On-site inspection of suppliers ¹⁾	244	225	427	No. of suppliers

1) Applicable to conflict minerals.

Supplier Compliance with Key Third-Party Audit Items¹⁾

	2018	2019	2020	Unit
Labor & Human Rights				
Voluntary labor ²⁾	99	99	97	%
Prohibition of child labor	100	100	100	%
Protection of underaged workers	100	99	98	%
Work hour management	84	82	82	%
Guarantee of one-day off per week	95	94	92	%
Wages and benefits ³⁾	96	96	90	%
Humane treatment	100	100	100	%
Non-discrimination ⁴⁾	99	100	100	%
Freedom of association ⁵⁾	99	98	99	%
Health & Safety				
Occupational safety	96	96	94	%
Emergency preparedness	94	96	96	%
Occupational injury and illness	96	96	99	%
Physically demanding work	96	100	95	%
Safety maintenance of dangerous machinery	100	99	98	%
Sanitation, food & housing	99	97	95	%
Environment				
Pollution prevention	99	100	99	%
Hazardous substance management	98	97	97	%
Wastewater & solid waste management	100	97	99	%
Air pollution	91	99	100	%
Product content restrictions	99	97	100	%
Ethics				
Business ethics	100	99	96	%
Prohibition of improper gains	99	97	94	%
Information disclosure	99	99	97	%
Intellectual property	100	100	100	%
Protection of identity and prohibition of retaliation	100	100	97	%
Protection of personal information	99	100	100	%
Management System				
Commitment to compliance	100	96	99	%
Management responsibility	100	99	96	%
Risk assessment	92	92	87	%
Training	96	95	95	%
Communications	100	99	96	%
Employee feedback	98	98	100	%
Corrective actions	98	93	91	%
Management of business improvement goals	96	96	90	%

1) Figures reflect the improvements implemented after the annual third-party audit (78 suppliers were audited in 2020.)

2) Policy against forced labor, mandating of written labor contracts in native language, guarantee of right of movement, forbidding of employers from keeping employees' identification cards, and etc.

3) Accurate calculation and payment salaries, providing of wage statements and forbidding of delayed payments or unfair penalties, proper payment of any social insurance fees or withholding taxes, and etc.

4) Banning of discriminations based on gender or other personal attributes (equal pay, equal opportunities among the guarantees), establishing of anti-discrimination policies and implementation process, providing of places for religious gatherings, and etc.

5) Guarantee of the right to join a union, the right to collective bargaining, and the right to gather peacefully, forbidding of any discriminations against union members, and etc.

Environmental Performance

	2018	2019	2020	Unit
Greenhouse Gas Emission Management				
GHG emissions from worksites ¹⁾	15,151	13,800	14,806	thousand tonnes CO ₂ e
Direct GHG emissions (Scope 1)	4,855	5,067	5,726	thousand tonnes CO ₂ e
Indirect GHG emissions (Scope 2) ³⁾	10,296	8,733	9,079	thousand tonnes CO ₂ e
CO ₂	11,417	9,845 ⁷⁾	10,266	thousand tonnes CO ₂ e
CH ₄	2	2 ⁷⁾	3	thousand tonnes CO ₂ e
N ₂ O	322	335 ⁷⁾	329	thousand tonnes CO ₂ e
HFCs	505	530 ⁷⁾	685	thousand tonnes CO ₂ e
PFCs	2,737	2,912 ⁷⁾	3,322	thousand tonnes CO ₂ e
SF ₆	168	176 ⁷⁾	202	thousand tonnes CO ₂ e
Intensity of GHG emissions ⁴⁾	3.6	3.1	3.2	tonnes CO ₂ e/KRW 100 million
GHG emissions from other sources (Scope 3)	Suppliers ⁵⁾	7,952	8,278	thousand tonnes CO ₂ e
	Logistics	7,846	8,223	thousand tonnes CO ₂ e
	Employees' business trips ⁶⁾	110	106	thousand tonnes CO ₂ e

1) Calculated by applying GHG regulations and management guidelines of each respective country, IPCC's guidelines, and the ISO 14064 standards.

2) GHG emissions (location-based) that do not take account of renewable energy usage: 15,173,000 tonnes CO₂e in 2018; 16,065,000 tonnes CO₂e in 2019; and 17,579,000 tonnes CO₂e in 2020.

3) GHG emissions (market-based) calculation, taking into account the usage of renewable energy.

4) (Total GHG emissions, total energy consumption) divided by the revenue based on consolidated financial statement.

(* Sales from Display business are excluded). The price index is applied. (2005 Price Index = 1)

5) Based on the survey of greenhouse gases emitted during the manufacturing of Samsung Electronics products at worksites of the top 90 percentile of the suppliers in terms of business transactions with the company.

6) Scope of data collection: Employees in South Korea.

7) The emission amounts of six major greenhouse gases in 2019 were re-calculated.

	2018	2019	2020	Unit
Energy Management				
Energy consumption at worksites	26,028	26,899	29,024	GWh
Electric power	20,558	21,160	22,916	GWh
Others	5,470	5,740	6,109	GWh
Intensity of energy consumption at worksites ¹⁾	6.2	6.1	6.4	MWh/KRW 100 million
Renewable energy consumption	1,356	3,220	4,030	GWh

1) Total GHG emissions, total energy consumption) divided by the revenue based on consolidated financial statement. (* Sales from Display business are excluded). The price index is applied. (2005 Price Index = 1)

	2018	2019	2020	Unit
Energy Efficiency in Our Products¹⁾				
Amount of GHG emissions reduced in the product use phase	243	270	301	million tonnes CO ₂ e
Cumulative amount of reduction ²⁾	26,482	26,592	31,671	thousand tonnes CO ₂ e
Amount of reduction in the concerned year	39	42	32	%
Reduction rate of our products' energy consumption ³⁾				%

1) Scope of data collection: seven major product categories (refrigerators, air conditioners, washing machines, TVs, monitors, laptops, and mobile phones).

2) Cumulative since 2009.

3) The annual energy consumption in the concerned year against the average annual energy consumption in 2008.

	2018	2019	2020	Unit
Efficient Use of Resources				
Usage of recycled plastics	215,228	245,981	276,972	tonnes
Cumulative usage amount ¹⁾	39,226	30,753	30,992	tonnes
Usage amount during the concerned year	6.7	5.3	4.3	%
Adoption rate of recycled plastics	10,746	11,614	13,529	tonnes
Amount of recycled packaging materials ²⁾				%

1) Cumulative since 2009.

2) Scope of data collection: South Korea. Data from 2018-2019 have been corrected.

	2018	2019	2020	Unit
Recovery and Recycling of End-of Life Products				
Cumulative amount of end-of-life products recovered ¹⁾	3,546,786	4,033,528	4,540,155	tonnes
Amount of end-of-life products recovered	423,229	486,741	506,627	tonnes
Asia & Oceania	142,111	187,899	185,299	tonnes
Europe	226,616	251,544	279,902	tonnes
Americas	54,502	47,298	41,426	tonnes
Amount of end-of-life products recovered in the concerned year by product type ²⁾	95,856	98,420	113,850	tonnes
Large appliance	83,344	87,235	97,544	tonnes
IT product	5,008	4,253	6,948	tonnes
Medium appliance	3,464	1,036	4,170	tonnes
Small appliance	4,041	5,896	5,188	tonnes
Amount of recycled materials ²⁾	82,739	88,886	97,815	tonnes
Scrap metal	38,863	38,980	52,666	tonnes
Nonferrous metal	14,408	10,236	11,779	tonnes
Synthetic resin	23,466	29,761	26,741	tonnes
Glass	1,714	4,922	2,883	tonnes
Others	4,289	4,987	3,747	tonnes

1) Cumulative since 2009.

2) Scope of data collection: South Korea.

Environmental Performance

	2018	2019	2020	Unit
Waste Management				
Waste generated	1,210,521	1,099,197	1,181,741	tonnes
General waste	813,831	777,570	835,875	tonnes
Hazardous waste ¹⁾	396,690	321,627	345,866	tonnes
Waste processed	1,210,521	1,099,197	1,181,741	tonnes
Amount recycled	1,157,621	1,045,122	1,125,037	tonnes
Incinerated (outside the company)	31,377	30,664	30,146	tonnes
Landfilled (outside the company)	21,524	23,410	26,558	tonnes
Rate of waste recycled	96	95	95	%

1) Monitoring criteria is based on the applicable standards adopted by the country where respective each worksite is located.

	2018	2019	2020	Unit
Water Management				
Water usage	134,230	134,479	142,294	thousand tonnes
Industrial water	78,837	81,984	75,243	thousand tonnes
Tap water	54,434	51,839	66,466	thousand tonnes
Underground water	959	657	585	thousand tonnes
Wastewater discharge	107,699	108,460	109,201	thousand tonnes
Reused water	62,371	68,555	70,181	thousand tonnes
Ultra-pure water reused	Supply amount	52,607	55,039	thousand tonnes
	Recovery amount	17,513	15,005	thousand tonnes
Suppliers' water usage ¹⁾	67,934	68,286	70,128	thousand tonnes

1) The amount of water consumed during the manufacturing of Samsung Electronics products at worksites of the top 90 percentile suppliers in terms of business transactions with the company.

	2018	2019	2020	Unit
Chemicals Management¹⁾				
Chemicals consumption ²⁾	417	384	454	thousand tonnes
Leakage of major harmful substances	0	0	0	incident

1) Scope of data collection: South Korea.

2) The calculating criteria was changed to PRTR in 2018. (*PRTR: Pollutant Release and Transfer Registers)

	2018	2019	2020	Unit
Pollutant Management¹⁾				
Amount of air pollutants emitted	NOx	616	661	652 tonnes
	SOx	55	13	6 tonnes
	Dust	281	227	210 tonnes
	NH ₃	95	60	71 tonnes
	HF	13	13	18 tonnes
Volatile organic compound (VOC) emissions		211	186	289 tonnes
Amount of water pollutants discharged	COD	2,407	1,047	1,033 tonnes
	BOD	392	415	315 tonnes
	SS	649	315	377 tonnes
	F	337	342	428 tonnes
Heavy metals		12	9	9 tonnes
Amount of ozone-depleting substances (CFC-eq) consumed ²⁾		2	2	2 tonnes

1) 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, we have reduced the discharge of water pollutants by optimizing the operation of wastewater treatment facilities.

2) Scope of data collection: South Korea.

	2018	2019	2020	Unit
Worskites Environment Management				
Investments in environment and safety ¹⁾	9,167	15,176	9,412	KRW 100 million
Violation of environmental regulations	0	0	0	No. of violations

1) Investment amount planned for environment and safety in 2021: KRW 1,155,300 million.

	2018	2019	2020	Unit
Responsible Marketing and Customer Relationship Management				
Customer Service	South Korea	CE Division	N/A	69.9
		IM Division	N/A	81.8
Overseas	CE Division	N/A	64.9	83.1
	IM Division	N/A	57.6	68.0
				Percentile score

1) Customers' satisfaction with Samsung Electronics' customer service scored on a scale of 100 points.
(The evaluation began in 2019.)

Environmental Performance

<Available Water Resources by Region>

We use water resources from nine regions and 16 countries around the World¹⁾. By collecting data on each region's basins and reviewing related risks, we develop effective water resources management strategies.

In 2020, we withdrew 142,294 thousand tonnes of water globally, and discharged 109,201 thousand tonnes.

Our total water usage in 2020 amounted to 33,093 thousand tonnes while the amount of recycled water was 70,181 tonnes.

1) Based on manufacturing sites.

Unit: thousand tonnes

Region	Water Withdrawal				Water Discharge			Amount of water consumed	Amount of water recycled	Basins		
	Total Amount of Withdrawal	Supply from third-party sources (municipal governments, water utility companies, etc.)		Direct Withdrawal		Total Amount of Discharge	Discharge directly to rivers and streams	Treatment and discharge by third-party agencies				
		Surface Water	Underground Water	Surface Water	Underground Water							
South Korea	106,659	106,554	-	-	105	83,896	62,147	21,748	22,764	55,740		
China	12,077	12,077	-	-	-	7,823	-	7,823	4,254	9,198		
Europe	220	216	-	-	4	107	-	107	112	9		
Russia	110	110	-	-	-	25	-	25	85	34		
Southeast Asia	12,860	12,860	-	-	-	9,956	-	9,956	2,904	1,053		
Southwest Asia	399	399	-	-	-	9	-	9	390	192		
North America	9,335	9,146	-	-	189	7,067	-	7,067	2,268	3,875		
Central and South America	311	24	-	-	287	121	-	121	189	8		
Africa	324	324	-	-	-	196	-	196	128	72		
Total	142,294	141,709	-	-	585	109,201	62,147	47,054	33,093	70,181		
										25 basins		

Performance by Business Division (2020)

	CE·IM Divisions	DS Division	Total	Unit
Sustainable Supply Chain				
Comprehensive evaluation of suppliers	Suppliers evaluated ¹⁾	97	84	92 %
	Suppliers rated Excellent	73	82	73 %
	Ratio of ISO 14001-certified suppliers ²⁾	86	90	86 %
	Ratio of OSHAS 18001-certified suppliers ³⁾	40	59	43 %
Supplier training	No. of suppliers that participated in training	337	383	720 No. of suppliers
	No. of supplier employees that participated in training	6,385	10,371	16,756 No. of persons
Management of suppliers' working environment	Third-party audit of our suppliers' working environment ⁴⁾	415	62	477 No. of suppliers

1) All suppliers, excluding those registered for less than a year, are subject to annual evaluation of eight categories.

2) Compliance with ISO 14001 or other corresponding standards is mandated in the standard supplier contract.

3) The 12 SA8000-certified suppliers are included in 2020's figure.

4) Cumulative since 2013.

	CE·IM Divisions	DS Division	Total	Unit
Environmental Performance				
GHG emissions from worksites				
Direct emissions	1,812	12,994	14,806	thousand tonnes CO ₂ e
Indirect emissions ¹⁾	278	5,448	5,726	thousand tonnes CO ₂ e
CO ₂	1,534	7,546	9,079	thousand tonnes CO ₂ e
CH ₄	1,811	8,455	10,266	thousand tonnes CO ₂ e
N ₂ O	0.3	2	3	thousand tonnes CO ₂ e
HFCs	327	329	329	thousand tonnes CO ₂ e
PFCs	-	685	685	thousand tonnes CO ₂ e
SF ₆	0.2	3,322	3,322	thousand tonnes CO ₂ e
	-	202	202	thousand tonnes CO ₂ e
Energy consumption at worksites	4,469	24,556	29,024	GWh
Electric power	3,262	19,654	22,916	GWh
Others	1,207	4,902	6,109	GWh
Renewable energy consumption	470	3,560	4,030	GWh
Waste generation	336,545	845,196	1,181,741	tonnes
General waste	282,809	553,067	835,875	tonnes
Hazardous waste ²⁾	53,736	292,129	345,866	tonnes
Water usage	20,845	121,449	142,294	thousand tonnes
Industrial water	3,533	71,710	75,243	thousand tonnes
Municipal water (tap water)	16,727	49,739	66,466	thousand tonnes
Underground water	585	0	585	thousand tonnes
Chemical substance usage at worksites ³⁾	10	444	454	thousand tonnes

1) GHG emissions reflecting the usage of renewable energy (Market-based).

2) Based on the monitoring standards of each country.

3) Scope of data collection: South Korea.

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Appendix

Independent Limited Assurance Report to Samsung Electronics

We were engaged by Samsung Electronics to provide limited assurance on the 'Samsung Electronics Sustainability Report 2021' for the fiscal year of 2020, which is based on the information as of May 2021 (further 'the Report').

Context and Scope

Our engagement was designed to provide limited assurance on whether the Report is presented fairly, in all material respects, in accordance with the Sustainability Reporting Standards of the Global Reporting Initiative (GRI). We do not provide any assurance on the achievability of the objectives, targets, and expectations of Samsung Electronics.

The scope of our engagement conforms to the KPMG Sustainability Assurance Manual™ (KSAM™), including the aspect of "materiality". With regards to financial data, our procedures were limited to verifying that they were correctly derived from audited financial statements. To obtain a thorough understanding of Samsung Electronics' financial results and position, the audited financial statements produced on March 09, 2021 should be referred to.

Responsibilities

As stated in the 'Reporting Principles and Standard', Samsung Electronics is responsible for all content within the Report in respect of the GRI Sustainability Reporting Standards. It is the responsibility of Samsung Electronics' management to establish and maintain appropriate performance management and internal control systems from which the reported sustainability information is derived.

Our responsibility is to perform a limited assurance engagement and to express a conclusion based on the work performed.

Independence

In conducting our engagement, we have complied with the requirements of the International Federation of Accountants (IFAC) Code of Ethics for Professional Accountants, issued by the International Ethics Standards Board for Accountants. We do not engage in any and all activities that may influence our independence from Samsung Electronics. KPMG has systems and processes in place to monitor compliance with the Code, and to prevent conflicts regarding independence.

Assurance Standards

We conducted our engagement based on the International Standard on Assurance Engagements (ISAE) 3000 Assurance Engagements other than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standards Board, and also AA1000AS. The standards require that we comply with applicable ethical requirements, including independence requirements, and that we plan and perform the engagement to obtain limited assurance about whether the Report is free from material misstatement.

Limitations

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement, and consequently does not enable us to obtain assurance on all significant matters that we may become aware of in a reasonable assurance engagement. Accordingly, we do not express a reasonable assurance conclusion.

This report has been prepared solely for Samsung Electronics in accordance with the terms of our engagement. We do not accept or assume responsibility to anyone other than Samsung Electronics for our work, or for the conclusions we have reached in the assurance report.

Main Assurance Procedures

Our engagement was designed to provide limited assurance on whether the Report is presented fairly, in all material respects, in accordance with the reporting criteria. Procedures performed to obtain a limited level of assurance on a sustainability report consists of making inquiries, primarily of persons responsible for the preparation of information presented in the integrated report, and applying analytical and other evidence gathering procedures, as appropriate. These procedures included the following:

- Confirmation on whether the financial information presented in the Report was correctly derived from Samsung Electronics' audited financial statements
- Inquiries to gain an understanding of Samsung Electronics' processes for determining the material issues for key stakeholder groups
- Interviews with relevant staff at corporate and business unit levels responsible for providing the information in the Report

· Visits to the Company's headquarter in Suwon office to understand the systems and processes in place for managing and reporting the Sustainability Data

· Comparing the information presented in the Report to determine whether it is in line with our overall knowledge of, and experience with, Samsung Electronics' performance on non-financial value creation

Opinion

· **Stakeholder Inclusiveness** Samsung Electronics operates communication channels with key stakeholders such as shareholders/investors, customers/dealers, employees, suppliers, local communities (environment/NGOs), local/central government and media. We are not aware of any key stakeholder group that has been excluded from dialogue in the Report.

· **Sustainability Context** Samsung Electronics has established a process to incorporate CSR in management's decision-making and the business management plans of relevant teams, thereby securing continuity. We confirmed that Samsung Electronics recognizes general business management and social responsibility management comprehensively and applies such understanding within the Report.

· **Materiality** Samsung Electronics conducts a materiality test in determining material issues. We are not aware of any material aspects concerning its sustainability performance which have been excluded from the Report.

· **Completeness** Samsung Electronics applies reporting scope, boundary, and temporal criteria. In terms of criteria mentioned above, we confirm that the Report is suitable for stakeholders to assess social responsibility performance.

Based on the procedures performed, as described above, nothing has come to our attention to indicate that the Report is not presented fairly, in all material respects, in accordance with the reporting criteria.

June 2021

 **SAMJONG**
KPMG

KPMG Samjung Accounting Corp.
CEO Kim, Kyo Tai

Kyo Tai Kim

Verification statement on Greenhouse Gas Emission



Verification statement on 2020 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 2020 Greenhouse Gas Emission Report of domestic corporations and 26 overseas subsidiaries. It is the responsible 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

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

(unit: kiloton CO₂ eq)

Division	Total		Domestic	Overseas	
	Location based	Market based		Location based	Market based
Sub Total	17,579	14,806	12,532	5,047	2,274
Direct Emission (Scope 1)	5,726	5,726	4,679	1,048	1,048
Indirect Emission (Scope 2)	11,853	9,079	7,853	4,000	1,226

[2020 Samsung Electronics Co.,Ltd, Greenhouse Gas 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) 2020 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 2020 domestic Greenhouse Gas Emission, material discrepancy is less than the criteria of 2.0% for the organization which emits more than 5,000,000 tCO₂-eq/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) The efficiency of process emission reduction technology that affects the calculation of greenhouse gas emissions has to reflect the values guaranteed by the government and third parties. However, the efficiency was calculated based on the Company's own methodology, and errors are not included in the verification opinion.
For the overseas subsidiaries, each national net calorific value and electricity emission factor were preferentially used but net calorific value and IEA or CDM electricity emission factor were adopted from IPCC Guidelines or Korean Energy Law Enforcement Regulation 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 2020 Samsung Electronics Co.,Ltd, Greenhouse Gas Emission Report.

June 16^b, 2021

President & CEO Korean Foundation for Quality

Ji Young Song Ji Young Song

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	403-3	Occupational health services	●	59-61	
	403-4	Worker participation, consultation, and communication on occupational health and safety	●	59-61	
	403-5	Worker training on occupational health and safety	●	59-61	
	403-6	Promotion of worker health	●	59-61	
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	●	59-61	
	403-8	Workers covered by an occupational health and safety management system	●	59-61	
	403-9	Work-related injuries	●	79	
	403-10	Work-related ill health	○		
Training and Education	404	Management Approach	●	62	
	404-1	Average hours of training per year per employee	●	79	
	404-2	Programs for upgrading employee skills and transition assistance programs	●	62	
	404-3	Percentage of employees receiving regular performance and career development reviews	●	62, 79	
Diversity and Equal Opportunity	405	Management Approach	●	56-58	
	405-1	Diversity of governance bodies and employees	●	58	
	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	●	56	
	406-1	Incidents of discrimination and corrective actions taken	●	55	
Freedom of Association and Collective Bargaining	407	Management Approach	●	52-55	
	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	●	52-55	
Child Labor	408	Management Approach	●	52	
	408-1	Operations and suppliers at significant risk for incidents of child labor	●	52-53	
Forced or Compulsory Labor	409	Management Approach	●	52	
	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	●	52-53, 68	
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	○		

GRI Standards			Status	Page	Comments
Human Rights Assessment	412	Management Approach	●	52-53	
	412-1	Operations that have been subject to human rights reviews or impact assessments	●	53	
	412-2	Employee training on human rights policies or procedures	●	52	
	412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	○		
Local Communities	413	Management Approach	●	37	
	413-1	Operations with local community engagement, impact assessments, and development programs	●	38-40	
	413-2	Operations with significant actual and potential negative impacts on local communities	○		
Supplier Social Assessment	414	Management Approach	●	65-66	
	414-1	New suppliers that were screened using social criteria	●	80	
Public Policy	414-2	Negative social impacts in the supply chain and actions taken	●	68-69	
	415	Management Approach	●	7-9	
Customer Health and Safety	415-1	Political contributions	●		Global Code of Conduct prohibits contribution to political parties
	416	Management Approach	○		
	416-1	Assessment of the health and safety impacts of product and service categories	○		
Marketing and Labeling	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	●		Refer to the business report
	417	Management Approach	●		Refer to the company website
	417-1	Requirements for product and service information and labeling	●		Refer to the company website
Customer	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
	418	Management Approach	●	43-44	
Socioeconomic Compliance	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	○		
	419	Management Approach	●	7-9	
Socioeconomic Compliance	419-1	Non-compliance with laws and regulations in the social and economic area	●		Refer to the business report

TCFD Index

TCFD Recommendations		Page/Reference
Governance	a) Describe the board's oversight of climate-related risks and opportunities	p. 25 CDP: CC1.1a, CC1.1b
	b) Describe management's role in assessing and managing climate-related risks and opportunities	p. 25 CDP: CC1.2a
Strategy	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	p. 25-26 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. 26 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. 25 CDP: CC3.1c, CC3.1d
Risk Management	a) Describe the organization's processes for identifying and assessing climate-related risks	p. 25 CDP: CC1.2a, CC2.2b
	b) Describe the organization's processes for managing climate-related risks	p. 25 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. 25 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. 25-30 CDP: CC11.3
	b) Disclose Scope 1 (direct emissions), Scope 2 (indirect emissions), and Scope 3 (miscellaneous indirect scope) greenhouse gas (GHG) emissions, and the related risks	p. 30, p. 81 CDP: C6, C7
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	p. 30 CDP: C4

SASB Index

HARDWARE

Sustainability Disclosure Topics & Accounting Metrics

Topic	Code	Accounting Metric	Page/Reference
Product Security	TC-HW-230a.1	Description of approach to identifying and addressing data security risks in products	p. 43-46
Employee Diversity & Inclusion	TC-HW-330a.1	Percentage of gender and racial/ethnic group representation for (1) management, (2) technical staff, and (3) all other employees	p. 79
Product Lifecycle Management	TC-HW-410a.1	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 p. 36 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 ¹⁾	<ul style="list-style-type: none"> · Computers 71.0% · Mobile Phones: 24.1%
	TC-HW-410a.3	Percentage of eligible products, by revenue, meeting ENERGY STAR® criteria ¹⁾	<ul style="list-style-type: none"> · Audio Devices: 93.7% · Computers: 92.4%
	TC-HW-410a.4	Weight of end-of-life products and e-waste recovered, percentage recycled	p. 33, p. 81
Supply Chain Management	TC-HW-430a.1	Percentage of Tier1 supplier facilities audited in the RBA Validated Audit Process (VAP) or equivalent, by (a) all facilities and (b) high-risk facilities	p. 80
	TC-HW-430a.2	Tier1 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. 69
Materials Sourcing	TC-HW-440a.1	Description of the management of risks associated with the use of critical materials	p. 71

1) Based on 2020 North American (The U.S., Canada) Revenue.

Activity Metrics

Code	Topic	Page/Reference
TC-HW-000.A	Number of units by product category	2020 Business Report (II. Business Overview) p. 65-68
TC-HW-000.B	Surface Area and location of manufacturing facilities	p. 4
TC-HW-000.C	Percentage of production from owned facilities	2020 Business Report (II. Business Overview) p. 65-68

SASB Index

SEMICONDUCTORS

Sustainability Disclosure Topics & Accounting Metrics

Topic	Code	Accounting Metric	Page/Reference
Greenhouse Gas Emissions	TC-SC-110a.1	(1) Gross global Scope 1 emissions, and (2) amount of total emissions from perfluorinated compounds	p. 30, p. 81
	TC-SC-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	p. 25-30
Energy management in Manufacturing	TC-SC-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	p. 81
Water Management	TC-SC-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	p. 35, p. 82-83
Waste Management	TC-SC-150a.1	Amount of hazardous waste from manufacturing, percentage recycled	p. 82
Employee Health & Safety	TC-SC-320a.1	Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards	p. 59-61
	TC-SC-320a.2	Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations	2020 Business Report (XI. Other Information) p. 539-541
Recruiting & Managing a Global & Skilled Workforce	TC-SC-330a.1	Percentage of employees that are (1) foreign nationals and (2) located offshore	p. 78-79
Product Lifecycle Management	TC-SC-410a.1	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 p. 36 of the Sustainability Report for Samsung Electronics' efforts in managing hazardous substances.
	TC-SC-410a.2	Processor energy efficiency at a system-level for: (1) servers, (2) desktops, and (3) laptops	N/A
Materials Sourcing	TC-SC-440a.1	Description of the management of risks associated with the use of critical materials	p. 71
IP Protection & Competitive Behavior	TC-SC-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	2020 Business Report (XI. Other Information) p. 542

Activity Metrics

Code	Topic	Page/Reference
TC-SC-000.A	Total production	2020 Business Report (II. Business Overview) p. 65-68
TC-SC-000.B	Percentage of production from owned facilities	2020 Business Report (II. Business Overview) p. 65-68

Customer Communication and Performance

Integrated Voice of 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 learn about customers' needs and improve the customer experience.

Customer Satisfaction Survey

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

<The Results of the Product/Service Satisfaction Survey in South Korea in 2020>

Index	Presented by	Products Winning Top Awards
Korean Customer Satisfaction Index (KCSI)	Korea Management Association Consulting	TV, refrigerator, washing machine, air-conditioner, kimchi refrigerator, smartphone, PC
Korean Service Quality Index (KSQI)	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
National Customer Satisfaction Index (NCSI)	Korea Productivity Center and Chosun Ilbo	TV, refrigerator, dryer, smartphone
Korean Standard - Quality Excellence Index (KS-QEI)	Korean Standards Association	TV, refrigerator, drum-type washing machines, kimchi refrigerator, dryer, cordless stick vacuum cleaner, air-conditioner, air conditioner / heater units, smartphone, tablet, PC
Korean Standard Service Quality Index (KS-SQI)	Korean Standards Association	Computer, home appliance, mobile phones
Korean Standard Contact Service Quality Index (KS-CQI)	Korean Standards Association	Home appliances, mobile phones
Global Customer Satisfaction Competency Index	Global Management	TV, refrigerator, washer, vacuum cleaners, kimchi refrigerator, dryer, clothing care system, air purifier, air conditioner, smartphone, PC

<Achievements in Customer service-related Awards in 2020>

Country	Awards
Brazil	<p>Best Customer Service Companies (February)</p> <ul style="list-style-type: none"> Presented by: IBRC (Instituto Brasileiro de Relacionamento com Cliente) Awards: 2018-2020, highest ranking electronics company three years in a row
Mexico	<p>Mexico Customer Satisfaction Award (March)</p> <ul style="list-style-type: none"> Presented by: IMT (Instituto Mexicano de Teleservicios) Awards: Best Customer Experience Strategy (Gold) Best Omni Channel & Multichannel Strategy (Silver) Best Customer Service Strategy (Bronze)
Russia	<p>CX World Award (May)</p> <ul style="list-style-type: none"> Presented by: CX World Forum Awards: CX Innovation Grand Prize, Offline Interaction with CX Grand Prize, CX Feedback Usage Excellence award
Austria	<p>Top Service Award (June)</p> <ul style="list-style-type: none"> Presented by: Emotion Banking, Die Presse, University of Mannheim, Germany Award: 2019-2020, two years in a row
Thailand	<p>Recognition of Customer Protection Award (July)</p> <ul style="list-style-type: none"> Presented by: OCPB (The Office of the Consumer Protection Board) Award: The only electronics company to win the award (Recognition for excellence in customer rights protection and claim handling)
Germany	<p>DISQ 2020 (July)</p> <ul style="list-style-type: none"> Presented by: DISQ (German Institute for Service Quality) Award: First prize, smartphone service category Service-Champion Awards 2020 (October) Presented by: Die Welt, Service Value Institute, Goethe University Award: Gold Award in home appliance category
US	<p>CCW Excellence Awards (August)</p> <ul style="list-style-type: none"> Presented by: CCW (Customer Contact Week) Award: Best Contact Center Training and Development Program
Poland	<p>Gwiazda Jakosci Obslugi (Customer Satisfaction) (October)</p> <ul style="list-style-type: none"> Presented by: JAKOSC OBSLUGI, Gazeta Wyborcza (Media), Wroclaw University of Economics and Business Awards: Star Service Quality 2020 Star of the Decade 2010-2020
Italy	<p>Campioni del servizio (Customer Service Satisfaction) (October)</p> <ul style="list-style-type: none"> Presented by: ITQF (German Institute for Quality & Finance) Award: Recognition for the highest customer service rating in Italy

About This Report

Samsung Electronics publishes its 14th Sustainability Report in 2021 to transparently share and communicate its social, economic, and environmental value creation achievements with its various stakeholders.

Reporting Standard

This report was prepared in accordance with the Core Options of the Global Reporting Initiative (GRI) standards. It also reflects indicators set by globally-accepted standards and initiatives – 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 36 global production subsidiaries.

Reporting Period

This report covers social, economic, and environmental performance and activities from January 1, 2020 to December 31, 2020, and for some achievements in this report may include information dated to May 2021. Quantitative data for the latest three fiscal years are provided to allow for trend analysis over time.

Reporting Cycle

Annual (last report published in June, 2020)

Report Assurance

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

For Further Information:

- Samsung Electronics Website
<http://www.samsung.com/>
- Sustainability Website
<https://www.samsung.com/uk/sustainability/overview/>
- IR Website
<https://www.samsung.com/global/ir/>
- Samsung Electronics Newsroom
<http://news.samsung.com/global>

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Reference Materials

- Annual Business Report [↗](#)
- Corporate Governance Report [↗](#)
- Responsible Minerals Report [↗](#)
- CDP Report [↗](#)
- Global Code of Conduct [↗](#)

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