
A Journey Towards a Sustainable Future

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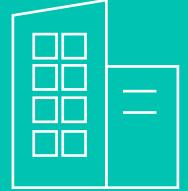
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Our Company



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Message from Our CEO



Dear Shareholders, Customers, Partners, and Employees,

Samsung Electronics is committed to embedding sustainability in our business and product strategies while striving to play a leading role in the global effort to build a sustainable future.

Growing environmental and socioeconomic risks coupled with geopolitical uncertainties have reinforced our belief that sustainability needs to be a key force for driving our competitiveness and technological innovation.

To accelerate this drive, Samsung Electronics announced the New Environmental Strategy on September 15th, 2022, and cemented our resolve to address global climate and resource challenges in cooperation with our stakeholders.

With this new strategy, we plan to achieve net zero for the DX Division by 2030 and company-wide, including the DS Division, by 2050.

As a global information and communication technology (ICT) company, our responsibility is to make positive, lasting impacts throughout the value chain and society. To this end, we aim to mitigate carbon emissions by using our innovative technologies and maximizing resource circularity across the life cycle of our products.

Tackling global environmental challenges requires concerted efforts from a wide range of stakeholders. We are therefore continually expanding our collaboration and partnership with various stakeholders to explore technological breakthroughs and address systemic and physical barriers.

Our involvement in the Asia Clean Energy Coalition (ACEC), Semiconductor Climate Consortium (SCC), Decarbonizing the Use Phase of Connected Devices (DUCD), and Platform for Accelerating the Circular Economy (PACE) are good examples of such collaboration that strives to work across value chains and with industry peers. Another notable partnership is with Patagonia to address the issue of microplastic pollution, which led to the introduction of new wash cycle and filter that reduce the amount of microfiber released to the environment.

Samsung Electronics is also reinforcing compliance with human rights principles while promoting sustainable management practices throughout our supply chain, better serving local communities, and enabling professional growth of our employees.

In February 2023, we announced our Global Human Rights Principles as an extension of our commitment to protect human rights under the UN

Guiding Principles on Business and Human Rights (UNGPs). Our Global Human Rights Principles convey our will to engage employees, suppliers, local communities, partners, and consumers in our pledge to uphold fundamental human rights.

Regarding corporate social responsibility, our activities include diverse training initiatives that focus on building technical capabilities of future generations as well as donation programs that reach out to the underserved. A prime example is our Kiosk of Sharing, a program through which employees can donate to underprivileged children in the communities we serve simply by tagging their employee ID card. This program aims to foster a culture of giving among our employees, and it is currently active at all of our business sites in Korea and at select sites in Vietnam, Thailand, India, China, and the US.

In line with our longstanding emphasis on cultivating talent based on our corporate philosophy of "People First," we launched The UniverSE—The University of Samsung Electronics—in 2023. This company-wide leadership and vocational training platform is designed to help our employees develop the skills required to achieve both professional and personal growth.

We have also rolled out a data science course for our employees and suppliers to equip them with the necessary skills to excel as the future workforce in the digital transformation era.

Furthermore, we are pleased to mark 2023 as the initial year of our support to strengthen ESG performance of our suppliers. In this context, we expanded our supplier training programs to bolster their compliance with the Supplier Code of Conduct and relevant laws, support climate action and resource-circularity initiatives, and adhere to labor and human rights policies.

Samsung Electronics will continue to join hands with diverse stakeholders and seek innovative technology-based solutions to tackle pressing environmental and social challenges. Despite many obstacles that may lie ahead, we will move forward steadily to fulfill our goals toward a sustainable future one step at a time. We look forward to your continued support and partnership in this journey. Thank you.

CEO and Vice Chairman
Jong-hee Han

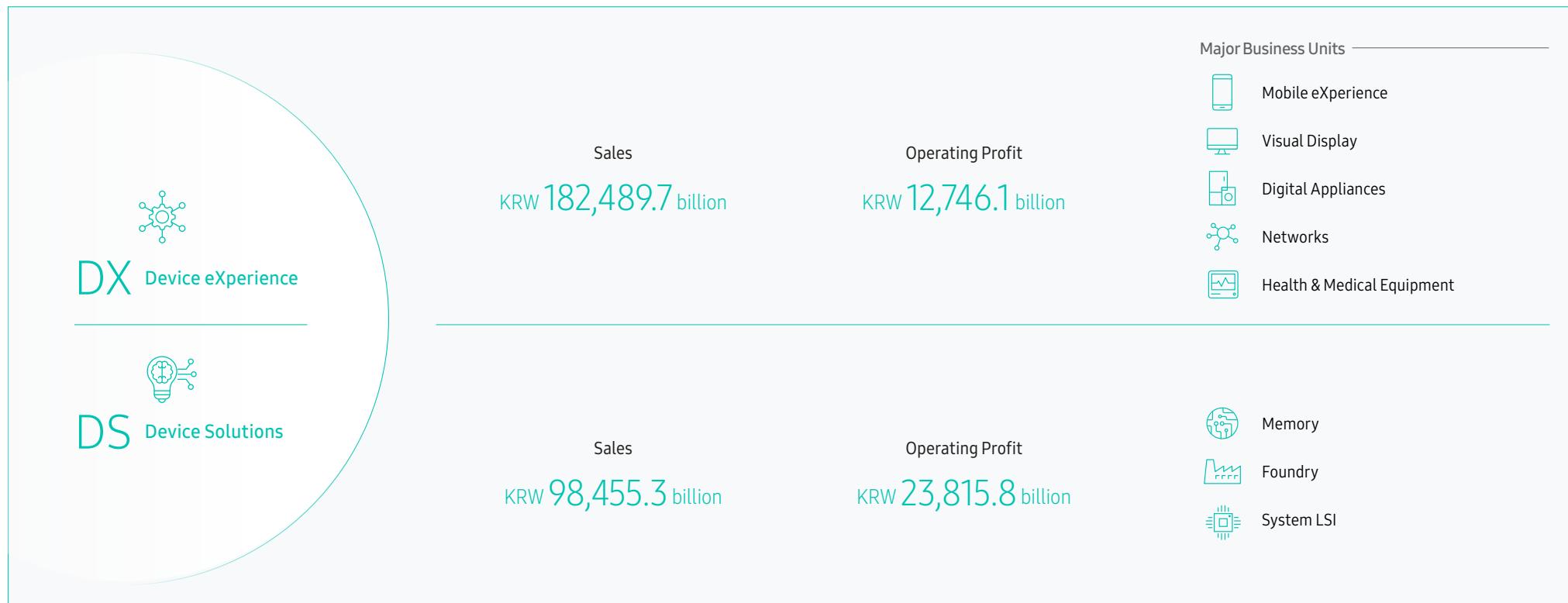
A handwritten signature in black ink, appearing to read "Jong-hee Han".

Company Overview

We aim to bring positive change to the everyday lives of people around the world by offering top-quality products and services created with innovative technologies and talented workforce. We also developed our Global Code of Conduct, which articulates our commitment to helping the world move forward based on our five Key Values. We will incorporate the Key Values into every aspect of our business operation and ensure compliance with the Global Code of Conduct to achieve our ultimate goal of sustainable growth.

About Our Organization

Our organization is divided into the two main divisions of DX (Device eXperience) and DS (Device Solutions), and we ensure that each division operates independently. DX took a new leap forward with the integration of the CE (Consumer Electronics) Division responsible for, among others, TVs, monitors, air conditioners, refrigerators, and IM (IT and Mobile) Division, responsible for mobile devices and network systems. DS consists of the Memory, System LSI, and Foundry businesses.



* The sales and operating profits above are based on 2022 figures, excluding the performance of Harman and SDC (Samsung Display Company).

Global Network

As of the end of 2022, our global business network consists of 232 production sites, sales offices, R&D centers, and design centers. With global headquarters in Korea, we have 15 regional offices including in North America, Southeast Asia, Europe, and Africa¹⁾.



North America

Regional Offices 2
Sales Offices 5
Production Sites 3
R&D Centers 8
Design Centers 1
Purchase Centers 1
Others 8

Central and South America

Regional Offices 1
Sales Offices 20
Production Sites 3
R&D Centers 1
Design Centers 1
Purchase Centers 1
Others 1

Middle East

Regional Offices 1
Sales Offices 17
Production Sites 2
R&D Centers 4
Design Centers 1
Purchase Centers 1
Others 1

Europe

Regional Offices 2
Sales Offices 24
Production Sites 3
R&D Centers 4
Design Centers 1
Purchase Centers 1
Others 9

CIS

Regional Offices 1
Sales Offices 7
Production Sites 1
R&D Centers 1

China

Regional Offices 2
Sales Offices 4
Production Sites 4
R&D Centers 8
Design Centers 1
Purchase Centers 2
Others 2

Korea

Regional Offices 1
Sales Offices 1
Production Sites 6
R&D Centers 5
Design Centers 1



1) Regional classification is based on Samsung Electronics' internal management criteria. 2) Sales Subsidiaries and Branches 3) Distribution Subsidiaries, IP Offices 4) Suppliers of parts used in the manufacturing of Samsung products

* As of 2023, the number of purchase centers previously included in "Others" is disclosed separately. In addition, the number of sales branches previously included in "Others" has been included in "Sales Offices."

Stakeholder Engagement

Active communication with our stakeholders is an important part of fulfilling our responsibility as a global company. We disclose relevant information in a transparent manner and continually update contents year-round on our Sustainability Website. We seek to strengthen our relations with our stakeholders and align ourselves with them on issues regarding sustainability through active communication via multiple channels, including forums, surveys, and on-site visits.

Stakeholders	Key Interests		Communication Channels		Major Activities	
Customers (B2C & B2B)	<ul style="list-style-type: none"> · Quality of products and services · Safety in product use · Environmental impact of products throughout their life cycle 	<ul style="list-style-type: none"> · Accurate product information · Transparent communication 	<ul style="list-style-type: none"> · Customer satisfaction surveys · Contact centers and service centers · Samsung Electronics Newsroom 	<ul style="list-style-type: none"> · Samsung Semiconductor Newsroom · Sustainability Website · Sales Channels · Product Environmental Report 	<ul style="list-style-type: none"> · Reinforcing quality and safety management systems · Offering product information via country-specific websites 	<ul style="list-style-type: none"> · Resolving issues identified through VoC (Voice of the Customer) · Staffing sustainability specialists at the subsidiary and business levels
Shareholders and Investors	<ul style="list-style-type: none"> · Economic performance · Risk management · Information-sharing 	<ul style="list-style-type: none"> · Sustainability agenda, including environmental, social, and governance issues 	<ul style="list-style-type: none"> · Annual General Meeting · Non-Deal Roadshows, Investor Meetings · Earnings Releases 	<ul style="list-style-type: none"> · Investors Forum · ESG Roadshow · IR Website 	<ul style="list-style-type: none"> · Forecasting business environment and performance · Updating shareholder return policy 	<ul style="list-style-type: none"> · Disclosure of information on corporate governance · Collecting views of shareholders and investors
Employees	<ul style="list-style-type: none"> · Safe and healthy work environment · Diversity and inclusion · Training and career development 	<ul style="list-style-type: none"> · Employment and benefits · Labor relations · Organizational culture 	<ul style="list-style-type: none"> · Labor unions, work councils · Counseling centers · Satisfaction surveys on organizational health, work concentration, and employee experience · Sustainability Website 	<ul style="list-style-type: none"> · Communication with the executive management · Online communication platform, including Samsung NOW · Compliance and ethics whistleblowing channels 	<ul style="list-style-type: none"> · Offering tailored career development programs · Town hall meetings hosted by individual businesses 	<ul style="list-style-type: none"> · Mentoring for the executive management by Millennial and Gen Z employees · Managing work environments at our business sites · Fostering a culture of trust and communication · Employer Branding Activities
Suppliers	<ul style="list-style-type: none"> · Partner collaboration · EHS(Environment, Health & Safety) performance · Fair trade 	<ul style="list-style-type: none"> · Protection of workers' human rights · Environmental and social issues 	<ul style="list-style-type: none"> · Global Supplier Relationship Management System · Hotline, online whistleblowing channels · Partner Collaboration Day, supplier dialogues 	<ul style="list-style-type: none"> · Partner Collaboration Academy · Sustainability Website 	<ul style="list-style-type: none"> · Funding and technology support · Employee training and innovation support · GHG emissions reduction management 	<ul style="list-style-type: none"> · Responsible management of suppliers' work environments · Grievance resolution
Local Communities	<ul style="list-style-type: none"> · Local employment, local economic development · Indirect economic effects, including investment and employment 	<ul style="list-style-type: none"> · Conservation of local environment · Philanthropic activities including donations and volunteer work 	<ul style="list-style-type: none"> · Local volunteer centers · Sustainability Website · CSR Website 	<ul style="list-style-type: none"> · Local community councils 	<ul style="list-style-type: none"> · SME support programs, including Smart Factory · Conservation of river ecosystems near our business sites 	<ul style="list-style-type: none"> · Community outreach programs on education and employment
International Organizations, NGOs, Associations, Specialized Organizations	<ul style="list-style-type: none"> · Social responsibility for local communities and the environment 	<ul style="list-style-type: none"> · Contributions to climate action and other UN SDGs · Transparent and timely information disclosure 	<ul style="list-style-type: none"> · Corporate dialogues · NGO meetings · Stakeholder forums 	<ul style="list-style-type: none"> · Meetings between civil society organizations and executive management · Sustainability Website 	<ul style="list-style-type: none"> · Collecting views of global NGOs · Engagement with RBA¹⁾, RMI²⁾, and BSR³⁾ 	<ul style="list-style-type: none"> · UNGC¹⁾ activities · Engagement with ACEC²⁾ and SCC³⁾ <p>1) Responsible Business Alliance 2) Responsible Minerals Initiative 3) Business for Social Responsibility</p>
Government	<ul style="list-style-type: none"> · Indirect economic effects, including investment and employment · Fair trade 	<ul style="list-style-type: none"> · Occupational health and safety · Compliance · Business ethics 	<ul style="list-style-type: none"> · Policy conferences · National Assembly · Public hearing for policymaking 	<ul style="list-style-type: none"> · Policy advisory bodies · Sustainability Website 	<ul style="list-style-type: none"> · Supporting SMEs in collaboration with the government 	<ul style="list-style-type: none"> · Operating joint venture investment windows in collaboration with the government
Media	<ul style="list-style-type: none"> · Business strategy for major products · Progress on implementation of New Environmental Strategy · Investment strategy 		<ul style="list-style-type: none"> · Press releases · Sustainability Website 	<ul style="list-style-type: none"> · Samsung Electronics Newsroom 	<ul style="list-style-type: none"> · Supporting media coverage of global IT exhibitions and unpack events · Media days · Press conferences 	<ul style="list-style-type: none"> · Interviews · Planning and promotional activities

Approach to Sustainability



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Sustainability Achievements

Business Sustainability

We pursue sustainability throughout the product's life cycle, from design and development to manufacturing, usage, takeback, and recycling.

At the Device eXperience (DX) Division, we develop environmentally responsible materials and energy efficient solutions and collect and recycle e-waste globally. In addition, we continuously enhance the accessibility features of our products and provide upgrades to improve user experience.

At the Device Solutions (DS) Division, we strive to minimize greenhouse gas emissions in the manufacturing of semiconductor products, including memory, image sensors, and driver integrated circuits (ICs). In addition, by enhancing the energy efficiency of semiconductor products we are reducing the amount of energy consumed by data centers and IT devices, such as smartphones and laptops. We also seek innovations from the product design stage all the way through production with the aim of transforming end-of-life products into resources.

Mobile Devices



Recycling of discarded fishing nets

Discarded fishing nets that destroy ocean ecosystems are transformed into parts for our smartphones, earbuds, tablets, and PCs.



Galaxy Upcycling

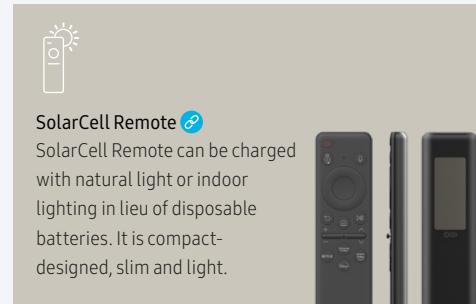
Galaxy smartphones not in use are transformed to serve new purposes through the Galaxy Upcycling program.



Samsung Global Goals

We support to achieve UN SDGs in cooperation with UN Development Program (UNDP).

TVs and Audio Systems



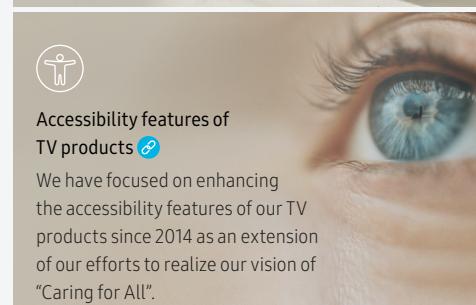
SolarCell Remote

SolarCell Remote can be charged with natural light or indoor lighting in lieu of disposable batteries. It is compact-designed, slim and light.



Eco-packaging

In 2020, we introduced eco-packaging that enables consumers to easily upcycle TV packaging into a book shelf, object for a pet, or small piece of furniture.



Accessibility features of TV products

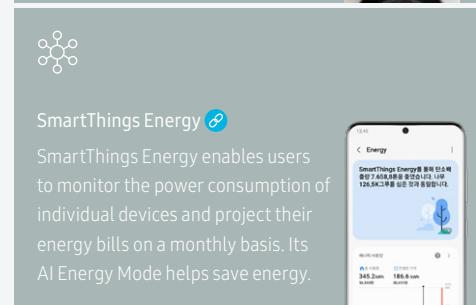
We have focused on enhancing the accessibility features of our TV products since 2014 as an extension of our efforts to realize our vision of "Caring for All".

Home Appliances



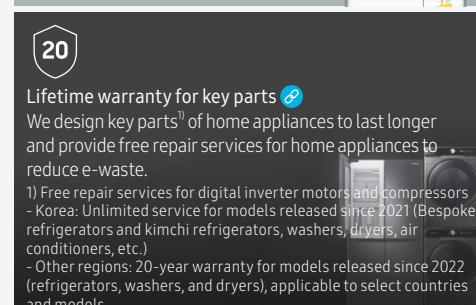
Less microfiber cycle in washer

We developed a cycle that reduces the release of microplastics that are damaging to ocean ecosystems and our health.



SmartThings Energy

SmartThings Energy enables users to monitor the power consumption of individual devices and project their energy bills on a monthly basis. Its AI Energy Mode helps save energy.



Lifetime warranty for key parts

We design key parts¹⁾ of home appliances to last longer and provide free repair services for home appliances to reduce e-waste.

- 1) Free repair services for digital inverter motors and compressors
 - Korea: Unlimited service for models released since 2021 (Bespoke refrigerators and kimchi refrigerators, washers, dryers, air conditioners, etc.)
 - Other regions: 20-year warranty for models released since 2022 (refrigerators, washers, and dryers), applicable to select countries and models

Semiconductors



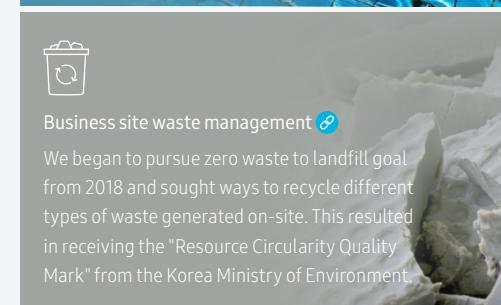
GHG emissions reduction in the production stage

We have focused our resources on mitigating GHG emissions generated in the semiconductor manufacturing process.



Water resource saving and reuse

We develop technologies to enhance the reusage rate of used water.



Business site waste management

We began to pursue zero waste to landfill goal from 2018 and sought ways to recycle different types of waste generated on-site. This resulted in receiving the "Resource Circularity Quality Mark" from the Korea Ministry of Environment.

Highlights of Product Sustainability



Accessibility

We strive to design products that are accessible for people with disabilities. We offer visual, auditory, cognitive, and motion accessibility features such as the Relumino mode (a quality correction mode for people with low vision), the SeeColors mode for people with color weakness, sign language guidance, and TalkBack.

Story

Relumino Mode

Outlining objects, enhancing contrast, and adjusting brightness, color, and sharpness to highlight content for people with low vision



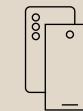
Neo QLED TV (QN90C)

- Relumino mode for low-vision users
- Improved vision accessibility (e.g., magnification, high contrast display, SeeColors mode)
- Hearing accessibility features (e.g., auto caption position, sign language guide)
- Slow Button Repeat



ViewFinity S6 Monitor (S65UC)

- SeeColors mode for people with color vision deficiency
- High Contrast, black and white, color inversion



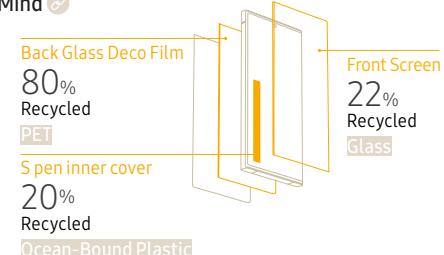
Recycled and Recyclable Materials

We develop recycled and recyclable materials in collaboration with various partners and apply these materials in our products. We ensure that product quality is maintained while striving to minimize their environmental impact.

Story

Galaxy S23 Series: Designed with the Planet in Mind

In the Galaxy S23 series, we incorporated recycled materials in more device components than in any other previous Galaxy smartphone.



Galaxy Book3 Ultra

- Plastic recycled from discarded fishing nets applied to the bottom inner case
- Plastic recycled from discarded water bottles applied to the rear inner case and cover foot
- Display that attained UL's Greenguard gold certification

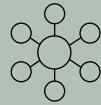


Galaxy Buds2 Pro

- Plastic recycled from discarded fishing nets applied to the battery bracket, cradle PCB bracket, and protective brackets for the interior parts
- Plastic recycled from discarded water bottles applied to the lid, interior of the lid, base, and interior parts of the cradle case, as well as the front and back covers of the earbuds
- Expanded use of recycled paper in packaging



Highlights of Product Sustainability



Energy Efficiency

Our latest products outperform their predecessors in terms of energy efficiency, exceeding the first grade energy efficiency rating by the Korean government. The Bespoke Grande AI washer (25kg) and Bespoke Wind-Free Air Conditioner both exceed this rating by 20% and 10%, respectively.¹⁾

By using the SmartThings AI Energy Mode, energy consumption of washers, air conditioners, and dryers can be further enhanced by up to 60%, 20%, and 35%, respectively.²⁾

1) Applicable models: washers (including WF25CB8895BW) and air conditioners (including AF17CX936AFN)

2) Test models: washer (WF25B9600**), air conditioner (AF25BX934WAR), and dryer (DV20B9760ME)

Story

SmartThings Energy

SmartThings Energy recommends ways for you to be more energy efficient and lets you easily monitor and manage the energy usage.



Bespoke Grande AI Washer

- Obtained first grade energy efficiency rating by the Korean government
- Using SmartThings AI Energy Mode reduces energy consumption by up to 60%¹⁾

1) Test model: WF25B9600**



Bespoke Wind-Free Air Conditioner¹⁾

- First grade energy efficiency rating by the Korean government
- SmartThings AI Energy Mode for energy consumption reduction by up to 20%²⁾

1) Applicable models: AF17CX936AFR, AF18BX836NFR, AF20BX936SFR, AF23BX939VSR, F25BX934WAR

2) Test model: AF25BX934WAR



Carbon Footprint

In 2019, we obtained the industry's first Carbon Footprint certification from the Carbon Trust for the Universal Flash Storage (UFS). Since then, we have been Carbon-Footprint certified across a wide range of products – including eight in DRAM/SSD/memory card (2020), four in system semiconductor and twenty in DRAM/SSD/memory card (2021), four in system semiconductor, and 15 in DRAM/SSD/memory card (2022). Moreover, we achieved Carbon Reduction certifications for one UFS (2020) and five DRAM/SSD/UFS/memory card (2021).

Story

Reducing carbon emissions throughout the product life cycle

Our Carbon Footprint-certified products reduce carbon emission by approximately 680,000 tonnes.



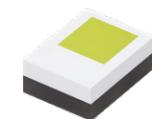
UFS 3.1(512GB)

- Recognized with the industry's first 'Reducing CO₂' label by Carbon Trust
- Carbon Footprint certification by Carbon Trust



Vehicle Headlamp Solution (C-Series Gen3)

- Industry's first to obtain Carbon Footprint certification by Underwriters Laboratories (UL)
- Reduced vehicle energy consumption, improved fuel efficiency, and reduced carbon emissions
- Best-in-industry lamp efficiency with vehicle energy consumption reduced by over 10%



Highlights of Product Sustainability



Low-Power Memory

In the future, the storage and processing of data will likely require more energy compared to energy required for generating data¹⁾.

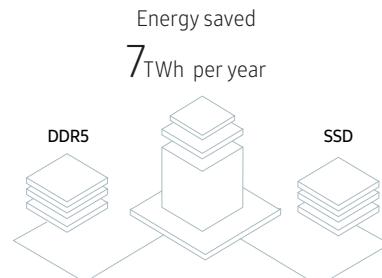
Therefore, we offer high-performing, power-efficient, and secure solutions tailored to the needs of data centers. These industry-leading solutions facilitate the reduction of power use and operational costs at data centers.

1) According to IDC IGIS, a market research agency, an estimated 175ZB of data is projected to accumulate in 2025.

Story

Power savings of Samsung SSD and DDR5

If we replace the world's Hard Disk Drives (HDDs) with Samsung Solid State Drives (SSDs) and Dynamic Random-Access Memory (DRAM) of servers with Samsung Double Data Rate 5 (DDR5) DRAMs, approximately 7TWh of energy can be saved per year.



Mobile DRAM(LPDDR5X)

- Power consumption reduced by nearly 20% compared to the previous products
- Ultra-high 8.5 Gbps data processing speed is 1.3 times faster compared with previous LPDDR5 models of 6.4Gbps



DDR5 DRAM(12 nanometer)

- Productivity and low-power feature enhanced, compared to previous DRAM (14 nanometer)
- Optimized for next-generation computing with productivity and power efficiency enhanced by 20% and 23%, respectively



Low-Power Processor

Samsung Exynos Processor is integrated with a variety of functions, including the CPU, GPU, Multi-format Codec (MFC), Image Signal Processor (ISP), Display, and Security — along with an NPU and Digital Signal Processor (DSP) for AI in addition to the 5G modem. Furthermore, our proprietary Advanced Multi-IP Governor (AMIGO) solution dramatically reduces battery consumption.

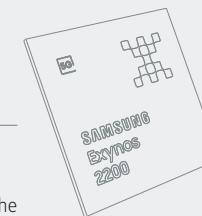
Story

Brains of a smartphone with eyes on a better life

The Exynos mobile processor has an integrated form of various features that reduces the space and costs of parts and enhances their respective energy efficiency compared to that of individual parts.

Profilers

The AMIGO solution is equipped with profilers that collect CPU, GPU, MIF, FPS, DTM data.



Main Controller

The main controller analyzes the collected data and determines which IPs to raise or suppress in order to achieve the target FPS or reduce power.

Main Profiler

It collects the active ratio, frequency, and temperature of each IP as well as the frames-per-second (FPS) and screen refresh rate.

Mobile AP¹⁾ (Exynos 2200)

- Optimizing energy efficiency through AMIGO solution
- Integrated premium single SoC²⁾ for 5G modem
- Enhanced computing core (CPU³⁾, GPU⁴⁾, NPU⁵⁾

- 1) Application Processor
- 2) System on Chip
- 3) Central Processing Unit
- 4) Graphic Processing Unit
- 5) Neural Processing Unit

Sustainability Achievements

Planet

GHG Emissions Reduction Relative to BAU (Scopes 1 and 2)

10.16 million tonnes CO₂e

*59% increase compared to 2021



Transition to Renewable Energy

31%

* 11% increase compared to 2021

** Transition complete at all DX business sites in Korea and manufacturing sites in Brazil, India, and Vietnam

GHG Emissions Reduction in the Product Use Phase

914,000 tonnes CO₂e

* 13 product categories in 2022 (refrigerator, air conditioner, washer, dryer, microwave oven, vacuum cleaner, TV, monitor, PC, HHP, tablet, wearable, and base station)

** Compared to BAU (baseline year: 2021)



Water Reuse

116.59 million tonnes

*29% increase compared to 2021

Use of Plastic with Recycled Resin

98,826 tonnes

* 200% increase compared to 2021

** Cumulative amount from 2009 to 2022: 409,000 tonnes



E-Waste Collected

600,502 tonnes

* 9% increase compared to 2021

** Cumulative amount from 2009 to 2022: 5.69 million tonnes

Zero Waste-to-Landfill Mark (Platinum)

12 business sites



People

WBA¹⁾ Corporate Human Rights Benchmark in 2022

Ranked **2nd** (among ICT manufacturers)

1) World Benchmarking Alliance



WBA Digital Inclusion Benchmark in 2022

Ranked **7th**

Launching of The UniverSE¹⁾

3 academies & **11** schools

1) The University of Samsung Electronics

GCF¹⁾ Children's Rights Benchmark in 2022

Leader (highest rank)

1) Global Child Forum



Employee Training Sessions

9.14 million sessions



Suppliers Rated as Outstanding

62.1%

*Based on results of the annual comprehensive supplier evaluation

Smart Factory Project Beneficiaries

277 companies



* A total of 3,087 companies from 2015 to 2022

Employee Volunteering

1.02 million hours

* A total of 10.97 million hours from 2012 to 2022



CSR Program Beneficiaries

660,761 individuals



*A total of 22.77 million individuals from 2012 to 2022

Planet



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New Environmental Strategy

In September 2022, we released our mid-to-long-term environmental management strategy which specifies our goals and action plans based on a vision that the Environment is Our Future.

New Environmental Strategy

Samsung Electronics announced the New Environmental Strategy in September 2022 with the aim of addressing global environmental issues through our innovative technologies. This paradigm shift is essential for our sustainable growth and will serve as an important momentum to reinforce our competitiveness.

The New Environmental Strategy was developed based on our commitment to achieve net zero by 2050 joining the world's drive to combat climate change; maximize resource circularity to advance towards a circular economy; and continuously address environmental challenges through technological innovation. This effort is expected to bring positive change to the broader ecosystem of the ICT (information and communications technology) industry as we engage in the manufacturing and supply of an extensive range of products and services.

We plan to invest over KRW 7 trillion* by 2030 in environmental management activities (including semiconductor process gas reduction, e-waste collection and recycling, water resource preservation, and pollutant minimization) by 2030 and transparently disclose the progress and results of the implementation of the Strategy regularly via our Sustainability Report and Website.[🔗](#)

*Excluding renewable energy purchasing costs

Achieving Net Zero by 2050

We are a vertically integrated ICT manufacturer involved in all electronics sectors from semiconductors to smartphones, TVs, and home appliances. As a company of vast scale responsible for the supply of an extensive range of products and services, we are faced with significant obstacles in meeting our net zero targets including the transition to renewable energy. However, we have taken up the challenge to contribute to resolving one of the most pressing issues threatening humanity: climate change.

We plan to achieve net zero in Scopes 1 and 2 by 2050. Net zero will be achieved first by the DX Division by 2030, followed by the company level including the DS Division by 2050 or sooner.

Reducing Scope 1 Emissions through Technological Innovation

We are concentrating our resources on carbon emissions reduction technologies that reduce Scope 1 emissions generated from our operations. Direct carbon emissions from our operational sites are mostly process gases from the semiconductor manufacturing process and emissions from the use of fossil fuels such as LNG(Liquefied Natural Gas). We plan to develop new technologies for improving process gas treatment efficiency by 2030 and expand carbon emissions reduction facilities across all of our manufacturing lines. In order to reduce the use of LNG-fueled boilers, we will seek ways to utilize waste heat and introduce electric heat sources. Moreover, we will switch all corporate vehicles – approximately 1,500 – to electric vehicles by 2027.

Joining RE100 for Scope 2 Emissions Reduction

We joined the RE100 initiative to reduce our Scope 2 emissions (indirect carbon emissions from power consumption) and achieve the transition to renewable energy for our electricity use by 2050. Despite the challenge being a large energy user with limited renewable energy supply – especially in Korea – we are committed to transitioning to renewable energy by 2050. We will first complete energy transition at all of our global operations sites by 2027 (Central and South America by 2025; and Southeast Asia, CIS member states, and Africa by 2027). For our sites in the US, China, Europe, Vietnam, India, and Brazil that have already reached this goal, we plan to expand direct power purchase agreements (PPAs) centering on the regions equipped with active renewable energy policies and systems.

Strengthening Stakeholder Collaboration

We are actively collaborating with various stakeholders, including industry peers and civil society organizations, to increase the supply of renewable energy. As part of this effort, we joined the Asia Clean Energy Coalition (ACEC) as a founding member during the 27th Conference of the Parties (COP27) of the UN Framework on Climate Change (UNFCCC). We are participating as a member of the steering committee as well as country-working groups to facilitate the supply of renewable energy in the region. Moreover, we joined the Semiconductor Climate Consortium (SCC) as a founding member in November 2022 and have been appointed as a governing council member in January 2023. In this capacity, we aim to play an active role in collectively addressing the climate challenges as an industry, including ways to facilitate GHG emissions reduction through effective target and roadmap setting and standardization.

Ultra-Power-Saving Technology and Resource Recycling

We focus on developing ultra-power-saving technology to enhance the energy efficiency of our products and reduce carbon emissions in the product use phase.

We plan to secure ultra-low-power semiconductor technology to drastically reduce the power consumption of memory used in data centers and mobile devices by 2025. By breaking down the semiconductor manufacturing processes and developing low-power design technology, we will be able to reduce the power consumption of IT products and data centers resulting in mitigating GHG emissions, while rolling out products of the same performance using less resources.

We also plan to apply the technology to the leading models of seven major product categories (smartphone, TV, refrigerator, washer, air conditioner, PC, and monitor) to improve power consumption by an average of 30% by 2030 compared to that of models of equivalent performance in 2019. To this end, we will apply high-efficiency parts (compressors, heat exchangers, and semiconductors) and improve energy efficiency in product algorithms through the introduction of SmartThings AI Energy Mode.

Strengthening Scope 3 Emissions Management

In 2022 we launched a task force to facilitate emissions reductions of Scope 3 emissions. In 2022, we improved the calculation methods for applicable categories under Scope 3 and completed the third-party audit on our calculation methods and measured emissions by the Korean Foundation for Quality. We plan to continue to advance the calculation methods to ensure accuracy in assessing our emissions. Our Scope 3 emissions are verified by outside experts and are disclosed to the public via our Sustainability Report and the CDP (Carbon Disclosure Project) platform. We are also working to establish mid-to-long-term targets and develop specific tasks across diverse areas from supply chains to resource circularity and logistics. In this context, we introduced 22 sustainability management courses (including GHG emissions reduction, supply chain due diligence, fair trade) at our Partner Collaboration Academy in Q4 of 2022 to help our suppliers improve their understanding of relevant issues, while also offering consulting services through our dedicated organizational unit to improve their capacity for GHG management and emissions reduction.

Maximizing Resource Circularity across the Entire Product Life Cycle

We are undertaking a project to maximize resource circularity across the life cycle of our products - from material sourcing and production to disposal and recycling. We aim to complete the resource circularity loop of producing electronics with recycled materials, collecting end-of-life and discarded products, recovering resources, and applying the recovered resources to new products.

Expanding the Application of Recycled Resin

We are expanding the use of recycled resin in plastic parts used in our products. By 2030, recycled resin will be applied to 50% of our plastics parts; by 2050, it will be applied to all of our plastic parts. We are also expanding the use of plastic recycled from discarded fishing nets. We established the Circular Economy Lab dedicated to developing material recycling technology and applying recycled materials to our products. The Lab aims to replace key materials used in our products with more environmentally responsible materials through activities such as recycled material development and research on recovering resources from waste.

Recycling Discarded Batteries and Expanding E-Waste Collection

To address the e-waste problem that is threatening the environment, we plan to expand our e-waste collection programs to all countries where we operate (over 180) by 2030 from the current approximately 50 countries. We plan to increase the cumulative amount of e-waste collected from 2009 to the industry's largest amount of 10 million tonnes by 2030 and 25 million tonnes by 2050. We also plan to set up a system for recovering and recycling minerals from collected waste batteries by 2030.

Addressing Environmental Challenges through Technological Innovation

We will continue to mobilize our innovative technologies to address environmental challenges. In particular, we will focus our resources on developing carbon capture and utilization technology as well as fine dust pollution mitigation technology.

Restoring Air and Water to Their Natural State Prior to Discharge

The DS Division aims to minimize the discharge of air and water pollutants generated during the semiconductor production process by developing and applying advanced treatment technologies. By 2040 the DS Division plans to treat air and water to their natural state with minimal environmental impact prior to their discharge. By applying advanced treatment technologies, we are treating effluent to the level of upper stream water quality and emissions to the level of air quality.

Contributing to Mitigating Carbon Emissions and Fine Dust Pollution

In order to develop and commercialize carbon capture and utilization technology for storing and recycling carbon emitted from our semiconductor production sites, we established the industry's first Carbon Capture Research Institute (currently renamed as Air Science Research Center) within Samsung Advanced Institute of Technology (SAIT) in September 2021.

We plan to apply carbon capture technology to our semiconductor production facilities from 2030 and expand its application company-wide and to our supply chain. We expect that our carbon capture and utilization technology will help the semiconductor industry effectively address its main source of carbon emissions and improve the industry's overall sustainability.

In 2019, we established the Particulate Matter Research Institute (currently Air Science Research Center) dedicated to developing advanced filters and original technologies for air purification systems to improve fine dust detection, analysis, and removal. We are in the process of developing a ceramic catalyst filter that can be reused after washing and which can simultaneously remove fine particles and gases. From 2023, we will distribute the filter to our suppliers and Samsung affiliates.

Technologies Contributing to a Circular Economy

We established the Circular Economy Lab, which specializes in research on material recycling process and technology, and the application of recycled materials to products to maximize resource circularity. Through the Lab, we have collaborated with various research institutions and corporations to research material recycling and waste-to-resource technologies with the aim of ultimately manufacturing all of our products with recyclable materials.

Monitoring Progress and Disclosing Information

In order to ensure the effective implementation of the New Environmental Strategy including our net zero targets, we established detailed implementation roadmaps for individual projects and regularly monitor their latest developments through the Environmental Management Task Force. All related data will be disclosed via our Sustainability Website and official reports. Our climate change response strategy and detailed information about GHG emissions will continue to be shared via CDP.

New Environmental Strategy Targets and Performance in 2022

	Environmental Targets			Progress in 2022
Net Zero	2027	2030	2050	<p>GHG Emissions Reduction</p> <p>10.16 million tonnes of CO₂e reduced (Scopes 1 and 2) compared to BAU, a 59% YoY increase in reduction amount</p> <p>8,704 GWh of renewable energy consumed globally reaching a transition rate of 31%</p> <ul style="list-style-type: none"> Product energy use efficiency improved by 16% compared to 2019 through applying high energy efficiency technology to leading models of seven major product categories Transition to 100% renewable energy achieved at the DX Division's business sites in Korea, Vietnam, India, and Brazil. Partnership agreements for securing and expanding the use of renewable energy signed with Jeju Energy Corporation, Korea South-East Power, and Korea Southern Power in November 2022
Resource circularity	2025	2030	2050	<p>Use of Recycled and Recyclable Materials</p> <p>98,826 tonnes of plastic with recycled resin used achieving an utilization rate of 14%</p> <p>600,502 tonnes of e-waste collected as of 2022 (Cumulative amount from 2009 to 2022: 5.69 million tonnes)</p> <ul style="list-style-type: none"> Highest grade in Zero Waste-to-Landfill certification attained for five of DX Division's global business sites and seven of DS Division's global business sites Partnership agreements to promote the use of treated wastewater signed with Korea's Ministry of Environment and relevant local governments in November 2022 (DS Division) Partnership agreement signed with Korea Rural Community Corporation dedicated to water resource management in December 2022 (DX Division)
Technological Innovation	2030	2040		<p>Addressing environmental issues through technological innovation</p> <ul style="list-style-type: none"> Integration of Carbon Capture Research Institute and Particulate Matter Research Institute into SAIT's Air Science Research Center (ASRC) Currently conducting R&D projects in high-efficiency CCU technology and applying advanced fine dust removal and air purification systems at our business sites, bus terminals, and underground parking lots, among others. Establishment of Circular Economy Lab specializing in development and application of material recycling technologies

Environmental Management Governance

We consider environmental issues including climate change as factors that directly influence our business operations and financial performance. These issues are overseen by the Board of Directors, our highest decision-making body.

The Board of Directors approves all strategies and goals related to environmental management, oversees their latest developments, and regularly reviews our relevant activities through the Sustainability Committee comprised of independent directors. Our corporate environmental strategy encompassing mid-to-long-term climate actions and resource circularity goals was passed by the Sustainability Committee in September 2022.

The CEO has the responsibility and authority for establishing environmental strategies, determining implementation tasks and approving investments, among others. The CEO establishes environmental management plans and reviews implementation progress through a corporate consultative body comprising the top executives of relevant units.

Corporate Consultative Body for Environmental Management

Sustainability Committee

Under the Board of Directors and fully comprised of independent directors. Responsible for setting company-wide environmental strategies and goals and overseeing related outcomes

Sustainability Council

Regularly held under the leadership of the CEO. Responsible for reviewing the implementation status of company-wide environmental management tasks and identifying new challenges. Executives of all organizational units involved in the environmental strategy participate in the discussion and decision-making process on environmental issues.

Environmental Management Task Force

Responsible for reviewing the implementation status of company-wide environmental strategy tasks and updating them. Executives of all organizational units involved in the environmental strategy participate in the discussion and decision-making process on environmental issues.

EHS Council

Responsible for supervising and monitoring our climate actions, GHG emissions status, and GHG emissions reduction efforts.

Eco-Council

Establishes environmentally responsible product development strategies.

Environmental Management System

We adopted the global standards for environmental management and energy management systems and maintained ISO 14001 and ISO 50001 for all of our business sites as of 2022. We continue to reinforce our environmental management capacity by strengthening environmental indicators (GHG emissions reduction, environmentally responsible material use, e-waste collection, energy efficiency improvement, among others) in the performance evaluations of our business units.

To strengthen our employees' awareness of environmental management and effectively prevent relevant risks and accidents, we mandate that our employees receive mandatory environment training as well as a separate job-specific specialized training at least once a year.

Environmental Risk Management

Environmental risks and opportunities influence not only products and services but also the manufacturing processes, supply chains, R&D, and sales activities. We continually monitor risks at all of our global business sites pursuant to our risk management manuals for individual sectors, from environment and safety to climate change, energy, and compliance. Our environment and safety guidelines and policies are disclosed on our sustainability website. We are also taking various initiatives to develop products with high energy efficiency, and to reduce GHG emissions at our production sites, as well as minimize waste to landfill, and preserve water resources.

Environmental Management Activities in Different Stages of the Value Chain



	Materials	Production	Distribution	Use	Recycling
Climate Action	<ul style="list-style-type: none"> Helping suppliers reduce GHG emissions and expand the use of renewable energy 	<ul style="list-style-type: none"> Expanding the use of renewable energy and reducing GHG emissions throughout the manufacturing process Developing power-saving products 	<ul style="list-style-type: none"> Reducing fuel consumption and GHG emissions through logistics optimization 	<ul style="list-style-type: none"> Reducing indirect GHG emissions through product uses with high energy efficiency 	<ul style="list-style-type: none"> Monitoring GHG emissions in the disposal stage
Resource Circularity	<ul style="list-style-type: none"> Purchasing materials and parts with less impact on the environment Operating the Eco-Partner Certification Program 	<ul style="list-style-type: none"> Extending product life cycle and expanding the use of recycled and recyclable materials Minimizing waste generation and expanding the utilization of waste as resources Developing alternatives for chemicals and designing products that can be easily disassembled and recycled 	<ul style="list-style-type: none"> Using recycled and recyclable packaging materials Decreasing the volume and weight of packaging 	<ul style="list-style-type: none"> Improving product performance Upgrading firmware and extending warranty periods Expanding global repair and service centers 	<ul style="list-style-type: none"> Operating e-waste collection programs in different countries Recovering and recycling resources from e-waste

Climate Action

As a global ICT manufacturer involved in a wide range of electronics products and components from semiconductors to smartphones, TVs, and home appliances, we are taking climate action to work towards achieving net zero.

Our Response to Climate Change

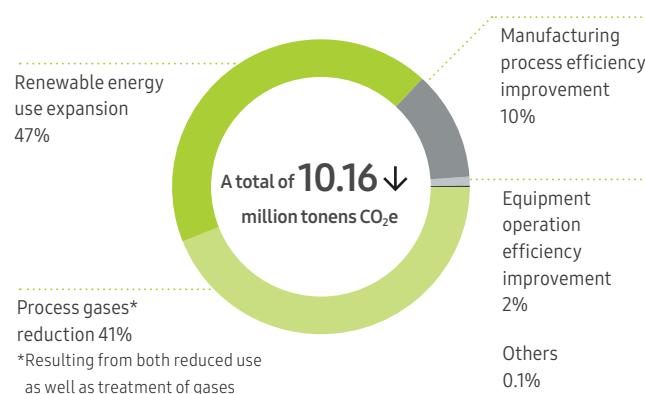
Climate change is one of the most critical issues faced by humanity and one of the most important considerations for any business activity. In this context, we are expanding our use of renewable energy, reducing process gases, and reinforcing process energy efficiency. GHG emissions directly generated from our business sites and GHG emissions generated due to our operations outside of our business sites are both subject to our mitigation efforts. We are also moving forward with various GHG emissions reduction projects across our entire value chain from product development to manufacturing and logistics.

GHG Emissions Management

We continuously monitor GHG emissions generated from our global business sites. Each site is required to enter GHG emissions data (e.g., power, fuel, semiconductor process gases) into the EHS system. Based on the data, individual sites analyze the latest trends and the causes of per-unit increases or decreases on a monthly basis. The relevant unit in the company manages the integrated GHG emissions data globally and verifies the credibility and accuracy of the data through the annual third-party audit.

GHG Emissions Reduction Compared to BAU (Scopes 1 and 2)

Results of 474 GHG emissions reduction projects



Analysis of Climate Risks and Opportunities

We identify the financial and strategic impacts of climate change-related risks, then establish response measures based on each risk's magnitude, and make decisions accordingly. Climate change-related risks include global climate regimes, region-specific regulatory reinforcement, market changes, stakeholders' requests, and changes in physical environments. Potential risks identified for the short term are an increase in investment amount due to rising carbon credit prices and high-efficiency technology development, investment in extreme weather response, and an increase in restoration expenses. Meanwhile opportunities include an easing of carbon credit price sensitivity due to the carbon credits acquisitions from various sources and a reduction in energy expenses driven by development of high-energy-efficiency technology. Changes in consumption patterns - driven by increasing preference for environmentally responsible products - and expanded renewable energy use are projected as mid-term opportunities, while temperature increases and water resource depletion are identified as long-term risks. As for long-term risks, we establish response measures in line with Nationally Determined Contributions based on the Paris Agreement and the Representative Concentration Pathways adopted by the Intergovernmental Panel on Climate Change (IPCC) as well as the energy technology outlooks by the International Energy Agency (IEA).

Climate Risk Management Process

Identify and assess risks

- Risks in business operation, product planning, and external developments are identified and assessed regularly by our relevant organizational units including EHS, marketing, sales, and compliance, based on environmental management systems (e.g., ISO 14001, ISO 50001).

Manage risks and opportunities

- Organizational units in charge of EHS monitor energy consumption, GHG emissions, renewable energy use, and climate impacts
- Issues related to our global business sites are discussed and managed by consultative bodies such as the EHS Council.
- Climate risks and opportunities are discussed and identified by the Sustainability Council.
- Business opportunities are discussed by the Eco-Council and operationalized by our relevant organizational units.

Incorporate risks into the corporate risk management process

- Risks related to individual countries' climate change regulations are managed in an integrated manner through the company-wide risk management system.
- Risks include region-specific regulations and market changes that may affect our business operations and reputation.

Reduction of Direct GHG Emissions

We are committed to reducing direct carbon emissions even as semiconductor production increases through solutions based on our innovative and new technologies that improve the efficiency of process gas treatment.

Direct GHG Emissions Reduction Roadmap

- | | |
|---------|--|
| Present | <ul style="list-style-type: none">Carbon Reduction Committee establishes GHG emissions reduction projects for semiconductor production sites and monitors performance on a quarterly basisImplementation of GHG emissions reduction projects including improving efficiency of process gas treatment facilities, switching to high-efficiency equipment, and improving manufacturing process efficiency |
| 2030 | <ul style="list-style-type: none">Achieve net zero for the DX DivisionImproving efficiency of process gas treatment efficiency and expand processing facilitiesReduce boiler use by recovering waste heat |
| 2050 | <ul style="list-style-type: none">Achieve net zero across all of our business and production sites |

Semiconductor Process Gas Reduction

To reduce semiconductor process gases, we focus on improving the efficiency of process gas treatment, reducing overall process gas use, and developing GHG alternatives. In 2022, we expanded installations of Regenerative Catalytic Systems (RCSs) in our facilities to treat process gas more efficiently and reduce direct greenhouse gas (GHG) emissions.

Our Efforts to Reduce Process Gases

- Minimizing process gas input
 - Expanding the use of Regenerative Catalytic System (RCS)
 - Development and application of new catalysts for RCS with up to 95% processing efficiency



- Reducing process gas use
 - Optimizing treatment time, process, and clean recipe



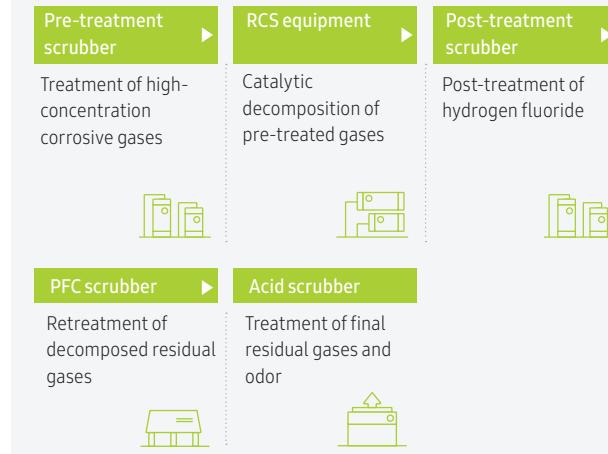
- Developing alternative gases
 - Developing alternative gases with low global-warming potential – replacing PFC gases in select products e.g., G₁ gas developed as an alternative to C₄F₈



Regenerative Catalytic System (RCS)

RCS is an integrated large-capacity greenhouse gas treatment facility developed by Samsung – the first of its kind in the semiconductor industry. The facility outlets are linked to the rooftop where the process gas are treated with catalysts at a low temperature. By doing so, less fuel is consumed and fewer air pollutants are emitted in the process.

RCS Treatment Process



Reducing Energy Use in Manufacturing Processes

To reduce LNG consumption at our business sites, we recover and reuse waste heat generated on site. The waste heat generated from facility-cooling water and wastewater effluents at our Giheung, Hwaseong, and Pyeongtaek sites is recovered and reused as a heat source for process water and HVAC systems. We expect to enhance waste heat recovery rate through new technologies and install facilities

that can replace LNG-based heat sources in our business sites. In addition, we are reducing power consumption in the semiconductor manufacturing process through optimization, reducing equipment test time, temperature management of auxiliary equipment, applying high-efficiency equipment, and neutralizing wet scrubbers.

Applying IoT Technology to Business Sites

IoT- and AI-based air conditioning solution

- Analysis of operating data of the central air conditioning system
- Setting automatic control for optimal efficiency
- Automatic adjustments by AI algorithms



Application to our business sites in Korea, Vietnam, and North America

- Average energy savings of 11-14% per year
- Planned to be applied to our business sites in Europe, Southwest Asia, and Central and South America
- Reviewing potential application at our major suppliers

Improving Operational Efficiency

LNG use reduction

- Recovering waste heat through coolant system and heat exchanger
- Adjusting the air temperature and flow of the outdoor air control unit



Reduction of power consumption in the semiconductor manufacturing process

- Reducing equipment testing time through process optimization
- Temperature management of supplementary equipment
- Applying high-efficiency equipment and neutralizing wet scrubbers

Engaging Employees in Everyday Energy Saving Activities

Encouraging employees at our global manufacturing sites to take part in energy-saving activities



Monitoring energy consumption

- Switching off equipment when not in use
- Energy-saving activity patrols

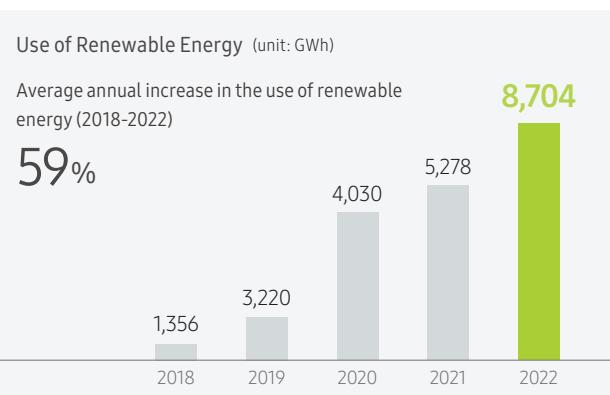
Expansion of Renewable Energy Use

We engage in diverse activities to transition to 100% renewable energy at all of our business sites by 2050. In 2022, DX Division's business sites in Korea as well as manufacturing sites in Vietnam, India, and Brazil completed their transition to renewable energy use.

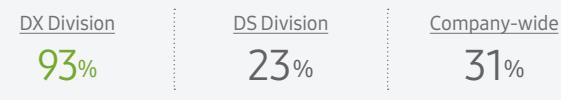
The total amount of renewable energy use in 2022 stood at 8,704 GWh – a 65% increase from the previous year – reaching a 31% transition rate.

Renewable Energy Expansion Roadmap

2018	Declared plan to expand renewable energy use (beginning with 100% in the US, Europe, and China)
2020	Completed the transition to 100% renewable energy in the US, Europe, and China
2022	Completed the transition to 100% renewable energy at all of DX Division's business sites in Korea and manufacturing sites in Vietnam, India, and Brazil.
2025	Transition to 100% renewable energy in Central and South America
2027	Transition to 100% renewable energy at all of our global business sites
2050	Transition to 100% renewable energy at all of our business sites around the world



Renewable Energy Transition Rate



RE100 and ACEC

As part of our commitment to transition to renewable energy, we joined RE100 (a global initiative that drives energy transition) and continuously seek to develop competitive renewable energy projects.

We are a founding member of the Asia Clean Energy Coalition (ACEC), working with the Climate Group that leads RE100 and the World Resources Institute (a global think tank focused on environmental issues).

ACEC, which consists of corporations, renewable energy-based power generators, and investors, aims to contribute to fostering a renewable energy ecosystem for Asian countries that serve as the global manufacturing hub.

Through these initiatives and collaborations, we strive to expand the renewable energy markets in Asia including and advance the use of renewable energy in the region.

Renewable Energy Transition Status by Region

US

As part of efforts to expand renewable energy use, our US subsidiaries installed photovoltaic power generation equipment and a wind power station, while also purchasing renewable energy certificates (RECs) between 2017 and 2018. In November 2019, our semiconductor manufacturing site in Austin, Texas, concluded a PPA on a 75MW-capacity wind power generation project with Apple, eBay, and Sprint and is gradually expanding PPA contracts. Based on such efforts, the US subsidiaries achieved the transition to 100% renewable energy in 2020, received the 2019 Green Power Leadership Award for Excellence in Green Power Use from the US Environmental Protection Agency (EPA) in September 2019. Samsung Electronics ranked 15th among more than 700 participating companies, 7th in the Tech and Telecom sector, and 11th among companies sourcing 100% renewable energy in the US EPA's Green Power Partnership program in June 2023.

Europe

Our manufacturing sites in Hungary, Slovakia, and Poland completed the transition to 100% renewable energy for their electricity use in 2020 by adopting the Green Pricing System and purchasing RECs.

India

Our manufacturing site in Chennai completed the transition to 100% renewable energy by signing renewable energy supply contracts with local photovoltaic power, wind power, and biomass power stations and by purchasing RECs. Our business site in Noida also completed the transition by installing photovoltaic power generation equipment of 0.8MW-capacity at parking lots and pedestrian paths and purchasing RECs.

Vietnam and China

Our manufacturing sites in Vietnam and China completed their transition to 100% renewable energy as of 2022 through the purchase of RECs. We plan to utilize PPAs as well, according to developments in the local renewable energy policies and supply plans.

Brazil

Our manufacturing site in Campinas completed the transition to 100% renewable energy in 2021 by signing renewable energy supply contracts with local wind power, photovoltaic power, and hydropower stations. Our business site in Manaus completed the transition in 2022 based on RECs that involve local renewable energy suppliers.

Mexico

Our manufacturing site in Mexico expanded its share of renewable energy to 73% in 2022 from 4% in 2020 through diverse measures including purchasing RECs. It is seeking additional renewable energy suppliers and plans to achieve the transition to 100% renewable energy by 2025.

Korea

Our Suwon and Giheung business sites are equipped with 1.9MW-capacity and 1.5MW-capacity photovoltaic power generators, respectively. Our Pyeongtaek business site is equipped with a 0.4MW-capacity photovoltaic power generator and a 738RT-capacity geothermal power generator. At the Onyang business site, we installed a 0.08MW-capacity photovoltaic power generator in 2021 as well as a 0.2MW-capacity generator in 2022. All of the DX Division's business sites achieved the transition to 100% renewable energy using the Green Premium program initiated in 2021. We will continue to install photovoltaic power equipment and expand renewable energy supply contracts, including PPAs, at our domestic business sites.

Activities to Reduce Global GHG Emissions

Our priority projects for reducing GHG emissions center on in-house energy efficiency improvement, energy consumption reduction, and energy transition activities at our business sites in Korea and other regions.

We are participating in the Clean Development Mechanism (CDM) initiative designed to help mitigate local communities' GHG emissions through the distribution of clean cook stoves in Kenya and high-efficiency refrigerators in India. We distributed 3.64 million high-efficiency refrigerators over eight years prior to 2020 and contributed to the reduction of 550,000 tonnes of GHG emissions, thereby obtaining Certified Emissions Reductions (CERs) issued by the UNFCCC. We are exploring business opportunities based on our voluntary reduction projects.

We will prioritize carbon dioxide removal (CDR) projects centered on permanently removing GHGs and nature-based reduction projects targeting countries where we operate that are particularly vulnerable to the impacts of climate change.

Moreover, when deciding which project to pursue, we will also take into account each project's expected contribution to the 17 Sustainable Development Goals (SDGs) to ensure sustainability is driven in a holistic manner.

Value Chain Carbon Reduction

Manufacturing is only one of many stages in the entire product life cycle. We strive to reduce carbon emissions across all stages of the product life cycle including distribution, sales, and use in collaboration with our consumers, suppliers, and other stakeholders.

In particular, we plan to utilize ultra-power-saving technology for semiconductors, which is expected to drastically reduce the memory-related power consumption of data centers and mobile devices from 2025. We plan to apply the technology to the leading models of our seven major product categories (smartphone, refrigerator, washer, air conditioner, TV, monitor, and PC) and improve their power consumption by 30% by 2030 compared to the 2019 models with equivalent performance.

Value Chain Carbon Reduction Roadmap

Present

Energy efficiency of leading models of seven major product categories* improved by 16% compared to 2019 using high energy efficiency technologies

2030

Improve energy efficiency of leading models of seven major product categories* by 30% compared to 2019

*Smartphone, TV, refrigerator, washer, air conditioner, PC, and monitor (with equivalent performance)

Carbon Emissions Reduction in the Product Use Stage

Our Product Energy Efficiency Achievements in 2022

GHG emissions reduction
in the product use stage:

914,000 tonnes CO₂e

* 13 product categories (refrigerator, air conditioner, washer, dryer, microwave oven, vacuum cleaner, TV, monitor, PC, smartphone, tablet, wearable, and base station)

** Compared to BAU
(Baseline year: 2021)

Product energy consumption
improvement

2.6%

* Compared to BAU
(Baseline year: 2021)

SmartThings Energy

SmartThings Energy is our AI-based solution that enables users to maintain the optimal energy efficiency of their home appliances via the smartphone. It supports efficient energy use based on the IoT platform.



SolarCell Remote

We continually seek ways to contribute to environmental conservation through our remote-control products as well. SolarCell Remote was developed as an extension of our efforts to reduce the number of disposable batteries used in TV remote controls that were being replaced about once a year. This low-power remote control, which can be charged by both natural and indoor lighting, continues to be applied to a growing number of our TV models.



SolarCell Remote applied to all TV models released in 2022



Equivalent to a reduction of approximately **200 million** disposable batteries

PC

We enhanced the energy efficiency of our Galaxy Book3 ultra by employing circuits designed to prevent the energy loss of the display as well as SOC.



Semiconductor

Starting with the Green Memory Campaign in 2009, we have continued to showcase memory solutions centered on low energy consumption every year to help the industry contribute to the wellness of our planet. Low-power semiconductors are essential to reducing GHG emissions generated from data centers and diverse IT devices. We focus on developing semiconductors that can reduce the carbon footprints of our products.



Low-Power Memory Semiconductor

Reducing the power consumption of global data centers

- Developed data center-exclusive high-performance SSD (PM9A3, E1.S) with power efficiency improved by 50% compared to previous-generation products
- Application of advanced technologies of extreme ultraviolet (EUV), high-K metal gate (HKMG), and through-silicon via (TSV) to improve performance while minimizing power consumption



System Semiconductor

Developing energy-efficient high-performance semiconductors

- Exynos Processor: Offering our exclusive Advanced Multi-IP Governor (AMIGO) solution and improved processing units (e.g., CPU, GPU, NPU) to enhance power efficiency when running high-definition, high-end games, and programs
- Image sensor: Realizing maximized per-inch resolution through advanced ultrafine pixel technologies and minimizing the energy required for product operation (e.g., preview movements) through design optimization
- DTV SoC: Minimizing power consumption through the integration of high-resolution upscaling ICs and combining two TCON chips used for 8K TV models into one

Decarbonizing the Use Phase of Connected Devices (DUCD) Project

Led by the Carbon Trust, the DUCD project aims to develop a more accurate method for measuring the carbon emissions and reduction pathways in the use phase of connected devices. Since September 2022, we have been working with Amazon, Meta, Microsoft, and Sky (Comcast) as a founding member of the DUCD secretariat.

Semiconductor Life Cycle Assessment (LCA) Process

We established the LCA process to accurately assess the environmental impact and carbon footprints of our semiconductor products across their entire lifecycles. Based on ISO 14040, 14044, and 14067, the operation of this process was verified by a third-party organization to ensure the credibility of all data produced.

To reduce the environmental impact of semiconductor products, we plan to establish a comprehensive management system of their carbon emissions and their use of water and other resources.

Third-party LCA verification certificate

Climate Action Together with Our Suppliers

As we are aware that it takes the entire supply chain to tackle climate change, we strive to engage our suppliers in our journey. We established a GHG emissions reduction system in 2022 and have launched substantive reduction activities since becoming a CDP Supply Chain member in 2019. We provide training for our suppliers to build their GHG emissions management capacity based on our in-house guidelines, helping them accurately assess their emissions and set reduction targets. We have also developed reduction support programs tailored to various stages and continue to update our GHG emissions management policy.

More details about our efforts to ensure our suppliers' GHG emissions reduction can be viewed in sections, "New Environmental Strategy" and "Sustainability in Supply Chain".

Circular Economy

We are driving progress toward a circular economy by using recycled and recyclable materials, as well as recovering resources from discarded products. We are creating a loop of resource circularity in collaboration with customers, suppliers and various partners.

Using Recycled and Recyclable Materials

Samsung Electronics continuously seek to expand the application of recycled and recyclable materials to our products. We developed innovative technology to recycle discarded fishing nets, a type of plastic debris that threatens the marine environment, and continue to diversify the types of recycled and recyclable materials used in our products, including recycled aluminum and glass, to improve resource circularity.

Plastic recycled from discarded fishing nets has been applied to smartphones including Galaxy S22 series, S23 series, Z Fold4/Flip4, Buds2 Pro, Galaxy Book3 series, remote control for our lifestyle TV models (inner parts and bracket), Jet Cordless Stick Vacuum 4.0 series (filter), and the attachable Less Microfiber Filter.

We also used recycled aluminum in the Galaxy S23 series and the exterior of the Bespoke Infinite refrigerator line, while we continue to expand the application of recycled glass.

Resource Circularity Roadmap

Present

- 409,000 tonnes of plastic with recycled resin used cumulatively since 2009
- Ocean-bound plastic recycled and applied to DX products
- Circular Economy Lab established

2030

- Application of recycled resin* to 50% of plastic parts for DX products
- Establishing a recycling system for minerals recovered from all discarded batteries collected

2050

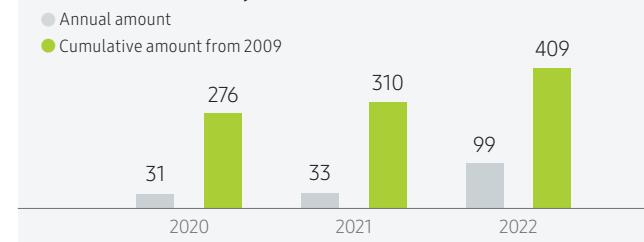
- Application of recycled resin* to 100% of plastic parts for DX products

* Ratio of recycled content varies by plastic parts

Increasing the Use of Recycled Resin in Plastic Parts

We aim to drastically expand the use of recycled resin in plastic parts. In 2022, we used 98,826 tonnes of plastic with recycled resin, which marks a three-fold increase compared to the previous year and is equivalent to 14% of our total plastic use. We will apply recycled resin to 50% of plastic parts by 2030 and 100% of plastic parts by 2050.

Use of Plastic with Recycled Resin (Unit: 1,000 tonnes)

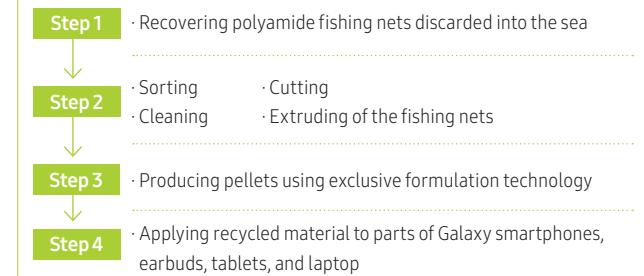


Expanding the Use of Recycled and Recyclable Materials

Sea-Driven Innovation – Discarded Fishing Nets Repurposed into Galaxy Smartphones

Plastic pollution caused by fishing nets, of which approximately 640,000 tonnes are discarded into the ocean every year – poses a severe threat to the marine ecosystems. We have joined hands with industrial experts and mobilized our innovative technologies to seek solutions to this problem. The high-performance polyamide resin recycled from ocean-bound plastics has been applied to various parts of our Galaxy product. We will continue to expand the application of such materials thereby helping our users pursue sustainability in their everyday lives.

[View more](#)



Expanding the Scope of Recycled Material Use

Aluminum The exterior of the Bespoke refrigerator line released in 2023 is made with impurity-free and evenly colored aluminum in a three-tier (new-recycled-new) structure using 37% recycled aluminum. The volume keys, side key, and SIM tray of the Galaxy S23 series are made with 28% pre-consumer aluminum scrap obtained from the manufacturing processes.

Glass The Galaxy S23 series is the first device to use Corning® Gorilla® Glass Victus® 2, which contains an average of 22% pre-consumer recycled glass for front screen and back cover.

Our Efforts to Recycle Byproducts from Semiconductor Manufacturing

Recycling Previously, end-of-life wafers were incinerated for security reasons. However, we developed a way to recycle them into supplementary materials for the production of aluminum bars. We also introduced recyclable eco-drums designed to minimize the residue of chemicals typically left behind in other chemical storage drums. This eliminated the need for their neutralization.

Waste Reduction We recycle nonferrous metals such as aluminum, copper, and titanium used in the manufacturing process into resources of economic value.

Repurposing into High-Added-Value Materials As an extension of our efforts to repurpose waste into resources, we utilize separation and refinement technologies to turn waste dimethyl sulfoxide (DMSO) generated during the manufacturing process into high-purity DMSO. We also convert ion exchange resins into high-quality recycled materials using our separation technology.

Discarded PET Bottles We use cleanroom supplies (e.g., clothing, wipes) produced from discarded PET bottles that are collected on the premises of our business sites in Korea.

Applications of Eco-packaging by Product Category

Displays and Home Appliances

We use recycled expandable polystyrene (EPS) cushions in the packaging of our major TV models and are expanding their application to all monitor and signage models released in 2023. In addition, since 2020 we have engaged our users in upcycling the packaging materials of our TVs – repurposing them into small furniture and objects for pets and have expanded the scope to packages of all TV models and select home appliances including air purifiers, etc.) released since 2021.



Mobile Devices

For the Galaxy S23 series released in 2023, 100% of the packaging box was made from recycled paper. The plastic films previously attached to the front and back of the product were fully replaced with 100% recycled paper as well. We are continuing our efforts to minimize our environmental impact by eliminating single-use plastic from the packaging and reduce GHG emissions from product transportation by making packages smaller and lighter.



Extending Product Lifecycles

We work to extend our products' lifecycles to reduce the use of resources and carbon emissions and thereby minimize our environmental impact. In this context, we focus on enhancing their durability, repairability, and upgradability. We also operate the Samsung Care+ program to minimize burden on customers with regard to maintenance and repair and help them use our products longer.

Durability

All of our products undergo testing under international standards and also our exclusive in-house stress testing during the product development stage to ensure that our customers can use the purchased products for a longer period. Through these product tests, we ultimately strive to help our users consume resources longer and more efficiently.



International-standard testing
Strength, drop, water-resistance and lifespan tests



In-house stress testing
Testing at different conditions and for different environments



Repairability

We consider repairability at the product manufacturing stage. Our research is focused on developing products that are easy to repair for extended use.



Designed for
easy disassembly



Designed to maximize
recyclability of parts

Highest Grade by France's Repairability Index

Since January 2021, all electronic goods marketed in France must specify the repairability grade known as the Repairability Index (Indice de Réparabilité). Our various products including smartphones such as the Galaxy S23 series, Galaxy Book3, TV, front-load washer, dishwasher, and vacuum cleaner obtained the highest grade of Dark Green. We continue to keep consumers informed via repair manuals and other channels and strive to ensure the affordability of materials and stable supply of parts.

Efforts to Establish a Repairability Network in the US

We offer a vast network of repair options for our customers in the US, including self-repair options, mail-ins, "We Come To You" van services, and same-day repair for Galaxy devices in over 2,000 retail locations across the country. Our network of mobile repair providers include more than 700 Independent Service Providers (ISPs).



Upgradability

Software Update

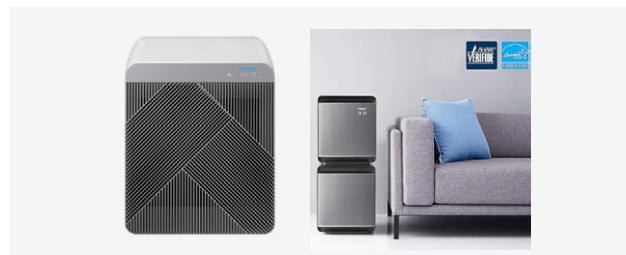
We provide four generations of OS upgrades and five years of security updates for all Galaxy S23 series models. As a result, we anticipate users will enjoy their Galaxy mobile devices more securely for a longer period of time.

Modular Design for Resource Efficiency

Bespoke Refrigerators The modular Bespoke Refrigerator line enables users to refresh their fridge exterior by changing the customizable door panels, without having to replace the entire unit.



Bespoke Cube™ Air Bespoke Cube™ Air is our modular air purifier line. It allows consumers to purchase and stack additional units of desired capacity as needed, thereby enabling resource efficiency.



Samsung Certified Re-Newed Program in the US

The Certified Re-Newed program offers customers refurbished and upgraded smartphones with a one-year warranty. Certified Re-Newed devices start their journey as trade-in devices with new device purchases. They then go through a rigorous quality inspection of more than 100 points to ensure like-new quality. They are refurbished in a Samsung facility where many of our new smartphones are also built, and parts are replaced with 100% genuine parts quickly and easily. Every Certified Re-Newed device gets a brand new battery which ensures like-new long-lasting performance.

Samsung Certified Re-Newed smartphones pass a more than 100-point inspection to ensure like new quality, and are covered by a one year warranty



Every Samsung Certified Re-Newed smartphone is given a brand new battery.



Our trade-in program collects used devices, giving them an extended life cycle.



Repair Services

Product lifecycles can be extended without compromising performance by promptly diagnosing and correcting each product's cause of malfunction. To this end, we operate a total of 13,687 service centers in 216 countries as of 2022. Our staff members and repair technicians are trained to provide top-tier services pursuant to our service process guidelines. We also offer various training programs including those on product use and new product features.

Sustainability in Product Repair Services

Repair

We offer our repair service that minimizes parts replacement and reuses existing parts as much as possible. As of 2022, this service is available for smartphone repair in 38 subsidiaries including the US and Germany.

Paper-Free

We seek to minimize the use of paper for our repair services and issue digital documents (e.g., submission slips, receipts) to save resources. As of 2022, this service is available in 49 subsidiaries including India, Germany and Brazil.

Packaging for Repaired Products

We use environmentally responsible packaging materials when delivering repaired products back to customers. As of 2022, this service is available in 29 subsidiaries including the Netherlands and the UK.

Packaging for Repair Service Supplies

Repair service supplies are packaged with environmentally responsible packaging materials. As of 2022, this is applied to our warehouses in Korea and Europe and 12 global production sites.

Samsung Recycling

We have installed smartphone and accessory drop-off points at our service centers in major cities including Paris and London to collect e-waste.

Delivery

We deliver repaired products back to customers using environmentally responsible vehicles transportation such as bicycles and EVs. As of 2022, this service is available in seven subsidiaries including the Netherlands and Germany.

Collecting and Recycling E-Waste

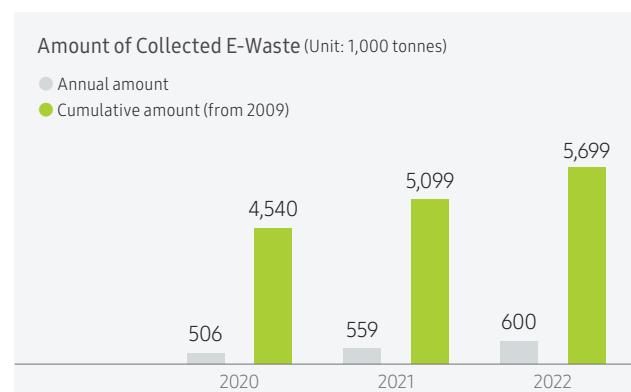
Individual products are made with a wide range of materials and can thus be viewed as a combination of resources. We collect and reprocess e-waste to ensure that valuable resources are recovered and given new life.

E-Waste Collection and Recycling Roadmap

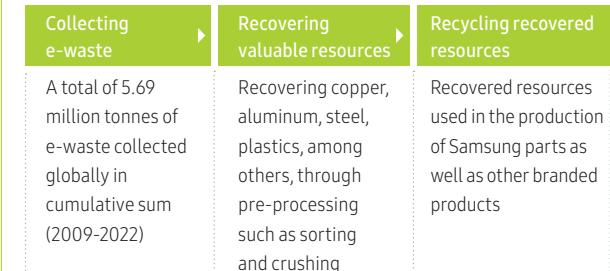
- Present**
 - Operating e-waste collection programs in over 50 countries
- 2030**
 - Operating e-waste collection programs in all countries in which our products are marketed
 - Collecting 10 million tonnes of e-waste cumulatively from 2009
- 2050**
 - Collecting 25 million tonnes of e-waste cumulatively from 2009

Expansion of E-Waste Collection System

We have collected 5.69 million tonnes of e-waste in cumulative sum from 2009 to 2022 through our e-waste collection system operated in over 50 countries. We plan to expand the reach to more than 180 countries where our products are marketed by 2030 and increase the cumulative amount of collected e-waste to 10 million tonnes by 2030 and 25 million tonnes by 2050.



E-Waste Collection and Recycling Process



E-Waste Takeback and Recycling Program in Korea

- Asan Recycling Center, Korea's first e-waste recycling center, opened in 1998.
- The e-waste takeback system was set up at regional logistics centers.
- A cumulative total of 30,152 tonnes of valuable resources have been recovered at Asan Recycling Center (as of 2022).
- Requirements for Recycling Service Partners
 - We enacted the Requirements for Recycling Service Partners, which mandate the adherence to environment, safety, and health laws and the prohibition on the illegal export of waste.

E-Waste Takeback and Recycling Program in the US

- The voluntary drop-off program is in operation in all 50 states.
- In partnership with uBreakiFix which specializes in mobile device repair, we provide e-waste drop-off points at over 780 branches (from 2020).

Programs in EU, Asia, and Africa

- E-waste takeback and recycling programs in 37 countries in EU
- E-waste takeback, recycling, and free door-to-door visits for e-waste takeback programs in India
- Voluntary drop-off points at service centers in South Africa

Status of our E-Waste Takeback and Recycling Programs around the World

We operate diverse recycling programs in over 50 countries including Korea. Based on country-specific conditions, we either directly operate recycling centers or collaborate with relevant organizations or service providers to collect and recycle e-waste.



Clean Tech Ecosystem

We strive to take the lead in developing technologies that are environmentally responsible while enabling an ecosystem that fosters clean and responsible technology. We collaborate with universities, research institutes, and start-up communities to find solutions for global environmental challenges and invest in innovative ideas.

Tackling Environmental Challenges with Innovative Technologies

Carbon Capture Technologies

We established the semiconductor-industry's Air Science Research Center (previously Carbon Capture Research Institute) in September 2021 to develop and commercialize technologies for capturing and utilizing carbon emitted from our semiconductor manufacturing sites. We have engaged in research on original technologies to capture emitted carbon with greater efficiency and transform them into resources. We are also pushing ahead with various joint projects with universities and research institutes in Korea and beyond. Our carbon capture technologies will be applied to our semiconductor manufacturing sites starting in 2030, and their application will be expanded to our suppliers and other Samsung affiliates.

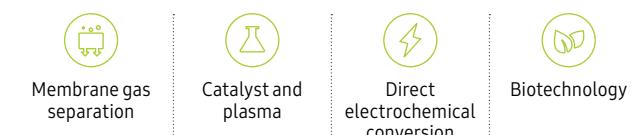
Process Gas Emission Reduction Technology

We operate Point of Use (POU) scrubbers and Regenerative Catalytic Systems (RCSs) optimized for individual semiconductor manufacturing sites to reduce F-gases. Cheonan site with a low air volume installs a POU scrubber at the end process of production to reduce F-gas while Giheung, Hwaseong, and Pyeongtaek sites with a high air volume have POU scrubbers as well as the RCSs installed on the rooftop.

Carbon Capture and Utilization



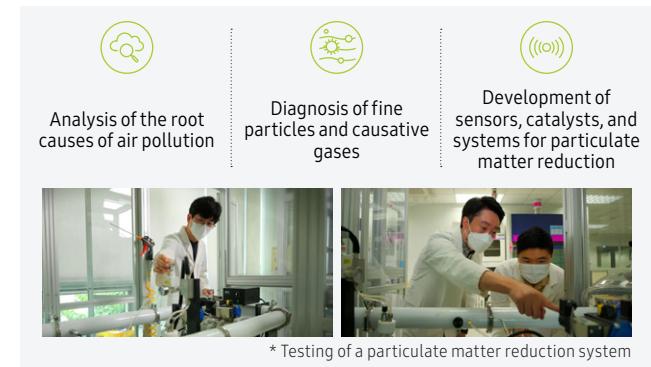
Carbon Capture Technologies (Applicable Technologies)



Particulate Matter Reduction Technologies

We established the Air Science Research Center (previously Particulate Matter Research Institute) in January 2019, dedicated to developing innovative filters and original technologies to detect, analyze, and remove particulate matter. We successfully developed the world's first air purification filter capable of removing both fine particles and gases, which can be easily cleaned with water and reused for up to 20 years. We have developed a prototype product based on this technology and are applying it to our semiconductor manufacturing sites, bus terminals, and underground parking lots. From 2030, we will expand its application to our suppliers and other Samsung affiliates.

Original Technology Research Areas



* Testing of a particulate matter reduction system

Technologies Contributing to a Circular Economy

We established the Circular Economy Lab in July 2022, which specializes in research on material recycling process and technology, and the application of recycled materials to products to maximize resource circularity. Through the Lab, we have collaborated with various research institutions and corporations to research material recycling and waste-to-resource technologies with the aim of ultimately manufacturing all of our products with recyclable materials.



Micro Plastic Reduction Technologies

To address the challenge of marine micro plastic pollution, we develop technologies that can reduce the amount of microfiber released into the ocean. In collaboration with Patagonia, we developed a wash cycle that reduces microfiber emissions in our washing machines and an external microfiber filter that can be applied to existing washing machines.

CASE

In January 2023, at the Consumer Electronics Show (CES), Samsung Electronics introduced a new washer with a Less Microfiber Cycle that reduces emissions by 54 percent.

Samsung has now brought to market a Less Microfiber Filter that can be attached easily to any existing front-loading washer. Ocean Wise has verified that this filter reduces microfiber shedding by 98 percent. It has been introduced into the Korean and European markets in June and will be introduced in North America in September 2023.

"We can't thank Samsung's people enough for the quality of both their engineering and sustainability efforts, which have had support from throughout the company—from the chairman to the seasoned engineers to gifted younger employees who helped make this advance possible. A collaboration between a global electronics giant and a company that touts Earth as its sole shareholder may be an unlikely combination, but many such collaborations are needed for the future."

- Vincent Stanley, Director of Philosophy, Patagonia

See article 



Innovative Solutions for Environmental Challenges

C-lab Environmental Solutions

Through C-Lab, we discover and invest in innovative ideas inside and outside Samsung to tackle environmental issues.

C-Lab 

C-Lab Inside

Fostering creative ideas of our employees

Galaxy Upcycling

Recovering and upcycling unused Galaxy smartphones



Eco-Packaging

Upcycling TV and home appliance packaging into home decor items



C-Lab Spin-off

Supporting the foundation of startups stemming from C-Lab Inside projects

EVAR

EV chargers using discarded batteries and autonomous EV charging robots



AIMT

Insulators made with recycled PET bottles



C-Lab Outside

Supporting growth of startups with potential for synergy with Samsung

RE:harvest

Food upcycling solutions using beer-brewing byproducts



Marine Innovation

Packaging solutions using marine plant byproducts



Inertia

Biodegradable absorbers that do not release micro plastics



QuantumCat

Catalysts for air purifiers and air conditioning systems to remove harmful gases



60Hertz : Photovoltaic and wind power generation projection technologies and virtual power station solutions

Bluelabs : Water purification agents made from oyster shells

Terra Block : Recycling solutions for waste plastic in lieu of incineration

Expanding Investment in Prospective ESG Startups



Technologies related to high-efficiency, low-energy, environmentally responsible materials and parts



Technologies related to zero emissions, renewable energy, and resource circularity technologies



Target Areas

- Zero emissions, renewable energy, and resource circularity technologies



Types of Support

- Funds for carbon emissions reduction or environment and safety facilities
- Technological development funds
- Working funds

Sustainability in Operations

The planet's resources are limited, and we cannot afford to squander them. That's why we focus on recycling resources throughout the product development and manufacturing processes as well as developing technologies that remove pollutants. We endeavor to build a healthy and safe working environment for all.

Managing On-Site Waste

We strive to advance a circular economy by uncovering the added value of waste and developing recycling technologies. By 2025, we aim to attain the highest Platinum designation for all of our manufacturing sites. We applied new technologies to our semiconductor manufacturing sites to recycle Epoxy Molding Compounds (EMCs) and Clean Vacuum (CV) dust, previously buried in landfills, to exceed the criteria for the Platinum designation of Underwriters Laboratories (UL)'s Zero Waste-to-Landfill program.

Roadmap for Obtaining the Highest Zero Waste-to-Landfill Designation

- | | |
|----------------|---|
| Present | - Platinum designation of zero waste-to-landfill obtained by DS manufacturing sites - first of its kind in the semiconductor industry
✓ * Excluding legally non-recyclable waste |
| 2023 | - Zero Waste-to-Landfill mark to be obtained by all of our manufacturing sites
✓ |
| 2025 | - Platinum designation to be obtained by all of our manufacturing sites |

Zero Waste-to-Landfill Mark

Our 23 manufacturing sites have obtained the Zero Waste-to-Landfill mark* granted by Underwriters Laboratories. By 2025, we plan have all of our manufacturing sites designated as Platinum.

* Zero Waste-to-Landfill program: This program assesses companies' resource circularity efforts and designates them in four grades: Platinum for 100% waste diversion, Gold for 95-99%, Silver for 90-94%, and a Landfill Waste Diversion Claim for 80% or higher. Decimals are rounded off to the nearest whole number (99.5% recognized as 100%).

Platinum

Korea (Suwon, Giheung, Hwaseong, Pyeongtaek, Onyang, and Cheonan), China (Xian and Suzhou(2)), Slovakia, Brazil (Campinas), and India (Chennai)

Gold

Korea (Gumi and Gwangju), US (Austin), Poland, Hungary, Vietnam (Ho Chi Minh), Thailand, Brazil (Manaus), and Mexico

Waste Recycling Goals and Status

Zero Waste-to-Landfill Mark and Waste Reduction Goals



Current Status

- Achieved Platinum of Zero Waste-to-Landfill at our semiconductor manufacturing sites for the first time in the industry in 2021
- Reached 97% waste recycling rate at all semiconductor manufacturing sites

Before	After
Discarded wood and outdoor air control filters made with complex materials	Incinerated
Consumable wafer polishing supplies contaminated with potentially harmful substances	Incinerated
EMCs ¹⁾	Buried
CV dust ²⁾	Buried

1) Epoxy molding compounds that are added in the final packaging stage to protect semiconductor circuits from external shocks
2) Clean vacuum dust captured in semiconductor process equipment

Recognition of Circular Resources

In December 2019, our Onyang business site became the first in the industry to be granted the Recognition of Circular Resources by the Geumgang River Basin Environmental Office. It also attained the Quality Mark Certification for Circular Resources from the Korea Environmental Industry and Technology Institute for the first time in the industry in October 2020. The DS Division continues to expand the range of certified items every year.

In 2021, the DS Division's business sites in Onyang (7), Cheonan (2), Giheung (1), Hwaseong (1), and Pyeongtaek (1) were additionally certified for recycled items including the 12-inch wafer box and three nonferrous metals. This led to a reduction in waste generation by 2,227 tonnes per year.

In 2022, 14 items at the Onyang business site, including the cover tray, and three items at the Cheonan business site, including paper tubes for release film, were granted the Recognition of Circular Resources, which contributed to reducing waste generation by 3,024 tonnes per year.

Waste Reduction through Recognition of Circular Resources

2021	2022
12-inch wafer box and three nonferrous metals	Paper tube for release film* and cover tray
2,227 tonnes	3,024 tonnes

* A type of film used for product protection



Sewage Sludge Recycling

In order to increase the added value of waste, we recover and recycle copper from sewage sludge from the semiconductor manufacturing process. We also developed technology to produce an alternative for fluorspar required for steelmaking in collaboration with Hyundai Steel. Sewage sludge, which used to be sent to cement factories, has now become an important resource in many different areas.

Raw Material and Energy Efficiency Improvement

We have introduced a more advanced injection molding process for large-sized home appliances, thereby improving raw material use and energy efficiency. The existing 12-plate mold for the rear parts for 85-inch TV models and cover parts for 65-inch TV models was simplified into a 6-plate mold, and this led to a weight reduction by more than 18%. We also developed a cube mold for the door gasket of our front-load washers. Whereas the manufacturing process previously required eight 650-tonne injection molding machines, it now requires only one 1,700-tonne injection molding machine, creating an effect equivalent to reducing 785 tonnes CO₂e per year.

In-House Waste Management System

Our in-house weighting systems (WMS and G-EHS) and legal system (Allbaro) are interconnected for real-time data management. Alarms for any errors are sent to the staff members in charge in real time for an immediate response. We also introduced the Resource Circularity Partnership Certification (Platinum, Gold, and Silver) that assesses the environmental, safety, health, and financial performance of waste disposal and processing companies. This led to the expansion of bidding opportunities for more companies and improvement in performance review efficiency.

Everyday Activities for In-House Waste Reduction

Eliminating the Use of Disposables at Our Business Sites

In order to bring the use of disposables on-premise cafeteria and cafés in Korea down to zero by 2023, we distributed reusable bags to our employees; started to replace disposable plates, bowls, and cups with reusable ones; and began stocking beverage products in cans, glass bottles, and paper packs instead of those in plastic bottles.



Saving 36.0 million
disposable plastic
bags per year



Saving 5.0 million
disposable cups per year



Saving 53.7 million
pieces of disposable
tableware per year



Saving 10.5 million
PET bottles per year

Reducing the use of disposables by 866 tonnes per year

Reinforcing Waste Sorting

We reinforced our waste sorting system to better recycle waste generated from everyday activities on our premises in Korea. Since 2021, the Suwon and Gwangju business sites have installed 480 food waste decomposing devices in the employee lounge to help recycle both food waste and containers.

We have paper cartons collected on site recycled into toilet paper that is donated to local welfare facilities. We encourage our employees to take part in this activity by recognizing their participation as volunteer work. We plan to engage more of our business sites in these activities in the future.

Suwon Business Site Recognized as an Outstanding Green Company by Korea's Ministry of Environment

In December 2022, our Suwon business site received the First Place Prize (Minister of Environment Prize) for the Outstanding Green Company Awards in recognition of its environmental practices.

Green Companies are designated among those noted for their contribution to the environment after a stringent review every three years, and among the Green Companies, those with excellent performance is recognized as Outstanding Green Company.

Our Suwon business site installed a photovoltaic power facility in cooperation with Suwon City. We also try to minimize our environmental impact and prevent accidents through establishing a chemicals management system and air pollutant monitoring system, while focusing on recycling waste and improving our suppliers' ESG management capacity.

We will continue to work closely with our suppliers and the local communities to address climate change.



Water Resource Conservation

Although most of our planet's surface is covered with water, only about 1% is usable for humanity. The importance of water continues to grow with increasing climate risks.

In this context, the DX Division set a goal of 100% water resource restoration by 2030, returning the same amount of water consumed back to local communities. Water is indispensable for many manufacturing processes. While some amount is treated and returned to nature, the rest is consumed. Water resource restoration is about returning used water resources to local communities and minimizing our environmental impact.

In December 2022, we concluded an MOU with Korea Rural Community Corporation on securing water resources for rural communities suffering from chronic water shortage and seeking solutions to the climate crisis.

We plan to focus on minimizing the impact of over 20 manufacturing sites around the world on water resources and thereby promote the wellness of local communities.

Water Resources and Air Quality Management Roadmap

2030 Achieve zero increase in the DS Division's water intake

* Reuse effluent water from public sewage treatment facilities, etc.

Replenish water 100% for the amount used globally by the DX Division

* Expand water reuse and operating projects to offset the amount used



2040 Treat pollutants from emissions and water discharged from our semiconductor manufacturing sites to restore them to natural level quality

* Develop new technologies required for such treatment and restoration

Mission and Vision of Water Resource Management

Mission

We will recognize the importance of water resources in ensuring the sustainability of our society and business operations and fulfill our corporate social responsibility to preserve them.



Vision

We will strive to minimize water resource risks in our business operations.



We will assess the impact of our business activities (production, etc.) on water resources, minimize risks, and continually secure new technologies.

We will embed the importance of water resources into our corporate culture.

We will uphold the conservation and sustainability of water resources through our corporate culture so that our employees responsibly manage them and give priority consideration to our impact on the environment of the local communities we serve.



We will actively cooperate with external water resource policies.

Based on our relevant guidelines, we will actively cooperate with the central and local governments and international organizations to facilitate the establishment and implementation of their water resource policies.



We will disclose our water resource policies and activities.

We will transparently share our policies and activities related to water resources with our stakeholders, including local communities.

Alliance for Water Stewardship (AWS)

We were rated the highest grade of Platinum by AWS. AWS is a water management certification body established by international organizations including the UN Global Compact Network and CDP.

AWS certification rates water-using sites as Platinum, Gold, or Core based on assessment across 100 indicators including stable water management, water pollutant management, water hygiene, domestic impact of biodiversity, and governance. Our Hwaseong business site was granted AWS certification after separately meeting the

highest Carbon Trust's standard by reducing water usage in 2020, accomplishing the feat of being certified by the two most authoritative initiatives for water management for the first time in the industry. We plan to attain AWS certification for all of our major business sites in Korea and other regions.

Water Resource Management Procedures

We categorize water resources into used water, wastewater, process water, and ultra-pure water to increase the reutilization rate of water used for manufacturing.

Each business site is required to calculate the amounts of reused water in each category on a monthly basis and record them in the Global Green Management System for company-wide environmental information management.

Water Management of Our Suppliers

The DX Division focuses on water management within our supply chains as well. We are pushing ahead with the plan to initiate a water resource management improvement consortium that performs RBA(Responsible Business Alliance) assessments of our suppliers, reviews WASH (water, sanitation, and hygiene) services, and provides consulting on water resource treatment facilities.

Cooperation with Our Stakeholders

We work to protect and improve the water resources near our business sites in systematic collaboration with our stakeholders. Our Gwangju business site formed a climate crisis response committee with the city government of Gwangju to provide potable water to socially vulnerable groups and support net zero activities across our supply chains.

Each business site communicates actively with local governments, NGOs, and local residents for environmental conservation.

Water Resource Risk Assessment

We annually assess whether the locations of our business sites are within regions affected by water stress or water scarcity and develop countermeasures.

We identify water-stressed regions using the tool developed by the Food and Agricultural Organization (FAO) and assess the water stress and ten-year water risks that water basins near our business sites face using the tools developed by the World Business Council for Sustainable Development (WBCSD), World Wildlife Fund for Nature (WWF), and World Resources Institute (WRI).

We also establish and implement risk-specific response measures based on CDP's water security guidance.

Water resource risk response strategy by region 

CDP Climate Change Report 

Business Sites Facing Water Resource Risks (as of 2022)

Category	Unit	Number of sites	Water intake	Outflow
All	1,000 tonnes	32	172,811	136,118
Sites at risk	1,000 tonnes	12*	131,444	104,059

* Number of sites in countries facing water resource risks: 9 in Korea, 1 in India, 1 in Poland, and 1 in Egypt

Water Stress Management at Our Semiconductor Manufacturing Sites

We ensure optimal water resource management at our semiconductor manufacturing sites, which require large amounts of water for their operations, based on the analysis of region-specific water stress.

Site in China (Xian)*

Located in a region with "extremely high" water stress (over 80%)

- Categorizing wastewater into three categories - acidic, alkaline, and fluoric - and reusing them separately
- Water treated to meet internal standards through activated charcoal filtering, acid-base neutralization, coagulating sedimentation, reverse osmosis filtering, etc., to be reused for cooling towers, gas process facilities, and plants
- Most of the cooling water for equipment uses recycled water

* The Xian site was assessed to have low water resource risks based on our internal standards but was categorized as "extremely high" in World Resources Institute (WRI)'s water stress analysis.

Sites in Korea

Located in regions with "medium-high" water stress (20-40%)

- Categorizing water used for manufacturing into six groups based on our internal standards to purify each using the optimal technologies
- Filtering pollutants through biological treatment, chemical treatment, and physical treatment using filters and collecting purified water in a tank for combined discharge
- Assessing the quality of effluent water in real time prior to discharge and reporting the results to the government

Reducing Water Consumption and Scaling Up Water Reuse

We continually reduce our water intake by maximizing the reuse of water used for manufacturing. Due to the expansion of our semiconductor manufacturing lines, the required amount of water intake per day will more than double by 2030 compared to 2022. However, we plan to maintain water intake at 2021 levels by expanding water reuse.

Amount of Reused Water (unit: 1,000 tonnes)



Our Efforts to Maximize Water Reuse

Our semiconductor manufacturing sites have succeeded in reducing the amount of water used by altering process control values and wastewater treatment methods and optimizing their operations. We maximize water reuse by improving our overall manufacturing processes and reuse systems and by reusing of low density waste water at our Pyeongtaek site (UPW filtered water reuse). We also plan to reuse water discharged from public sewage treatment plants.

Average daily reduction of
water use at our semiconductor
manufacturing sites

30,000 tonnes

Total amount of reused water
increased by 29%
compared to the previous year (2022)

116.59 million tonnes

Everyday activities

- Optimizing site operation
- Replacing outdated equipment
- Improving operation standards

Structural improvement activities

- Improving manufacturing processes
- Establishing recycling systems

Water Quality Management

Minimizing the Discharge of Water Pollutants

We apply our pollutant reduction technologies to all of our semiconductor manufacturing sites and assess the quality of nearby rivers at least six times a year. For the river water quality assessment, we monitor both upstream and downstream of the outlet to ensure accuracy. We perform analyses pursuant to the Process Testing Act of the Ministry of Environment and apply our internal standards, which are stricter than the legal requirements, to the quality of treated wastewater when discharging directly into rivers.

We manage pollutant concentration, temperature, ecotoxicity, among others, through our internal standards that are stricter than the legal requirements. We disclose the discharge amounts of general pollutants (COD, SS) and calculate the discharge amounts of sulfate ion, chlorine ion, fluorine and T-N based on their real-time discharge concentration levels and water analysis data. We share our technologies and activities through the Environmental Conservation Committee held every two months and aim to drive the concentration of pollutants in our effluent water lower than that of the upstream by 2040.

Minimizing the discharge of water pollutants

- Reducing the use of chemicals
- Developing alternatives for harmful substances
- Improving the efficiency of the wastewater treatment process

Reducing major ion chemicals (sulfuric acid, chlorine, and fluorine)

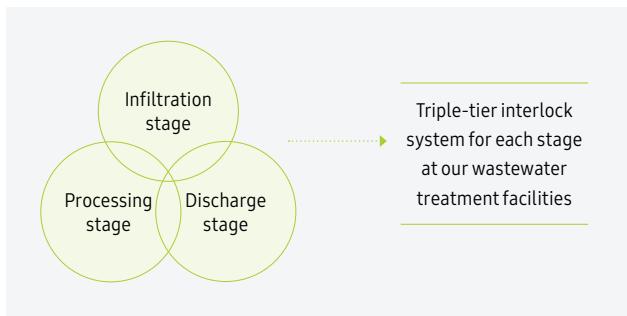
- Developing chemical filters
- Improving the process
- Securing crystallization technology

Clean Water Supply and Management

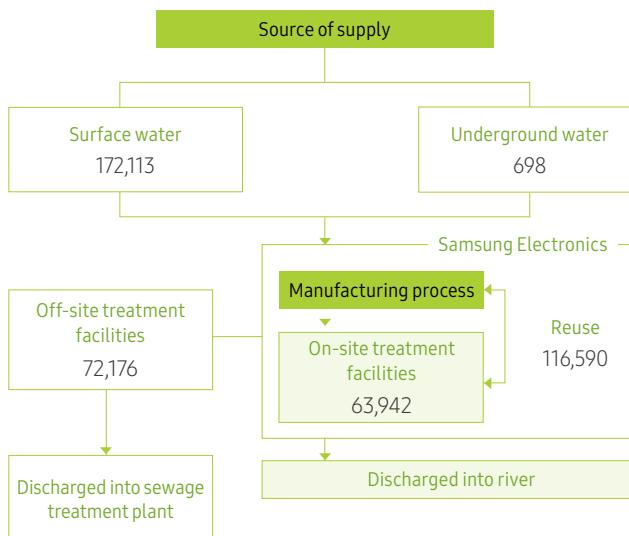
We stringently manage the volume and quality of water supplied to our business sites. Wastewater generated from our business sites is monitored in real time, with regular composition analyses performed, to ensure the supply of clean water for all stakeholders that share river basins with us.

Multifaceted Defense against Water Pollution

We remain prepared for any possible accidents related to wastewater treatment. We are equipped with triple-tier interlocks between the infiltration, processing, and discharge stages at our wastewater treatment facilities. Each interlock is activated to initiate an emergency recovery of wastewater when the pollutant concentration is assessed to exceed our standards.



Water Resource Flow Chart (2022) (unit: 1,000 tonnes)



Communication with Community Stakeholders

Stakeholder Engagement

We organize events that engage stakeholders of the river basins nearby our business sites in Korea and other regions every year. We conduct basin area cleaning campaigns in collaboration with local governments, NGOs, and local residents and provide potable water to socially vulnerable groups with limited access to clean water. We have engaged in MOUs with local governments and NGOs to conserve rivers, analyze risks related to the nearby river basins, and seek solutions.

Supporting Access to Clean Water

Clean water is essential to ensuring the quality of life. This is why we engage in a range of activities to improve access to clean water around the world. Our subsidiary in Indonesia installed a water purification facility in a remote village with poor access to clean water. The village is considerably distant from the nearest river, which is not suitable for drinking. Our subsidiary's support contributed to enhancing the health of the village residents.

Improving Awareness on WASH*

We strive to improve all stakeholders' awareness on the importance of water and hygiene. We offer training on water, hygiene, and health for our employees, their families, students of nearby schools, and local residents and engage them in relevant activities.

*Water, sanitation, and hygiene



Improving Ecosystem Health

We regularly measure key indicators of water quality - including chemical oxygen demand (COD), biochemical oxygen demand (BOD), and potential hydrogen (pH) - at our manufacturing sites in Korea to manage the potential impact of our operations on nearby freshwater ecosystems. We also monitor wildlife inhabiting the region and take steps to ensure wildlife conservation.

Monitoring Freshwater Ecosystems

To protect biodiversity, we regularly monitor and identify our impact on nearby freshwater ecosystems, terrestrial ecosystems, ecotoxicity, and wildlife habitats pursuant to the Guidelines on the Examination of Current Status and Health Assessment of Aquatic Ecosystems¹⁾. We perform diverse ecosystem improvement activities based on the findings.

1) National Institute of Environmental Research Notification 2019-52 (enacted on December 1, 2019)

Woncheon-ri Stream near Hwaseong

Measured by	Kyung Hee University
Fishes	14 species of 3 families (high dominance of Freshwater minnow and Goby Minnow)
Freshwater Benthos	24 species of 16 families (high dominance of aquatic insects)
Birds	29 species
Mammals	8 species (traces of Eurasian Otter [Endangered Species level I] and leopard cat [Endangered Species level II] observed in the downstream of the effluent water outlet).

Osan Stream near Giheung

Measured by	Korea Ecology and Environment Institute and Osan office of the Korean Federation for Environmental Movement
Fishes	16 species of 8 families (high dominance of crucian carp and bluegill [invasive alien species])
Freshwater Benthos	54 species of 37 families (high dominance of aquatic insects)
Birds	65 species (including 8 legally protected species of long-billed ringed plover [Endangered Species level II], Eurasian spoonbill [Endangered Species level II], and Common Kestrel [natural monument], etc.)
Ecotoxicity	Effluent water found to have no ecotoxicity on the stream based on the results of acute toxicity testing on water fleas

Seojeong-ri Stream near Pyeongtaek

Measured by	Pyeongtaek University
Fishes	16 species of 6 families (high dominance of Freshwater minnow and crucian carp)
Freshwater Benthos	30 species of 22 families (high dominance of aquatic insects)
Ecotoxicity	Effluent water found to have no ecotoxicity on the stream based on the results of acute toxicity testing on water fleas

Gokgyo Stream near Onyang and Cheonan

Measured by	Kyung Hee University
Fishes	19 species of 6 families (high dominance of Freshwater minnow and crucian carp)
Freshwater Benthos	49 species of 36 families (high dominance of aquatic insects)
Birds	38 species (long-billed ringed plover [Endangered Species level II])
Mammals	8 species (traces of Eurasian Otter [Endangered Species level I] and leopard cat [Endangered Species level II] observed)

Biodiversity Restoration and Conservation Activities in the Osancheon Stream

We discharge 45,000 tonnes of purified effluent water per day into Osan Stream, which has contributed to improving the local ecosystem. As evidence of these improvements, it is now inhabited by Eurasian Otters (Endangered Species level I and natural monument). In 2022, we performed an extensive examination of the habitat distribution of otter near Osan Stream and Woncheon-ri Stream and discovered the habitats of other wild animals including leopard cat (Endangered Species level II) raccoon dog, and water deer.

In addition to water quality and ecosystem monitoring, we conducted campaigns to release endemic fish species, eliminate invasive species in the local ecosystems, and remove water pollutants. We also sponsored the creation of the Osan Stream Butterfly Path aimed at protecting the endangered dragon swallowtail.

Wildlife near Osan Stream Wastewater Outlet



Air Pollution Management

Reducing Air Pollutants

By 2040, we aim to restore air to their natural state with minimal environmental impact prior to their discharge.

We apply the best available technology to treat pollutants generated during manufacturing and manage emissions using our multi-tier treatment system. In addition, we develop and employ technologies to further advance our treatment system to reduce NOx emissions – including installation of De-NOx facilities, introduction of ultra-low NOx burners, and replacement of steam-producing equipment in boilers.

To strengthen our emergency response capabilities, we have installed preventive facilities and operate real-time monitoring systems at our manufacturing lines.

Managing Seasonal Fine Dust

As part of a voluntary seasonal fine dust management program – from December 2022 to March 2023 – hosted by Korea's Ministry of Environment, we strengthened our target for nitrogen oxide concentration by 10% compared to the national standard and optimized the operations of preventive facilities. We continue to manage the air quality of our surrounding environment to ensure the health of our employees and local residents.

Chemical Substances Management

We strive to minimize the impact of harmful substances that may enter our products, as well as chemicals used in the frontlines of manufacturing, on the health of our customers and employees. Our internal regulations are stringently managed according to global standards, including the Restriction of Hazardous Substances (RoHS) Directive and the Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) Regulation of the EU and the Toxic Substances Control Act (TSCA) of the US.

Standards for the Control of Substances Used in Products 

REACH Declaration for Substances of Very High Concern 

Managing Potentially Hazardous Substances in Our Products

We are equipped with a rigorous pre-inspection and follow-up management system for parts and raw materials. We established the Standards for the Control of Substances Used in Products based on global standards and voluntarily perform plans to reduce the use of potentially hazardous and legally regulated substances such as polyvinyl chloride, brominated flame retardants, beryllium, and antimony.

Eco-Life Lab

We opened the Environmental Analysis Lab in 2004, which was initially dedicated to monitoring six substances regulated by the EU's RoHS¹⁾ and continued to expand its range of potentially hazardous substances subject to monitoring. The Lab was expanded into the Eco-Life Lab in 2020 to further reinforce this system, with additional test chambers and cutting-edge equipment introduced for microorganism analysis.

The Eco-Life Lab engages in diverse research projects aimed at identifying the fundamental causes of odors that may occur while using our products and seeking improvement measures. The Lab's expertise and credibility have been recognized by attaining certifications from Korea Laboratory Accreditation Scheme (KOLAS) and TÜV Rheinland, Germany's renowned testing service provider.

1) EU RoHS: EU Restriction of Hazardous Substances Directive

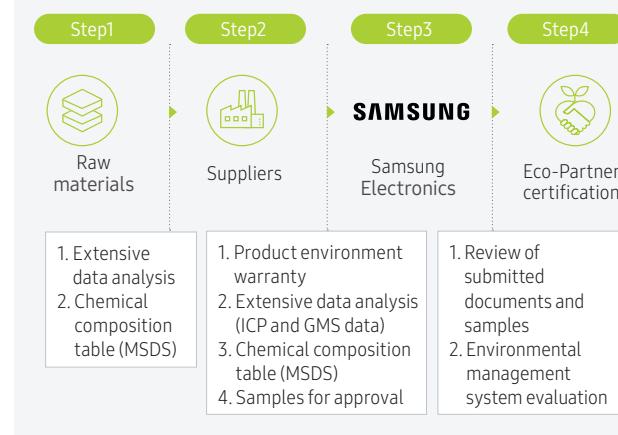
Our Chemical Substances Management History 

Managing Harmful Substances in Our Supply Chains

Our supply chain review and management systems are designed to help our suppliers actively engage in responsible substance management practices. All of our product and parts suppliers are subject to Eco-Partner Certification evaluations. Each supplier is required to submit data obtained from its raw material providers and product environment

reports that guarantee the credibility of potentially hazardous substance information. We provide certifications to those companies evaluated to have complied with the Standards for the Control of Substances Used in Products and possess an advanced environment and quality management system. Only the certified companies are included in our supply chains.

Eco-Partner Certification Process



On-Site Chemicals Management

Improving Preparedness for Chemical Regulations

As chemical regulations and standards vary by country and continue to be reinforced and updated, we are required to take a more systematic approach to effectively manage chemicals. In 16 countries in which we have manufacturing sites, including China, Vietnam, and India, we regularly review the relevant laws and reflect the findings in our chemical substances management standards and database to minimize related risks.

We have also enhanced our system to readily identify whether internally regulated substances are contained in any chemical products that our employees intend to use and perform testing on such chemicals.

Chemicals Management Process

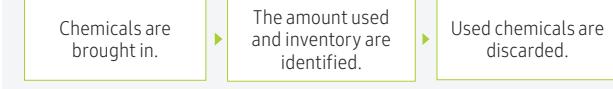
We manage all chemicals-related activities from purchasing to disposal via our strict system to ensure safety.

Pre-inspection



Tracking the Entire Process

Used chemicals are safely discarded through our preset procedures.



Reinforcing Chemical Control at Our Semiconductor Sites

To minimize any damage from potential accidents, we reinforced the chemical control at all facilities on the premises of our semiconductor sites. Each site is required to monitor environmental regulations by conducting assessments of the impact of legal regulations and pre-inspections of chemical substances. All tasks are assessed in advance for any potential risks and applied with differentiated on-site safety management levels accordingly. Automated and unmanned systems were introduced for tasks that deal with chemicals and require working at heights to eliminate safety risks. The content of harmful substances in raw materials (wafers) and supplementary materials (PCB, EMC, etc.) are also strictly managed in compliance with international standards.

Reinforcing chemical control

- Automating chemical injection
- Securing firefighting and disaster prevention equipment
- Installing discharge walls
- Conducting extensive equipment inspections
- Establishing a system for early detection of and response to leakage

Minimizing leakage risks

- Establishing a system to detect and respond to leakage at different points including building interiors and exteriors, rainwater drainage pipes, and outer fences
- Focusing on research related to chemical mixing risks to prevent relevant accidents
- Establishing a chemical mixing prevention system
- Reinforcing standards of construction and work with respect to chemicals

People



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Human Rights

Respect for human rights is embedded in our business operations based on our business philosophy "People First." We also continue to take steps to build a safer and healthier work environment.

Commitment to Respect Human Rights

We are committed to respecting the human rights and freedom of all. We endorse the principles enshrined in the Universal Declaration of Human Rights; International Covenant on Civil and Political Rights; International Covenant on Economic, Social and Cultural Rights; ILO Declaration on Fundamental Principles and Rights at Work; United Nations Guiding Principles on Business and Human Rights; and OECD Guidelines for Multinational Enterprises, while also practicing respect for human rights in our everyday business activities based on the Convention on the Rights of the Child and Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, and, at a minimum, the laws of the countries in which we operate. Where Samsung faces conflicts between internationally recognized human rights and national laws, including in cases where national law does explicitly prohibit adherence to core labour standards, we seek ways to respect the higher standard.

Our Labor and Human Rights Framework consisting of policies, due diligence, access to remedy, stakeholder engagement, transparency & reporting and governance is the foundation of our approach to respect human rights.

Labor and Human Rights Framework



Human Rights Policies

We have a range of human rights policies in place, which reflect our organization's commitment to fulfilling our responsibility to respect and support internationally recognized human rights standards. These policies stipulate how we realize our commitment to respect human rights and what our expectations are of our employees, suppliers, partners, and other stakeholders.

Samsung Human Rights Principles [🔗](#)

Global Human Rights Principles

In February 2023, we announced our Global Human Rights Principles (the Policy) that highlight our respect for human rights in line with international standards such as the UN Guiding Principles on Business and Human Rights (UNGPs). The Principles consolidate all of the commitments made in our existing policies and reaffirm our promise to prevent human rights abuses and to take effective remedies for those affected if and where our business activities caused or contributed to any harm.

Through the Policy, we disclose our salient human rights risks for the first time, which have been identified through our continuous engagements with internal and external stakeholders, internal assessments, third-party audits, human rights risk assessments, human rights impact assessments, and grievance channels. Through these Principles, we also enhance commitments in the areas of product responsibility; freedom of expression; and the recognition of a clean, healthy, and sustainable environment as a universal human right.

We expanded the scope of our commitment to human rights to encompass the wider set of rights-holders, who are potential and actual affected individuals and groups, including local communities, partners, consumers, and external stakeholders, in addition to the employees of our own operations and the workers in our supply chains. The Principles were informed by internal experts and external stakeholders such as nonprofit organizations and intergovernmental organizations to remain comprehensive and align with international standards and principles.

We will strive to raise awareness and promote the proper implementation of the Principles through the provision of relevant guidelines, training, and other capacity-building activities.

Capacity-Building

To help our employees understand their rights and implement respect for human rights in their everyday activities, every year we conduct labor and human rights training tailored to different target groups.

We launched a specialized human rights training for our employees in 2018 and, in collaboration with Business for Social Responsibility (BSR), developed it into a comprehensive program that offers targeted training for different employee groups in 2020.

The program consists of training for all employees, training for those responsible for human rights-related tasks, and training to develop Human Rights Champions.



Train-the-Trainer Workshop

Our train-the-trainer workshop is a training and peer learning platform designed to help our human rights trainers expand their knowledge base, learn best practices from their peers in other regions, and improve their capacity to deliver training.

In July 2022, we held two train-the-trainer workshops in Mexico and Vietnam transferring knowledge and training techniques to 22 trainers from 15 subsidiaries. Each workshop dealt with companies' duty to ensure respect for human rights, relevant legal requirements and stakeholders expectations, our Labor and Human Rights Framework and activities in each area, an in-depth analysis of our salient human rights risks, and the approach to human rights due diligence over the course of two days. In addition to the theoretical contents, practical discussions took place to share implications of previous human rights impact assessments and human rights risk analysis and best practices regarding the responsible employment practices of migrant workers, grievance channels, local capacity-building initiatives, stakeholder engagement, mental health services, and employee engagement.

The trainers who participated in the workshops then delivered human rights trainings for production workers as well as other in-house trainers. These in-house trainers will, in turn, share their knowledge with production workers at large sites.

Human Rights Training for All Employees

We develop and offer human rights training for manager-level and working-level employees. The manager-level training in 2022 was organized for those in leadership roles at our regional offices, production sites, R&D centers, and sales offices. It dealt with the updates on global laws and regulations in relation to companies' responsibilities to respect human rights, stakeholders' expectations, our commitments and practice on human rights, and access to the grievance channels. The working-level training delved into our commitments on human rights, their significance for our employees, and accessibility to our grievance channels with a focus on our employees' rights. Employees at our production sites received offline

training from local trainers in their local languages with local case studies, while office workers received training online. The overall training completion rate for 2022 reached 96.6%. The offline training completion rate and online training completion rate stood at 95.0% and 97.6%, respectively.

Level-Specific Training Details

Manager-level training

- Updates on global laws and regulations in relation to corporate responsibilities to respect human rights
- Stakeholders expectations
- Our commitments and practices to respect human rights
- Access to our grievance channels

Working-level training

- Our commitments to respect human rights with a focus on our employees' rights
- Human and labor rights of employees
- Access to our grievance channels

Human Rights Champion Training

We have Human Rights Champions at our subsidiaries, who act as human rights trainers and help to further integrate a human rights lens into our daily business activities. In order to highlight the importance of respect for human rights and share local best practices, we have designated more than 50 employees in human resource management, employee relations, compliance, and training as Human Rights Champions in 2020.

In 2022, we organized on-line deep dive sessions for Human Rights Champions in addition to the train-the-trainer workshops. The intensive training dealt with the developments of the UNGPs over the past decade, internal and external expectations of our efforts to further align our business activities with the UNGPs, and updates on legal requirements to enhance the participants' expertise.

Human Rights Due Diligence

In line with the UNGPs, we work proactively to identify, prevent, and mitigate actual and potential adverse human rights risks across our business operations, supply chains, and business relationships. Our due diligence includes engagement with various right-holders and stakeholders. We integrate the findings and implications from our due diligence in our internal processes to ensure that our policies and management systems remain aligned with the latest developments. We monitor the outcomes of the measures taken and report them to our internal and external stakeholders. We adjust the frequency and nature of assessment as deemed necessary based on changing conditions such as entry into new markets, onboarding of new suppliers, and newly identified human rights challenges in certain markets.

Identification of Actual and Potential Human Rights Risks

We identify actual and potential human rights risks through diverse channels: internal audits by in-house experts, assessments of specific human rights areas by regional employee relations experts, human rights risk analysis and human rights impact assessments by third-party human rights experts, reports of intergovernmental organizations and civil society organizations on geopolitical situations and the human rights landscape, media reports, third-party audits based on the RBA protocols, grievances and complaints filed by our employees and other right-holders, and dialogues with human rights experts and external stakeholders including, but not limited to, customers, investors, and industry associations.

Salient Human Rights Risks

We define our salient human rights risks as those human rights at risk of the most severe negative impacts to rights-holders through our business activities and relationships. We disclosed our salient human rights risks in February 2023 as a part of our Global Human Rights Principles (the Policy). Our human rights due diligence is performed with a focus on these salient human rights risks identified through continuous stakeholder engagement, internal assessments, external audits, grievance channels, and human rights risk and impact assessments. Centered on these risks, we prioritize our efforts and determine activities to prevent, mitigate, and address human rights impacts and enhance capabilities to provide access to remedy. The following are our salient human rights risks and some of the related measures we have taken to address them.

Prevention of Forced Labor

There are many drivers of forced labor and the payment of recruitment fees by workers – especially migrant workers – for them to obtain and retain jobs is one of the most widespread factors. We regularly monitor the overall working conditions at our production sites through internal audits and third-party audits aligned with the RBA Code of Conduct, in which “freely chosen employment” is a core indicator. We also pay closer attention to our production sites in Malaysia, Poland, Hungary, and Slovakia which employ migrant workers.

From 2019 to 2021, we organized workshops with the International Organization for Migration (IOM) for the executive management and HR staff of our production sites, suppliers employing migrant workers, and recruitment agencies. The training aimed to raise awareness on the importance of the protection of migrant workers’ rights within our supply chains and to provide practical knowledge on the implementation of responsible recruitment practices.

In addition, we revised our Migrant Worker Policy in 2020 to better protect the rights of migrant workers. To facilitate the implementation of this policy, we developed the Internal Guide for Migrant Worker Policy, which consist of 14 sections from recruitment to employment contract termination, based on the guidelines of RBA, BSR, and the Institute for Human Rights and Business (IHRB). We require our production sites, suppliers, and recruitment agencies to monitor the ILO forced labor indicators and faithfully implement our Policy and Guide.

In 2022, we performed our own on-site audits on four production sites staffed by migrant workers to verify their compliance with the Policy and Guidelines. These audits were based on the RBA methodology centering on the needs and rights of migrant workers and key industry references. We conducted interpreter-supported interviews with migrant workers, their families, and other vulnerable workers – such as employees from Ukraine who joined our facilities after February 2022 – in addition to interviews with the HR managers of the production sites and staff members of the recruitment agencies. These interviews were complemented by document verification and inspections of dormitories and off-site residential facilities for migrant workers.

The audit results showed that most practices of the production sites were in compliance with the Policy and Guides. However, it was discovered that 307 migrant workers hired by one of the four production sites in Hungary had paid for part of the transportation expenses incurred while moving from their homes to the location to meet with the recruitment agency in their home country. The amounts paid by the workers (approximately USD 9,876* in total) were reimbursed after the audit.

* Based on average currency exchange rate in 2022: USD 1 = 299.25 HUF

Reimbursement of Transportation Expenses

Upon employment

- Migrant worker's residence in home country → Workplace
- Transportation receipts submitted within 90 days from the start of employment
- Transportation expenses reimbursed in lump sum amount (standard amount reimbursed if no receipts available)

Post-employment

- Workplace → Migrant worker's residence in home country
- Prior notice by worker in accordance with corporate policy, evidence of termination and return to home country submitted by worker (photos of transportation receipts and entry stamp on passport submitted via text message or email)
- Transportation expenses reimbursed in lump sum amount (standard amount reimbursed if no receipts available)

To prevent the recurrence of similar incidents, we have continued to engage in activities to raise the awareness of local HR managers, recruitment agencies, and workers on our internal standards for migrant workers’ rights, including the prohibition of recruitment fees. The four production sites developed corrective actions for minor non-compliance with the Internal Guide for Migrant Worker. Local employee relations experts are monitoring the follow-up steps taken by the sites.

Through the audits, we confirmed that the total amount of outstanding reimbursements decreased by 88.6% since the introduction of the revised Migrant Worker Policy in 2020 compared to the 3-year period of 2017 to 2019.

Right to an Adequate Standard of Living

The payment of living wages is essential to guarantee an adequate standard of living, resolve inequality, and ensure decent working conditions such as decent working hours. Although universal consensus on the definition and calculation method of a living wage has yet to be reached, the term is generally understood as the level of remuneration a worker receives for a standard workweek in a particular place which is sufficient for the worker and dependent family members to afford a decent standard of living. We remain committed to ensuring an adequate standard of living for our employees and providing remuneration for a regular workweek, which satisfies the basic needs of workers and their dependent family members.

We have collaborated with BSR to calculate living wages. In 2018, we began conducting research to estimate living wages in countries where our production sites are located. In 2022, we assessed the impact of the economic recession and inflation amid the pandemic on the basic living conditions of our employees.

To ensure the accuracy of the estimates, we used the widely accepted Anker methodology and identified diverse items such as food and non-food expenditure per household and the number of employed and dependent family members in each household by referring to economic indicators released by credible organizations such as the OECD, UN, and Eurostat. In 2022, we performed an internal living wage gap analysis targeting production workers at 20 global business sites. Based on the findings, we are making improvements to the wage and benefits of some of our production sites to align them with the living wages calculated in accordance with the Anker methodology.

We are currently recalculating living wages in collaboration with BSR based on the figures updated in 2023. To enhance the understanding of living wages within our organization, we leverage our human rights training to help our employees in key roles such as HR and procurement recognize human rights risks related to excessive overtime and failure to provide adequate wages. We also engage in industry-led living wage discussions and task forces to learn from our peers and work with the wider industry to establish a more effective approach.

Freedom of Association and Collective Bargaining

Freedom of association  is the right of workers and employers to form and join organizations of their own choosing or not to engage in any of those activities. Collective bargaining, closely related to freedom of association, is one of the key vehicles that help employers and workers' legitimate trade unions jointly work toward fair working conditions, equal opportunities, and sound industrial relations.

We respect the activities of trade unions and other forms of employee representation. We ensure that no workers are discriminated against, retaliated against, harassed, or adversely affected due to their joining or forming of a labor union, request for collective bargaining, participation in collective bargaining, and exercise of the right to organize or bargain collectively. We engage in open collective bargaining based on mutual trust and strive to resolve issues through good faith and constructive discussions, taking into account the labor practices of the respective region.

In Korea, the executive management and the joint bargaining group of the labor unions concluded their first collective agreement in 2021 and the first wage agreement that encompasses wages, leaves, and performance evaluations in August 2022, laying a foundation for constructive relations. Employees of our production site in Türkiye, established in 2021, are under the collective agreement reached by the local employers' federation and the trade union of the sector in early 2022.

In 2020, we established the Labor Relations Advisory composed of four external experts under the Board of Directors to enhance our industrial relations practices. The advisors review our labor relations issues through meetings with management and executives from the People Team and make recommendations for our practices in the mid-to-long term. In addition, as part of our human rights training for all employees, we reiterate the freedom of association and right to collective bargaining and provide hands-on guidance on how to exercise these rights. For executives, we outline the dos and don'ts to ensure that these worker rights are duly protected and practiced.



Non-Discrimination and Diversity

Discrimination is defined by ILO as any distinction, exclusion, or preference made on the basis of race, sex, religion, political opinion, national extraction, or social origin that has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation.

Given the large share of female workers in the global electronics industry, gender shall be considered when it comes to the working environment. As a member of the RBA we comply with the RBA Code of Conduct and thus prohibit discrimination in hiring and employment practices – including wage, promotion, reward, and access to training – based on gender and pregnancy among others. We exempt pregnant and nursing employees from potentially harmful tasks and conditions, take appropriate measures to eliminate or reduce workplace health and safety risks related to the tasks of pregnant and nursing employees, and provide spaces that meet the needs of nursing employees.

We developed the Anti-Harassment Guidelines in collaboration with BSR in 2018 and revised them into the Anti-Discrimination and Harassment Policy in March 2022. This Policy reflects our commitment to respect our employees' right to work in an environment free from discrimination and harassment and to build an environment where our employees are respected, equal opportunities are guaranteed, and their full potentials are realized.

In 2022, we developed the gender equality self-assessment toolkit with 144 indicators – in areas including policy, grievance mechanism, audit and due diligence, capacity-building, and communication – based on UN Women's Women Empowerment Principles, RBA's VAP protocols, World Benchmarking Alliance's Gender Benchmark methodology, and a set of questionnaires from NGOs to further integrate a gender lens into our due diligence work. Assessments performed at 20 of our global production sites indicated that we require improvement in the areas of women leadership, gender-related internal audit, gender equality training, and local stakeholder engagement. Based on the results of the assessments, we developed and distributed the Essential Guide on Gender Equality, which includes best practices in the areas of policy, training, infrastructure, and maternity support. We will continuously monitor the implementation of the Guide at our global business sites and review its application in our supply chains.

Moreover, we strive to prevent incidents of discrimination by raising awareness of our employees through continuous training. In 2022, a total of seven cases were reported – six of which were resolved to take the measures of suspension or warning and one of which was found to be a case for another Samsung affiliate company.

Our efforts to enhance Diversity, Equity, and Inclusion 

Salient Human Rights Risks and Related Actions

Salient human rights risks	Function in charge	Actually or potentially affected stakeholders	Activities to prevent, mitigate, or address human rights risks	Salient human rights risks	Function in charge	Actually or potentially affected stakeholders	Activities to prevent, mitigate, or resolve human rights impacts
 Working hours and adequate standard of living	· People Team · Partner Collaboration Center	· Our employees · Workers in the supply chain	<ul style="list-style-type: none"> Internal monitoring and third-party audits Industry network engagement <p>Working hours</p> <ul style="list-style-type: none"> Pre-building of new products prior to their official release Regular review of working hours at our production sites and suppliers Review of shift patterns, in compliance with our internal standards, at our production sites <p>Standard of living</p> <ul style="list-style-type: none"> Calculation of living wage based on Anker methodology with third-party experts Gap analysis between wages paid at our production sites and living wages 	 Non-discrimination & diversity and inclusion	· People Team · Partner Collaboration Center	· Our employees · Workers in the supply chain · End users/Consumers · Local communities/Society	<ul style="list-style-type: none"> Internal and third-party audits Internal DEI network Capacity-building and training Annual Employee Surveys (Samsung Culture Index) Industry network engagement
 Forced labor and child labor	· People Team · Partner Collaboration Center	· Our employees · Workers in the supply chain	<ul style="list-style-type: none"> Internal monitoring, including of government and NGO reports, and third-party audits Industry network engagement <p>Forced labor</p> <ul style="list-style-type: none"> Development of tailored audit tool for our production sites employing foreign migrant workers On-site audits of our production sites and dormitories Face-to-face interviews with foreign migrant workers on their working and living conditions <p>Child labor</p> <ul style="list-style-type: none"> Employment management system Age verification process Capacity-building and training 	 Product responsibility including AI ethics	· Corporate Sustainability Center · R&D Teams at each Business Unit · Samsung Research	· End users/Consumers	<ul style="list-style-type: none"> AI Ethics Principles of fairness, transparency, and accountability Guidelines on AI Ethics Provision of AI models and data card templates Online training
 Freedom of association and collective bargaining	· People Team · Partner Collaboration Center	· Our employees · Workers in the supply chain	<ul style="list-style-type: none"> Internal and third-party audits Reinforcement of relevant provisions in Code of Conduct Labor and Human Rights Council overseen by the Board of Directors Capacity-building and training <p>Dialogues and collaboration with employee representative bodies, including labor unions and Works Councils</p>	 Digital responsibility including privacy and freedom of expression	· Information Security Center · Global Privacy Office · Communications Team · Partner Collaboration Center	· Our employees · Workers in the supply chain · End users/Consumers · Local communities/Society	<ul style="list-style-type: none"> Provision of products and services in compliance with Samsung Privacy Protection Principles including transparency, security, and choice Enabling freedom of expression in products and services
 Occupational health and safety	· Global EHS Center · Partner Collaboration Center	· Our employees · Workers in the supply chain	<ul style="list-style-type: none"> Internal and third-party monitoring Acquiring and retaining internationally recognized EHS certifications at all of our business sites Establishing a monitoring system for all of our global production sites Development and adoption of new protective gear Safety capacity-building and training, fostering experts 	 Environmental responsibility	· Global EHS Center · Partner Collaboration Center · Corporate Sustainability Center	· Our employees · Workers in the supply chain · End users/Consumers · Local communities/Society	<ul style="list-style-type: none"> Announcement of the New Environmental Strategy incorporating emissions reduction, new sustainability practices, and innovative technologies and products Acquiring and retaining internationally recognized environment and energy certifications
				 Supplier responsibility	· Partner Collaboration Center · Purchase Teams · Global EHS Center	· Workers in the supply chain	<ul style="list-style-type: none"> Responsible purchasing practice requirements in contracts and evaluations of suppliers Self-assessments, internal and third-party monitoring Regular verification of supplier data Capacity-building and training
				 Responsible minerals sourcing	· Partner Collaboration Center · Purchase Teams · Corporate Sustainability Center	· Workers in the supply chain · Local communities/Society	<ul style="list-style-type: none"> Participation in grassroots projects Capacity-building and training Industry network engagement

RBA Validated Assessment Program

As a member of the RBA, Samsung adheres to the RBA Code of Conduct, which is in alignment with the UN Global Compact, ILO Declaration on Fundamental Principles and Rights at Work, and UN Universal Declaration of Human Rights.

We annually complete the RBA Self-Assessment Questionnaire and follow the RBA Validated Assessment Program (VAP) to conduct on-site audits of our production sites. VAP provides a comprehensive assessment of a site's level of compliance with the RBA Code of Conduct and local laws and regulations in the areas of labor, health and safety, environment, ethics, and management system. VAP is conducted by independent third-party auditors specially trained and certified by the RBA. When any case of non-compliance is uncovered, the production site in question is required to establish corrective action plans and initiate the system to prevent recurrence, which is to be implemented within a preset time frame. In 2022, we had VAP audits at 14 of our global production sites of which eight were assessed as fully compliant and six have findings in the areas of labor and health and safety. Some findings were immediately addressed on site during the audits; corrective actions requiring longer-term measures are currently in progress, in line with the VAP standards.

2022 RBA Audit Summary: Audit Compliance Rates (Number of Findings)

Production site	RBA Audit Compliance rate	Labor	Health and safety	Environment	Ethics	Management system
Vietnam (SEHC)	98.7%(1)	100%	95.2%(1)	100%	100%	100%
Vietnam (SEVT)	100%	100%	100%	100%	100%	100%
Egypt (SEEG-P)	100%	100%	100%	100%	100%	100%
Brazil (SEDA-P(C))	100%	100%	100%	100%	100%	100%
Mexico (SAMEX)	100%	100%	100%	100%	100%	100%
Mexico (SEM-P)	97.6%(2)	92.3%(2)	100%	100%	100%	100%
Malaysia (SEMA)	100%	100%	100%	100%	100%	100%
Korea (Cheonan)	100%	100%	100%	100%	100%	100%
Korea (Giheung)	100%	100%	100%	100%	100%	100%
Korea (Hwaseong)	100%	100%	100%	100%	100%	100%
Korea (Onyang)	98.7%(1)	96.1%(1)	100%	100%	100%	100%
Korea (Pyeongtaek)	98.7%(1)	96.0%(1)	100%	100%	100%	100%
China (SCS)	97.5%(2)	95.8%(1)	95.2%(1)	100%	100%	100%
China (SESS)	96.3%(3)	96.0%(1)	91.3%(2)	100%	100%	100%

Human Rights Impact Assessment and Saliency Analysis

A human rights impact assessment (HRIA) analyzes the impact of business activities on right-holders such as employees, workers within supply chains, local community members, and consumers. HRIA typically involves more in-depth consultations with potentially affected stakeholders than other forms of human rights assessment. In turn, a Human Rights Saliency Analysis (HRSA), a type of human rights due diligence, prioritizes actual and potential human rights impacts based on the severity (scale of affected people, scope of the impact, remediability, among others) and the probability of occurrence. HRSA helps companies focus their resources on managing human rights risks that are likely to have an adverse impact and is concluded with the identification of salient human rights risks. The first HRIA was carried out from 2018 to 2019 at our Vietnam production site. Supported by BSR, we conducted employee interviews, document review, labor union member interviews, and external stakeholder interviews and identified potential labor and human rights risks. While no human rights abuses that require immediate action were detected, we identified 41 action items based on BSR's recommendations related to labor rights, discrimination, protection of vulnerable groups, local communities, and supply chains. As of December 2022, 38 out of 41

actions were completed, and some items such as local CSR activities, Multi-Stakeholder Forum, among others have taken root as regular events. The recommendations that have yet to be completed will undergo an effectiveness review. In 2021, we performed a human rights saliency analysis of a new business site prior to their start of operation. We performed a HRSA at our Türkiye production site and identified potential human rights risks posed by its operation on our employees, supply chain workers, and local communities in the macro-context of the country's human rights status. Supported by the expert consultancies Enact and twentyfifty, we identified our potential salient human rights risks including decent working conditions, health and safety, supplier responsibility, freedom of expression, and respect for human rights of vulnerable groups. We received 21 recommendations to align the site's operation with the UNGPs, 20 of which have been implemented and completed as of December 2022. In 2023, we plan to develop and introduce our internal semi-HRIA, based on communications with our internal and external stakeholders on their grievances, to assess how our production sites respect for human rights.

2022 Areas of Findings *As of December 2022

Classification	Sub-section	Findings	Corrective action(s) completed	Corrective action(s) in progress
Labor	Freely chosen employment	0	-	-
	Young workers	0	-	-
	Working hours	2	0	2
	Humane treatment	0	-	-
	Wage and benefits	4	2	2
	Non-discrimination / Anti-harassment	0	-	-
	Freedom of association	0	-	-
Health and safety	Occupational safety	0	-	-
	Emergency preparedness	2	1	1
	Occupational injury and illness	1	1	0
	Industrial hygiene	0	-	-
	Physically demanding work	0	-	-
	Machine safeguarding	1	1	0
	Food, sanitation, and housing	0	-	-

Stakeholder Engagement

Stakeholder engagement is one of the core pillars of our Labor and Human Rights Framework. It is a company-wide effort integrated into our business activities and an important element of our human rights due diligence process.

We recognize that we are part of a broader ecosystem and that our activities may have a far-reaching impact on the individuals within our supply chains and local communities. As part of our commitment to respect human rights, we strive to engage in open, active, and direct communication with our stakeholders. We communicate with diverse stakeholders, including right-holders who may be affected by our activities, to listen to their voices and reflect their insights in our operations.

Different forms of our stakeholder engagement range from informal dialogue to strategic partnerships. Our stakeholders include our employees, business associations and industry initiatives, civil society organizations, international organizations, benchmarking agencies, human rights experts and consultancies, customers, suppliers, investors, and governments.

Employee Representative Bodies

Labor Union We have 32 labor unions representing our employees at our business sites around the world. We negotiate employment conditions with them and conclude collective agreements accordingly pursuant to the laws of the respective countries.

Works Councils We have Works Councils at 46 of our business sites around the world based on the respective countries' laws and individual sites' conditions. Our employees elect their representatives through direct and anonymous voting. The Works Councils convene regularly to discuss various agenda items to improve working conditions, including wages and benefits.

CSOs and NGOs

Multi-Stakeholder Forum in Vietnam The Multi-Stakeholder Forum (MSF) is an initiative led by Samsung, which has been staged annually since 2018 to bring together our stakeholders, from policymakers to NGOs, CSOs, labor and human rights experts, academics, and businesses, to create synergy. The latest iteration of the Forum was held jointly by Vietnam's Ministry of Trade and Industry, Vietnam Chamber of Commerce and Industry (VCCI), Vietnam General Confederation of Labor (VGCL), and Samsung in October 2022 in Hanoi under the theme "Moving Up the Global Value Chains in Vietnam: Multi-Stakeholder Partnership on Capacity Development and Due Diligence." In addition, the results of two collaborative studies by VCCI, VGCL, and Samsung were shared – which focused on the dynamic capabilities of Vietnamese businesses in the global supply chain and the role of labor unions in reinforcing labor rights due diligence in Vietnam. Samsung presented its efforts to foster the local parts-manufacturing industry; expand local supply chains; and maintain workplaces that ensure respect for human rights, gender equality, and safety. The number of attendees in 2022 reached approximately 500, including representatives from over 60 global and local NGOs and due diligence leaders and experts.



MSI Reproductive Choice In 2022, we joined forces with MSI Reproductive Choice through one of our production sites in Vietnam to promote the health of our employees. As an international NGO dedicated to providing contraception and safe abortion services in 37 countries in accordance with those countries' national laws, MSI Reproductive Choice conducted a four-day train-the-trainer program covering discrimination, sexual harassment, reproductive health, and mental health at the workplace. A total of 39 in-house trainers participated in the program which centered on developing practical problem-solving skills at the workplace and highly appreciated the training module on the gender equality. After completing the training program, these in-house trainers then held two on-site training sessions on sexual harassment prevention and pre-/postnatal healthcare, both of which were attended by more than 33,000 employees.



Business Associations and Industry Initiatives

Responsible Business Alliance (RBA) We are a member of RBA, the world's largest industry coalition dedicated to corporate social responsibility in global supply chains. In addition to the RBA VAP program based on the RBA Code of Conduct, we regularly conduct internal audits by RBA-trained in-house experts as well as regular third-party audits by independent auditors. We are actively participating in the Responsible Labor Initiative (RLI), a multi-stakeholder initiative focused on respecting and promoting labor rights. We are also engaging in dedicated working groups and task forces concerning our salient risks to discuss mutual challenges, share best practices, and raise the awareness of our employees on relevant issues.

Local Communities

Community Engagement Council We launched our first Community Engagement Council at our Yongin business site in 2013, followed by our Pyeongtaek and Onyang sites. This initiative provides a platform to exchange views with local community members on the potential impact of our operations on the local environment and current and potential grievances of local community members. Each Council is composed of representatives of the respective business sites and local residents and convenes regular meetings as agreed to by both parties. The details of each meeting are disclosed on the Samsung Semiconstор website. In addition, we invite local residents and students to special events organized at our business sites to provide an opportunity to experience our sites first-hand.

Our efforts to reach out to local communities 



Benchmarking Institution

Global Child Forum (GCF) GCF is a Sweden-based nonprofit organization that assesses the integration of children's rights in the business practices of some of the world's most influential companies. In 2022, we were invited to take part in the GCF Business Academy as the industry leader selected through GCF's most recent benchmarking. We participated in diverse programs targeting companies in the ICT sector over the past year, discussed challenges and best practices, and sought ways to better protect children's rights across our business operations. The peer-to-peer networking and cooperation activities arranged through this program were guided by GCF and other organizations dedicated to children's rights.

Investors

ESG Roadshow We hold annual ESG Roadshows to update our investors on our sustainability activities including those related to human rights. Since 2019, the Roadshow has facilitated communication with our investors on our efforts to advance sustainability, including new policy announcements and human rights due diligence results. It also serves as a channel to resolve our investors' inquiries on various sustainability-related topics including on our efforts to enhance DEI; our global supply chain management system; and our response to evolving regulations of different countries. We continuously strive to strengthen communication with our investors and actively reflect their needs in our human rights management.

Transparency & Reporting

We disclose our activities to respect human rights in our annual Sustainability Report based on the Global Reporting Initiative (GRI) Standards. The annual disclosure is also an extension of our efforts to comply with the UK Modern Slavery Act, Australian Modern Slavery Act, and Norwegian Transparency Act and to fulfill the evaluation criteria of the Corporate Human Rights Benchmark – assessing human rights management levels of global companies – and KnowTheChain – assessing companies' actions to address forced labor in their global supply chains. We also disclose official statements on relevant human rights issues via the online platform operated by the Business and Human Rights Resource Center, a UK-based nonprofit organization dedicated to research in the human rights impacts of corporate activities, as well as in response to customer requests on dedicated human rights issues.

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[Our statement on UK Modern Slavery Act !\[\]\(311d3fdf119e400053cfa1c69cfafcf8_img.jpg\)](#)

[Our statement on Australian Modern Slavery Act !\[\]\(486da8c6e7017d89bb72a0a0a030190f_img.jpg\)](#)

Access to Remedy

We remain committed to thorough due diligence to prevent our business operations from causing or contributing to any adverse impacts on human rights or engaging in human rights abuses. All complaints or grievances filed by individuals or groups that are adversely affected by our business operations are promptly investigated to seek effective and satisfactory remedies. Upon detecting human rights abuses, we investigate their root causes and change our systems, processes, and practices if deemed necessary to prevent the recurrence of similar cases.

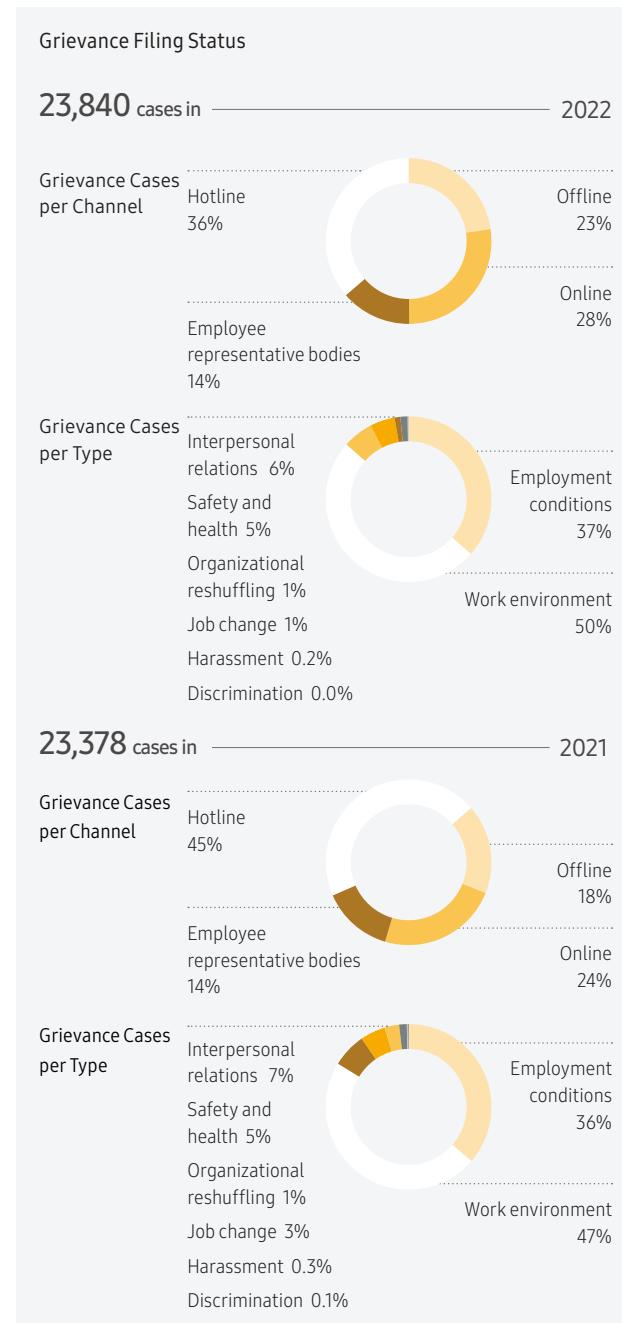
The scope of our grievance encompasses any incidents that may adversely impact or result from an adverse impact on human rights as specified in the UNGPs, in addition to complaints, requests, and suggestions about working conditions. We ensure our employees are informed of and have an access to the grievance channels and resolution process by including these topics in our annual human rights training for employees.

We also have the process in place to take prompt follow-up actions and update grievants on the progress in line with the effectiveness criteria from the UNGPs. We make sure that filed grievances are handled promptly in accordance with our internal procedures and that follow-up actions, such as training and policy revisions, are taken to address the root causes. We interview all relevant parties involved in a case – the grievant, accused, potential witnesses – and keep in touch with grievants to monitor whether their grievances have been properly resolved and remedied. To prevent reoccurrence, we establish preventive measures and change our business practices, as needed, to address identified risks.

Our grievance channels which are a combination of anonymous and direct channels are open to internal and external stakeholders including workers in our supply chain and civil society organizations. While most of our channels are operated at the corporate level, we also partner with third-party organizations in select countries to provide additional channels for our employees. Samsung prohibits the use of retaliation of any form against workers or stakeholders, and is committed to cooperating with and not obstructing participation (of workers or other stakeholders) in or the outcome of judicial and non-judicial mechanisms.

Our grievance channels  Our grievance resolution process 

The total number of grievances filed and the breakdown of grievance types in 2022 were found to be similar to those of the previous year. Several notable changes include: an increase in grievances filed offline by 5%; a decrease in grievances filed via hotline by 9%; and an increase in grievances related to work environment by 3%. The return to physical workplaces following the lifting of travel restrictions post-pandemic is believed to a contributing factor to this trend.



Third-Party Grievance Channel in Latin America

Our Latin America Office introduced a third-party grievance channel in Brazil as allegations and complaints related to moral harassment had increased. The new independent channel was aimed at providing an additional safeguard, in combination with the existing internal grievance channels, for employees highly sensitive about confidentiality. As a result, there was a marked increase in grievances concerning subjects that had not been filed via the internal channels, which brought positive change to our site in Brazil.

To meet the needs of employees under different conditions, we strive to improve the reliability of the available channels. We conducted training concerning the issues identified through the filed grievances as a preventive measure. We also focused on preventing any form of retaliation against grievants through the Compliance Team's leadership role in the investigation, resolution, and follow-up management of grievances.

Given the successful implementation of this approach in Brazil, the third party grievance channel was expanded to all of our business sites in Latin America as of October 2022. Upon verifying its efficiency, we will review the introduction of third-party grievance channels in other regions.

Human Rights Governance

We believe strong governance is essential to successfully embed respect for human rights in our business operations. Our human rights governance is centered around the Sustainability Committee under the Board of Directors and the Labor and Human Rights Council. This structure facilitates the supervision and management of labor human rights conditions at various levels. The Sustainability Committee is in place to enable the Board of Directors to closely monitor relevant company-wide issues. The Committee plays an instrumental role in determining our strategic priorities concerning sustainability and incorporates human rights and other sustainability issues into the business decision-making.

The Sustainability Council, headed by the CEO, reviews and manages company-wide sustainability issues with those in charge of sustainability in individual businesses.



The Labor and Human Rights Council, one of our cross-functional consultative bodies, discusses and coordinates global labor and human rights issues at our business sites and across our supply chains. This Council is composed of executives and working-level staff members of the People Team, Partner Collaboration Center, Vendor Improvement Task Force, Global Technology Research, Global EHS Center, Corporate Legal Office, Investor Relations Team, and Corporate Sustainability Center and serves as our secretariat for human rights issues. It shares information on the global human rights landscape, potential human rights risks, and stakeholder feedback and discusses ways to integrate new findings into our due diligence approach.

The Council convenes on a monthly basis and reports human rights issues identified to the corporate risk management body which in turn reviews them as a potential risk to our business. A brief description of the units participating in the Council and their respective responsibilities are provided below:

People Team

The People Team establishes policies for human rights activities and DEI programs and monitors relevant procedures at our business sites. It develops employee training programs to ensure respect for human rights in our everyday business activities, while also taking the lead in the implementation of due diligence, including third-party audits by RBA-approved auditors and the Human Rights Impact Assessment, to prevent, mitigate, and remedy our human rights impacts.

Partner Collaboration Center

The Partner Collaboration Center supervises the establishment of human rights standards and implementation of due diligence by our suppliers and offers training and capacity-building programs to ensure their responsible purchasing practices including responsible minerals sourcing. The Center also regularly monitors our suppliers' compliance status through a dedicated organizational unit.

Vendor Improvement Task Force

The Vendor Improvement Task Force monitors our business partners stationed at our production sites on their implementation of our human rights commitments and audit programs.

Global Technology Research

Global Technology Research monitors our suppliers' compliance with the Supplier Code of Conduct and our human rights commitments.

Global EHS Center

The Global EHS Center establishes standards related to occupational health and safety and environment and supports their implementation in our business sites and supply chains.

Corporate Legal Office

The Corporate Legal Office shares the latest global legislation trends and requirements concerning respect for human rights and due diligence in business operations.

Investor Relations Team

The IR Team identifies and conveys our investors' expectations of our human rights commitments to the organizational units in charge.

Corporate Sustainability Center

The Corporate Sustainability Center communicates our stakeholders' expectations of our sustainability efforts, including human rights activities, to the organizational units in charge. The Center ensures close coordination with our respective businesses through the Sustainability Council and reviews and submits agenda items to the Sustainability Committee under the Board of Directors.

Health and Safety

We have health and safety management systems in place for our individual business sites to ensure workplace safety and the health of our employees. We also engage in diverse activities, from risk mitigation to relevant indicator management, safety-sensitive culture assessment, and employee capacity-building.

Business Site Safety Management System

Health and Safety Management System Certification

Our operations are based on international health and safety management systems. The attainment of ISO 45001 is mandatory for all of our manufacturing sites around the world. As of 2022, all of our production sites are 100% certified.

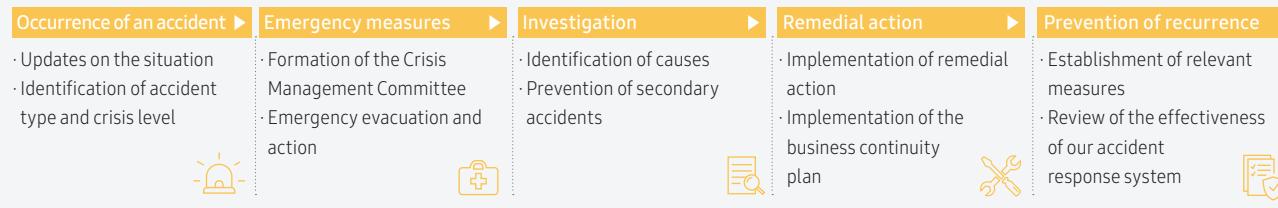
Integrated Assessment System

We identify potential risks through the annual environment and safety assessment by experts and review the compliance and equipment management status of our business sites. In 2022, we introduced a serious accident risk assessment initiative that brings together internal and external specialists to accurately diagnose the health and safety management status of our business sites, continually mitigating and removing on-site risks.

Accident Prevention Process



Accident Response Process



Safety Management System

Our safety management system, encompassing hazardous machinery management, on-site safety inspections, and safety monitoring, is designed to help all employees efficiently handle related tasks.

Identifying and Mitigating Potential Risks

We are identifying potential risks and building a safer work environment. DX operates the "No Safety, No Work" campaign designed to allow any individual to immediately suspend work upon detecting risk factors on site and rewards employees who make significant contributions. It also holds "No Construction Work Day" to eradicate risks related to construction work performed on site on holidays.

DS identified 31,502 potential risks in 2022 through the participation of 5,036 employees.

Managing Risks Related to Fire, Explosion, and Natural Disasters

DX collaborated with external specialists to perform a comprehensive assessment of its business sites deemed to have potential risks related to fire, explosion, and natural disasters. In Korea, the scope of this work included inspections of firefighting and high-pressure gas equipment and an analysis of natural disaster scenarios – including wildfire, storms, and floods – and evacuation simulations. At DX's global business sites, we identified and addressed gaps in the emergency response system – including foam process fire risks and evacuation routes.

Reinforcing On-Premise Traffic Safety

DX performed a comprehensive traffic safety assessment in collaboration with an external specialist to prevent accidents and improve infrastructure on the premises of its business sites. Traffic accident risks were identified at the production sites with high traffic of large trucks, and improvements were made accordingly. DX also requires compliance with the "5 Safety Rules" concerning pedestrians, vehicles, and bicycles to ensure a safer workplace.



Our Explosion Protection Efforts Evidenced by IECEx CSF Certification
DS has established a safety management system to enhance preparedness for possible explosions that may lead to serious accidents. A dedicated organizational unit was formed to manage the quality of explosion protection facilities and perform regular inspections. It also attained IECEx¹⁾ and CoPC²⁾ and cultivated 15 explosion protection experts. Based on such efforts, its Giheung and Hwaseong sites attained IECEx CSF³⁾ granted by IECEx in February 2022 in recognition of workplace safety, followed by its Pyeongtaek, Cheonan, and Onyang sites. All of the DS Division's business sites in Korea are now IECEx-certified. IECEx CSF is a testament to workplace operation in accordance with international explosion protection standards. DS plans to continually elevate its explosion protection capacity to new heights at all of its sites.

1) International Electrotechnical Commission Certification System for Explosive Atmospheres

2) Certificates of Personnel Competence

3) Certified Service Facility

Safety Capacity-Building

Risk Assessment Expert Program

DS operates a risk assessment expert program to reinforce our employees' safety risk assessment capabilities. A total of 3,494 experts (2,200 of our employees and 1,294 of our suppliers' employees) have completed this program as of 2022.



Global Manufacturing and Workplace Safety Innovation Day

In order to enhance the safety of our business sites, we organize Global Manufacturing and Workplace Safety Innovation Day each year to share and encourage the application of best practices.

In 2022, DX held an event to share innovation cases of different businesses in celebration of this initiative attended by over 100 employees from our sites in Korea, Vietnam, and Europe as well as Samsung Group member companies.

DS also organized its 2022 celebration of the Day with over 250 participants, including the CEOs of five of our parts suppliers (DS, SDC, Samsung SDI, Samsung Electro-Mechanics, and Samsung Biologics), at its Giheung business site. "Realization of Environment Management with Greater Value for Future Generations" was set as the objective for the environment sector and "Creation of a Safe and Sound Workplace Driven by Unprecedented Technologies" for the safety sector. A total of 33 tasks were identified to maximize the synergy of the five parts suppliers through collaboration and technology exchanges for mutual business modeling and implementation. We plan to capitalize on this initiative to further reinforce our competitiveness in environment and safety.

Safety-Sensitive Culture Promotion Group

DS participates in the Safety Culture Promotion Group led by Korea Industrial Safety Health Headquarters under the Ministry of Employment and Labor to prevent serious accidents. The Safety Culture Promotion Group engages with diverse public and private organizations including those in charge of safety from the perspective of both labor and management. It collaborates with the Gyeonggi-do branch of the Ministry of Employment and Labor to promote on-site safety practices by producing and distributing relevant content, creating slogans for safety-sensitive culture, and organizing a safety-sensitive culture contest.

Safety Training for Employees

In order to enhance the emergency response capabilities of all of our employees and take full advantage of the AEDs installed at our business sites, we made CPR and AED training regular. Health and safety trainings, safety leadership training for executives, and seminars for staff members in charge of safety are being conducted, as well as safety events and safety campaigns to embed safety in all aspects of our business operations.

Category	Details	2022 Performance
Employees	Introductory training, legally required basic training, safety leadership training for executives	<ul style="list-style-type: none"> Conducted 746,057 hours of training Training 172,510 employees
Staff in charge of environment/safety (Korea)	Internal auditor training, specialist cultivation training, legally required continuing training	<ul style="list-style-type: none"> Conducted 32,866 hours of training Training 5,242 employees
Staff in charge of environment/safety (Global)	Training developed by individual sites	<ul style="list-style-type: none"> Conducted 1,123,484 hours of training Trained 102,871 employees



Our Efforts to Promote Employee Health

In order to promote employee health, improve the work environment, and prevent occupational diseases, we are operating company-wide specialized units as well as dedicated organizational units at individual sites. DS's Samsung Health Research Institute has been in operation since 2010 as the nation's first corporate initiative specializing in the prevention of diseases and healthcare for frontline workers. DX is operating the Health Management Office.

Healthcare for Employees (Korea)

Physical Examinations and Follow-Up Management

- Annual physical examinations for all of our employees (standard, comprehensive, and special)
- Comprehensive physical examinations a wide range of advanced health assessments
- One-on-one consultation with a physician and healthcare programs for employees diagnosed with special conditions



Focused Care for High-Risk Groups

- High-risk groups requiring focused care screened based on physical examination results
- Integrated healthcare infrastructure provided (consultation with dedicated physicians, attendance management, provision of blood pressure and blood glucose meters, physical training support, etc.)



On-Site Health Promotion Facilities

- In-house clinics (physical therapy, diagnostic testing, diagnostic radiology, etc.)
- Musculoskeletal Disorder Prevention Exercise Center
- Health promotion programs of the in-house physical examination center



Contact-Free Medical Examination Service

- Contact-free remote medical examination service introduced for our employees stationed globally and on business trips and their families (in connection with locally-based general hospitals)
- Consultation available across 24 disciplines and detailed secondary examination offered for local medical records



Infectious Disease Prevention and Control

- Integrated infectious disease control through the S-Care system (reporting of confirmed and suspected cases, reservations with screening stations, vaccination, patient screening questionnaire, etc.)
- Publication of the white paper on COVID-19 response and establishment of the company-wide response system
- Operation of screening stations (PCR testing, rapid antigen testing, and respiratory diagnosis)
- Disinfection and provision of infection control supplies for employees (masks, diagnostic kits, thermal imaging tools, hand sanitizer, etc.)



Health Promotion Programs

- Moderate-intensity exercises including walking: Walking Challenge using the Samsung Health app and group exercise programs in connection with on-site health promotion facilities
- Anti-obesity: 12-week constitution-changing program based on diet therapy, exercise, and weekly lectures by bariatricians
- Anti-smoking: Diagnosis and prescription by physicians of clinics collaborating with National Health Insurance Service
- Chronic diseases: One-on-one tailored chronic disease control program supported by health managers and our mobile app



Mental Health Promotion for Our Employees

We are equipped with a network of 16 in-house Life Coaching Centers and 13 Mental Health Clinics in Korea and operate the Life Coaching Center at 20 production sites and 11 research institutes in other regions.

*Global sites and research institutes without an in-house Life Coaching Center utilize external employee assistance program providers.



Life Coaching Center

The Life Coaching Center is staffed by certified counselors to provide expert counseling services. Each location is equipped with a meditation room to help our employees learn ways to effectively control everyday stress through various programs (tension relief, meditation, color therapy, pain relief, etc.).

Counseling Center

Psychiatrists are stationed at the Mental Health Clinic to provide one-on-one consultation, medication and psychotherapy, and training for a wide range of issues including work life, interpersonal relationships, stress, and family life. Confidentiality is guaranteed for information obtained through consultation pursuant to the code of ethics for counselors and the Medical Service Act.

Online Counseling Channel

In Korea, we have operated an online psychotherapy program and diverse counseling channels (video, telephone, and messenger) for our employees since the outbreak of COVID-19 to ensure their wellness. We also set up a hotline at our production sites and research institutes in India to provide wider access to our services.

Work Environment Improvement

Work Environment Improvement

- Assessing working conditions (chemicals, noise, dust, etc.)
- Installing localized ventilation equipment and monitoring control flow
- Monitoring indoor air quality



Chemicals Management

- Conducting pre-inspections of chemicals and providing safety guidelines
- Performing chemical risk assessments (regular and special)
- Performing regular inspections of high-risk chemicals and replacing them with alternatives



Musculoskeletal Disorder Prevention Exercise Center

We have operated the Musculoskeletal Disorder Prevention Exercise Center to help our employees prevent relevant diseases and maintain optimal health since 2010.

The Center offers examinations on basic body composition, sense of balance, core muscle strength, etc., as well as somatotype measurement, while also providing one-on-one expert consultation to recommend appropriate programs.

In 2022, DS provided diverse programs including group exercises, exercise therapy, and counseling and offered onsite kinesio-taping trainings targeting frontline workers with a heavy physical workload.

Ergonomic Line Certification

We make continuous ergonomic improvements to our work environment to ensure the wellness and comfort of our employees. In this context, we operate the ergonomic line certification system based on the Rapid Entire Body Assessment (REBA), which analyzes each manufacturing process from an ergonomic perspective and provides a quantitative evaluation. In 2021, we developed an ergonomic analysis

tool to automatically analyze the video-recorded motions of workers and distributed it to all of our global business sites. This significantly reduced ergonomic analysis time and improved the credibility on the ergonomic analysis of workers. In 2022, we identified 561 improvement points (2.4 times higher than previous year), including ergonomically unreasonable posture, repetitive motions, and excessive strain through the analysis of 565 manufacturing lines and took remedial actions accordingly.

Samsung Artisan Certification Program for Environment and Safety

We have operated the Samsung Artisan Certification Program since 2019 to enhance our frontline competitiveness and foster top-tier specialists.

This program certifies those employees who have at least two decades of experience in the areas of equipment, instrumentation, manufacturing, molding, instrumentation, equipment, and quality, which require profound expertise and knowhow, and are noted for their artisan-level prowess as specialists in their area.

The area of environment and safety was added to this program in 2022, and our first environment and safety artisan was selected. We also newly set up the EHS Certification Office to utilize the artisan's experience and knowledge to build a safer workplace.

The EHS Certification Office plans to provide specific safety levels for all types of manufacturing equipment and perform pre-inspection, on-site verification, and improvement to ensure safety at work. It will also strive to enhance workplace ergonomics. We will continue to focus on accident prevention and maintain world-class safety at our business sites.

Human Resource Management

We foster a continuous learning and development culture for our employees by actively supporting their professional growth.

Talent Development

Talent Development Structure

	Internal development		External development	
	Key areas		Key areas	
Objective	Sharing our vision, values, and culture	Fostering future global leaders	Fostering top-tier experts for different functions	MBA Regional Specialist Academic training In-house technology school
Curriculum	Introductory training for new employees	Training based on our SELF* leadership model	Job-specific expert training	
Workplace learning, mentoring, coaching, on-the-job training				
Knowledge Network (through Web 3.0, social media, and mobile platforms), Samsung U Learning Portal, Software Expert Academy, Knowledge contents				

* SELF: Samsung Electronics Leadership Fundamentals

Access to a Range of Capacity-Building Programs

Our employees participate in diverse external training programs in accordance with their career stage and needs. We provide support for MBA programs, master's programs in HR and finance, and other academic training programs.

The Samsung Semiconductor Institute of Technology (SSIT), which was launched as an in-house semiconductor technology school in 1989 with the aim of enhancing the technological capabilities of frontline workers, was officially acknowledged as a university in 2001 and now offers four-year bachelor's degree programs in the areas of equipment, infrastructure, and display.

The Regional Specialist program introduced in 1990 is a self-led global training program aimed at helping employees with at least three years of experience in the company learn the language and culture of another

country for one to two years. Over 3,500 regional specialists for 80 countries have been developed through this program.

In addition, we opened the Semiconductor Display Engineering Department and DMC (Digital Media Communication) Engineering Department at Sungkyunkwan University, which together function as our in-house graduate school, to cultivate future technology leaders. As of February 2023, we have nurtured 1,076 bachelors', 816 masters', and 91 doctorate degree holders through SSIT and our in-house graduate school.

Effective and Practical Training

In order to ensure the effectiveness and practical value of our training programs, we offer key functional and leadership training programs in conjunction with qualification programs of external accreditation institutions. In 2022, 92% of our course participants attained relevant qualifications upon completion of their training including the ISO 9001 Quality Management System Certification (95%), CPSM* (88%), and KAC** (93%).

* Certified Professional in Supplier Management

** Korea Associate Coach

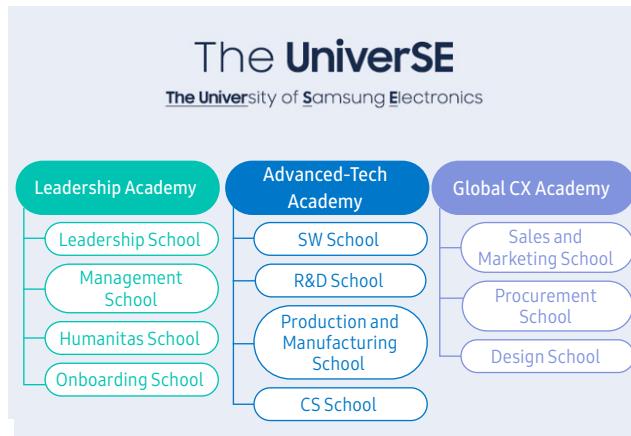
Opportunities to Switch Jobs Internally

The Job Posting platform provides opportunities for our employees to switch jobs within our company. Over the past three years, 2,598 employees have transferred to their position of choice, which made a positive impact on both the individuals and their organizational units. We support their soft landing in the new position through mindset training for changes, mentoring as well as job competency training.

In 2022, we introduced the Free Agent (FA) initiative and Samsung Talent Exchange Program (STEP). FA allows employees who have worked in the same function or organization for at least five years to transfer to their position or organization of choice and offers capacity-building opportunities before they take the new role. STEP is an employee exchange program utilizing our global network, through which outstanding employees at our Korea and global business sites swap their positions for up to two years.

The UniverSE

With the aim of providing a comprehensive platform for employees seeking professional development, we integrated existing individual training modules scattered across different functional roles into a single body known as The University of Samsung Electronics or The UniverSE. The UniverSE, which consists of 11 schools under three academies, is designed to enhance job competency and leadership of employees, foster a culture of self-learning, offer practical and grounded training, and promote convergence among diverse functional roles and thematic areas.



Encouraging Self-Learning

Our employees are encouraged to explore and sign up for self-led training courses offered by the company during the biannual STaR Week. This system inspires our employees to push their limits and proactively take part in courses beyond their current job functions.



In-House Professor Program for Knowledge- and Experience-Sharing

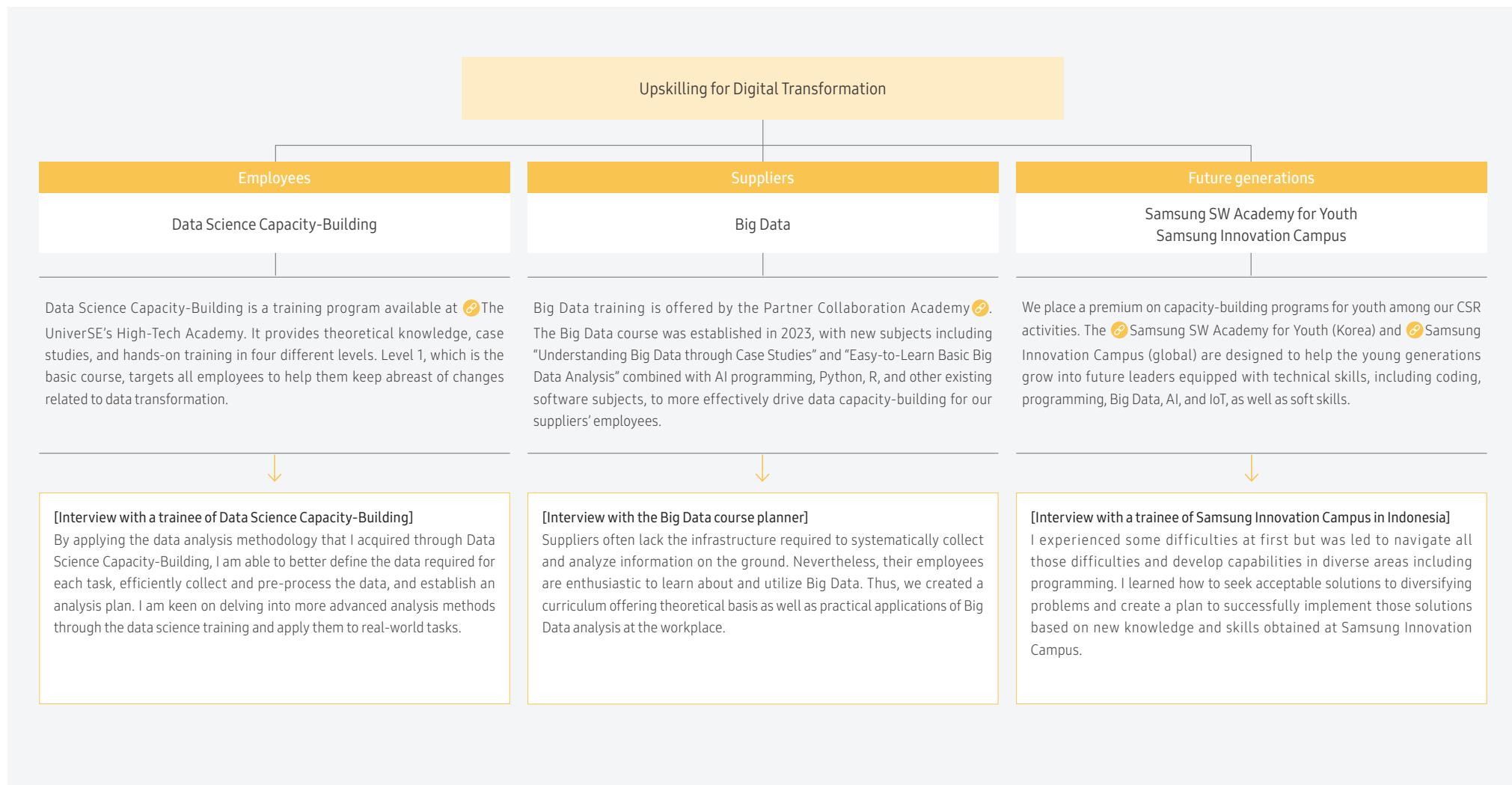
The UniverSE appoints employees noted for their outstanding performance based on their experience and knowledge as in-house professors specializing in different job functions to share their expertise. They are responsible for developing their own teaching contents and delivering practical training that participants can readily utilize at work. Currently, 42 in-house professors are teaching at The UniverSE. We plan to expand our pool of in-house professors further.

Employee Performance Appraisal and Feedback

We require our employees to establish their individual work goals at the beginning of each year, for which the heads of their organizational units provide one-on-one feedback throughout the year. Individual performance appraisals based on these goals happen at the end of the year. We continue to make improvements to this system to ensure that it is fair and rational. As a part of the effort, we shifted from a relative scale to an absolute scale in 2022 and we introduced a quarterly feedback in 2023.

Upskilling for Digital Transformation

With the aim of equipping our employees, suppliers, and local community members with the skills needed in the future workforce, we offer a comprehensive training structure encompassing digital and IT technology programs.



Organizational Culture

Better Workplace, Better Life

We strive to foster a constructive organizational culture founded upon the values of diversity and inclusion where employees are able to immerse themselves and grow.

A Culture of Mutual Respect

We promote a culture of mutual respect and trust among employees of all ranks, from working-level to executive management, by adopting various communication methods and channels.

Horizontal Communication

In 2017, we reorganized the hierarchy of seven ranks into a more horizontal structure of four Career Levels (CLs) and introduced equal titles for addressing employees of all levels including "nim" (a gender-agnostic title of respect), "pro" (short form of "professional"), and English names, in pursuit of a more flexible and inclusive organizational culture. In 2022, we made it mandatory to use the honorific form of language at work at all times regardless of position, title, seniority, or age, and removed information indicating the ranks and seniority of employees from our internal system.

Communication with the Executive Management

Our town hall meetings, held regularly under the leadership of division and business heads, are well-received among many employees. They serve as an effective channel for executives to convey their business philosophy, direction for the company, and current management agenda and to communicate directly with employees through real-time Q&A sessions.

Team heads and group heads also interact with staff members through monthly meetings and team-building events and strive to build trust by listening to the difficulties of staff members and offering solutions on site through one-on-one as well as group meetings.

DX Division The DX Connect Town Hall Program hosted by the CEO is a platform where the executive management and staff members exchange their views on the corporate business strategy and priority issues. Other channels organized by the DX division to strengthen internal communication include CEO One Table, a smaller-scale tea meeting for the CEO and staff members, and the DX Connect Bulletin, an online space for open communication.



DS Division The DS division organizes WeTalk, a program led by the division head and executive management and streamed in real time, and TeaTalk, a small-scale meeting of the division head and staff members, on a weekly basis. DS also shares the latest developments of the executive management through the release of the CEO's Message and is further diversifying its communication channels.



Online Communication Platform

We first began to operate an anonymous online bulletin to help our employees freely share their opinions and thoughts in 2009. In December 2020, we upgraded it into a comprehensive online communication and info-sharing platform, Samsung Electronics NOW.

Employee Experience Management

We conduct a monthly survey known as the EX Pulse Survey to collect our employees' views on the work environment. We collect and analyze employee experiences and take remedial action for any inconveniences detected to enhance our employees' morale, work satisfaction, and productivity. The survey themes change each month to identify and cater to their needs in a preemptive manner.

Work-Life Balance

Programs to Ensure Work-Life Balance

We continuously make improvements to our work systems by adopting flexible and efficient programs tailored to individual job functions. We allow our employees to customize their working hours and annual leave and have more control over their schedule to provide a truly "work-smart" environment. We also opened D'light (our on-site and off-site flexible work-spaces) in 2022 as an extension of our "work from anywhere" policy focused on enabling our employees to perform their tasks regardless of location. It consists of off-site office spaces designed to increase the productivity and convenience of those who opt to work remotely and on-site library or café-style work-spaces to encourage autonomous and creative work.

Family Day (Korea)

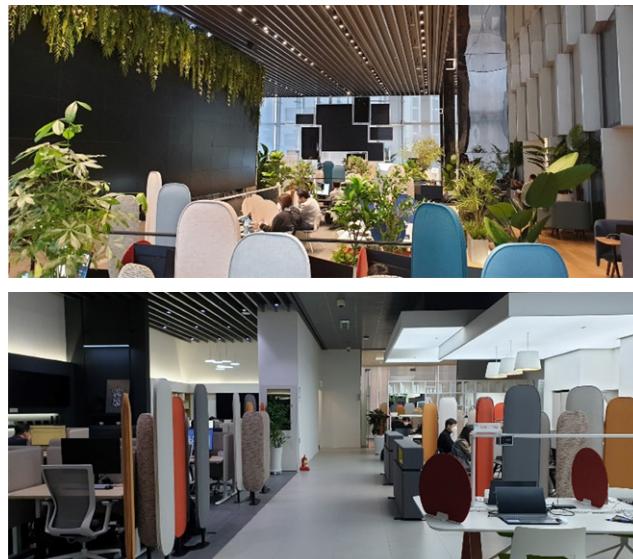
In an effort to counterbalance the work-driven culture in Korea, we have policies in place to encourage employees to spend quality time with their family and friends. A case in point is the Family Day - or the monthly payday - when employees leave work early. Some organizational units have developed this program into biweekly or weekly short work days.

Remote Working for Work-Life Balance

We offer remote working options to help maintain a better work-life balance. The percentage of those working remotely has continued to increase post-pandemic. As of March 2022, 39% of our employees at global sales offices and research institutes were telecommuting.

D'light (Korea) for Flexibility at Work

D'light, developed to promote flexibility at work, consists of two off-site office spaces in Seoul (Seocho Building) and Daegu (ABL Tower) and four on-site work-spaces in Suwon (Digital City), Seoul (Seoul R&D Campus), Gumi (Smart City), and Gwangju (Green City).



Welfare Benefits

We strive to ensure better quality of life, enhance work satisfaction, raise morale, and maximize work engagement for our employees through a range of welfare programs. We help our employees remain prepared for their post-retirement life through personal pension support, while also covering educational and healthcare expenses for their family members. We also offer physical examinations and group insurance services to promote workplace health and safety, as well as an array of selective welfare programs based on individual needs.

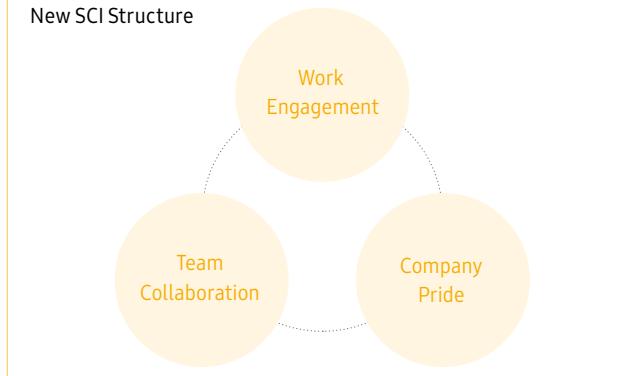
Work Satisfaction Improvement

Improving Our Organizational Culture

We conduct the Samsung Culture Index (SCI) survey each year for our employees around the world to diagnose our organizational culture. Until 2021, we conducted a workspace satisfaction survey, and in 2022, we developed an organizational health diagnosis to focus on identifying our strengths and to remedy our weaknesses. The target areas of SCI diagnosis are work engagement, team collaboration, and company pride. For each area, we include Outcome Questions to identify the current status of the organization and Driver Questions to highlight improvement points. In 2022, over 240,000 employees at 138 business sites participated in the survey.

We offer organizational culture consulting for units with lower SCI scores to identify improvement points and seek solutions. We engage professional consultants if deemed necessary and encourage the unit head and staff members to join hands and develop improvement plans for problems detected through the survey and employee interviews. We also check if the problems are properly remedied and receive feedback through post-consulting satisfaction surveys.

New SCI Structure



Employer Branding Activities

Under the key message of "Diverse eXperience in Samsung", we value the experiences of our employees and, by doing so, strive to remain relevant and competitive as an employer. We work with "employeeers (employee + influencers)" who share their stories of working at the company with internal and external audiences through self-made videos.

Diversity, Equity, and Inclusion

We believe in building a diverse, equitable, and inclusive workplace that is key to innovation and progress. We strive to nurture a corporate culture that brings together people from different backgrounds inspiring them to shape a better tomorrow for our customers, partner companies, and local communities.

Promoting Diversity, Equity, and Inclusion

Non-Discrimination Policy

We ensure that all of our employees, both our current and prospective employees are given equal opportunities based on our non-discrimination policy (Samsung Electronics Anti-Discrimination and Harassment Policy⁽²⁾). We do not discriminate against any current or prospective employees based on gender identity, race, ethnicity, nationality, religion, age, marital status, sexual orientation, among others or in HR matters such as job assignment, promotion or compensation.

We also strive to respect and protect the human rights of workers based on the UN Universal Declaration of Human Rights, OECD Guidelines for Multinational Enterprises, and local laws of different countries.

Our DEI Principles

In 2022, we established diversity, equity, and inclusion principles to be taken into consideration in all of our business activities in collaboration with UX experts and strive to apply them to the products and services we offer.

As our products and services target the 8 billion potential users around the world, it is imperative that we remain inclusive. We must respect individuals' traits and freedom of expression and not judge or perceive them as stereotypes. To this end, we must continue to monitor our actions and decisions throughout the entire process of product planning, development, and release to check if any element is likely to marginalize or cause harm to others.

We plan to conduct campaigns and trainings on the DEI Principles for our employees around the world.



Celebrate diversity



Challenge assumptions

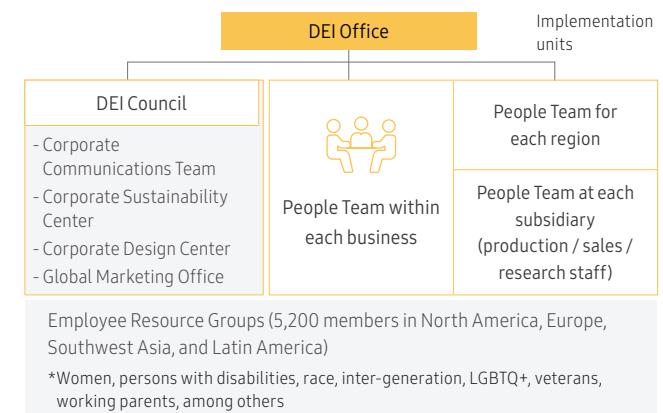


Stay curious

Governance

We established the DEI Office to develop company-wide DEI strategies and implement diverse programs to enhance our DEI performance in collaboration with relevant staff members of our businesses and subsidiaries. The DEI Council joins hands with functional organizational units including the Corporate Sustainability Center, Global Marketing Office, Corporate Communications Team, and Corporate Design Center to seek solutions to company-wide DEI issues.

In 2022, we worked with the council to establish our DEI Language Guide, launched a social media campaign to celebrate International Women's Day, and collaborated with external stakeholders. Over 200 DEI managers regularly share and distribute best practices identified at our business sites around the world. In addition, we actively support Employee Resource Groups (ERGs⁽²⁾) that voluntarily engage in mentoring, cultural exchanges, and community outreach. More than 5,200 employees around the world are taking part in ERGs organized under various themes.



Areas of Focus

We respect the unique cultures of individual regions and the beliefs of individual employees. As we are present at over 230 locations in 74 countries, we respect each region's autonomy and variations in their approach to enhancing DEI. At the global HQ-level empowering women and persons with disabilities are core focus areas and as such, diverse strategies are in place at the regional level.

Empowering Women in the Workplace

As part of our focus on building a culture centered on diversity, equity, and inclusion, we strive to inspire our employees to reach their full potential through access to equal opportunities. We operate a range of programs and policies to ensure gender equality in recruiting new hires and to help our female employees return to work and successfully build their career after taking leave for pregnancy and childbirth. In Korea, we made it possible for pregnant employees to apply for the reduced working hour program across their entire pregnancy period from 2023 – well beyond the eligible period of “within 12 weeks or after 36 weeks of pregnancy” set by national law. We also offer 15 days (20 days for a multiple pregnancy) of paid childbirth leave for spouses and five days of paid fertility treatment leave. We also strive to address gaps in the national law through policies such as three days of paid stillbirth and miscarriage leave for spouses.

We are operating the nation's largest network of in-house daycare centers for working parents and currently reviewing its expansion to meet the needs of the increasing number of employees. We introduced a reboarding program that offers training, mentoring, and remote working options to employees returning to work after childcare leave and operate snack corners for pregnant employees within in-house cafeterias and reserved seats in commuter shuttles.

Women Leadership Targets

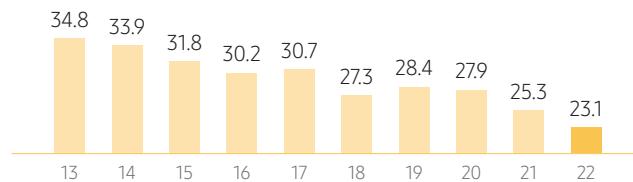
We strive to increase women in our leadership positions by setting internal targets and closely monitoring the share of women in the recruitment, promotion, and retirement of our employees. As a result, within the last ten years the share of female executives grew from 2.4% to 6.9% and that of female managers from 8.3% to 16.9%.

	Category	2012	2017	2022
Women by job type	Development(%)	16.0	17.7	19.2
	Sales and Marketing(%)	30.0	29.7	33.6
Women in leadership	Executives(%)	2.4	6.8	6.9
	Managers(%)	8.3	13.2	16.9

Gender Pay Gap in Korea

We are committed to a policy of equal pay for all employees with equivalent levels of experience and performance, regardless of gender. An analysis of gender pay gaps in 2022 in Korea based on our career level (CL) system found that there was close to none among CL 1 employees, 1% among CL 2 professionals, and 5% each among the CL 3 and CL 4 groups. Nevertheless, an analysis of average wages of the workforce in Korea found a notable gender gap of 23.1%. Although it is an 11.7% improvement from 2013, the gap remains relatively large which is mainly due to the smaller share of women in leadership positions. As such, we continuously strive to increase women in leadership positions through internal targets and programs. Moreover, we are seeking ways to address gender pay gaps within our global workforce.

Gender Pay Gap in Korea (2013-2022)



We transparently disclose the gender pay gaps at our [UK](#) and [France](#) subsidiaries and foster women professionals and leaders.

Global Self-Assessment on Gender Equality

We assessed the status of gender equality and women's empowerment at our major global business sites using the Women's Empowerment Principles Gender Gap Analysis Tool ([WEPS Tool](#)) and took remedial actions for the improvement points identified. As of this effort, we revised the systems and trainings on gender equality at these sites and plan to address additional room for improvement including strengthening communication with local stakeholders. We also distributed the guidelines on enhancing gender equality at our production sites and research institutes with the aim of helping them establish relevant policies. For example, tangible improvements have been made in terms of infrastructure such as on-site nursing facilities, priority seats in commuter shuttles, and priority parking spots, based on these guidelines.

Next-Generation Women Leadership Workshop

The Next-Generation Women Leadership Workshop has been operated since 2021 in Korea to provide support for our female executive candidates to take a successful leap from a working-level position to an executive position. The Workshop offers participants mentoring by female executives, coaching on leadership skills, and networking opportunities with their peers. This Workshop helps participants establish their own vision and goals and exchange valuable experiences and knowledge with their seniors of the same gender. We plan to continuously expand networking opportunities of this kind for our female employees.

Gender Equality Training

Since October 2022, DX conducts specialized trainings to enhance our employees' awareness of gender equality at our global production sites and R&D centers. Learning materials were developed in collaboration with Business for Social Responsibility (BSR) with a focus on understanding concepts such as gender differences and stereotypes. We are employing these materials in our country- and culture-specific trainings on gender equality.



Participation in the Gender Equality Korea Leaders Network

Managers from the DEI Office participated in the Gender Equality Korea (GEK) Leaders Network launched by UN Global Compact Network Korea in 2022 and exchanged benchmarkable cases in women's empowerment and cultivation of female leadership.



Supporting Employees with Disabilities

Fostering an Inclusive Work Environment for Employees with Disabilities

We strive to create an inclusive work environment and expand of employment of persons with disabilities.

- Enhancing accessibility of facilities (e.g., low-floor buses, table bell system at in-house cafeterias, installation of standing desks)
- Procuring services from companies registered as a standard workplace for persons with disabilities (services include car wash, laundry, printing, software verification, and florists)
- Identifying functional roles – such as user experience research and accessibility features enhancement – that can benefit from the experiences and perspectives of employees with disabilities

Stellar Forest*

We established Stellar Forest, a subsidiary-type standard workplace for employees with disabilities, through a 100% equity investment as an extension of our efforts to create jobs for persons with developmental disabilities. Currently producing baked goods supplied to our in-house cafeterias, Stellar Forest plans to diversify into other fields to create more jobs for persons with disabilities.

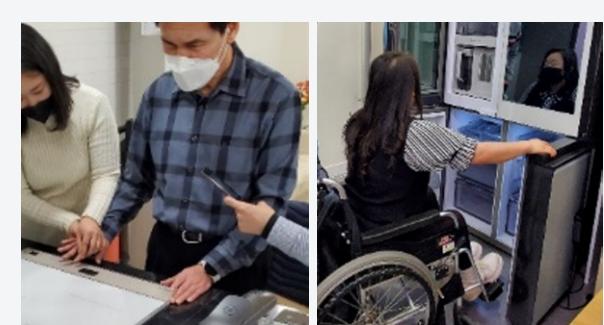
* A business site equipped with accessible production, convenience, and auxiliary facilities that has a workforce composed of employees with disabilities whose percentage meet the national requirements



In-House Advisory Group of Employees with Disabilities for Accessibility Enhancement

We continue to reinforce the accessibility of our products and services based on our accessibility vision of "Caring for All." In September 2022, we launched Samsung Family Supporters, a voluntary advisory group on product accessibility and usability comprised of our employees with disabilities and our employees' family members with disabilities. The 42 members with visual, hearing, and physical impairments participate in the testing of developmental-stage products and provide their feedback on accessibility features.

Improving the accessibility of our products and services to ensure usability regardless of users' disability continues to be a priority for us.



Participatory Development of Awareness-Raising Training Materials

Since 2018, we have offered training modules to all employees to improve their understanding of persons with disabilities and reached a 100% completion rate.

In 2021 and 2022, employees with disabilities participated in the design and production of the contents, communicating the relevant corporate policies and sharing their experiences first-hand through video appearances. The course received positive feedback from many employees who commented that the training motivated them to take greater interest in relevant corporate initiatives, including Samsung Barrier Free (SBF).

Support for Employees with Disabilities at Our Production Sites in Brazil

As part of our efforts to provide an inclusive work environment for employees in Brazil, we offer counseling services in sign language for hearing-impaired employees as well as online and in-person sign language courses available to all employees at the Manaus production site. At the Campanas production site, we celebrate the Day of Persons with Disabilities every year by hosting special events that are mindful of accessibility.

The average employment rate of employees with disabilities at our four Brazil subsidiaries stands at 5.2% as of 2022. In 2018, they were selected as an outstanding employer of persons with disabilities by the state government of Sao Paulo.



Generation-Specific Activities

We established the Future Generation Lab in 2021 as an extension of our efforts to actively reflect the opinions of our Millennial and Gen Z employees.

Future Generation Lab, which consists of those in their 20s from our global business sites, successfully released the Eco-Friends accessory brand aimed at promoting environmentally responsible consumption and expression of individual identity. The Eco-Friends products, made with recycled plastic and vegan leather containing 40% post-consumer materials (PCMs), have been well-received in 29 countries.

Meanwhile, since 2019 we have acknowledged employees with more than two decades of experience in a manufacturing field which requires technical expertise and knowhow as well as leadership as top-notch experts through the Samsung Artisan Certification Program.

In 2022, we established the Senior Track program, which provides outstanding employees with opportunities to continue their service at work post-retirement. The candidates recommended by the heads of respective organizational units are screened through a review of their technical expertise. This program is expected to help retiring employees' transition to their post-retirement life and also benefit others by sharing their skills and knowledge.



Introducing Eco-Friends

Live everyday sustainably with stylish accessories of premium quality.

Inclusiveness of Organizational Culture

In 2022, items in the Samsung Culture Index (SCI) survey were revised to include DEI-related questions. The survey is expected to serve as a useful channel to collect our employees' views on building a more inclusive organizational culture.

The 2022 results showed that 93% of our global employees viewed our programs and initiatives as being fairly operated regardless of age, gender, race, or place of origin.

2022 SCI – Results of DEI Satisfaction Survey

In this Company, I am treated fairly regardless of age, gender, gender identity, race, sexual orientation, military status, disabilities, religion and national origin.

93%

My team members value diverse perspectives.

91%

My manager encourages open discussions and dialogue with me.

90%

Employee Resource Groups

ERGs around the World

Employee Resource Groups (ERGs) are organized by our employees with shared interests in diversity, equity, and inclusion and have been active since 2013. Members engage in mutual mentoring, cultural exchanges, and community outreach activities related to various themes. Our ERGs not only contribute to enhancing our employees' awareness of these subjects but also bring positive change to local communities.

Over 5,200 employees in North America, Europe, Latin America, and Southwest Asia are taking part in 33 ERGs. We encourage ERG activities at the company-level and recommend that at least one ERG is established in each region.

ERG Objectives

Women Our women ERGs strive to ensure equal opportunities regardless of gender and empower women. They serve as an important channel of communication and exchanges and support community outreach activities promoting gender equality.

Persons with disabilities Our persons with disabilities ERGs focus on listening to the voices of employees with disabilities and ensure that they are given equal opportunities. They also collect ideas and opinions on the accessibility features of our products from colleagues to enhance inclusion for customers.

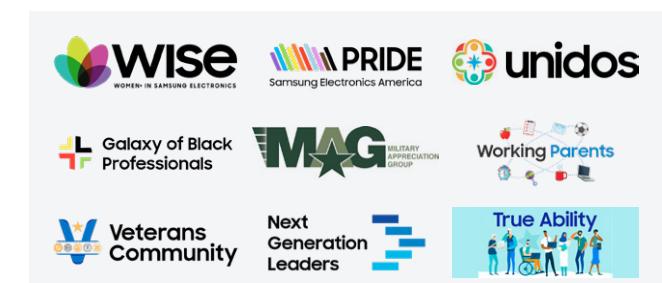
LGBTQ+ Our LGBTQ+ ERGs work to raise awareness, provide support, and create an inclusive workplace for LGBTQ+ employees.

Inter-generation Our inter-generation ERGs strive to attract young talent, promote communication between different generations and build a forward-looking corporate culture through diverse networking and outreach programs.

Race Our race ERGs focus on promoting interaction among people of diverse cultural backgrounds and creating an inclusive organizational culture.

Working parents Our working parents ERGs provide opportunities for working parents to share their experiences and encourage one another to lead successful professional and personal lives.

Veterans Our veterans ERGs provide support for veterans and their families through sponsorships and volunteer activities in collaboration with government organizations for veterans and local communities. They also seek ways to build a more inclusive corporate culture by sharing issues concerning veterans.



INTERVIEW



Karina Sudarsan
SIEL-S, India
Leader of Women in Samsung Electronics (WiSE)

"WiSE is an ERG whose purpose is to empower and inspire women to break the glass ceiling within the company and the wider group. I believe in gender diversity and its benefits to an organization. 2022 was the start of the journey for WiSE, SIEL's first ERG. We had an education series focused on the what, why, and how of ERGs to allow employees to understand the concept and the role they can play."



Nash Gammill
SEA, US
Leader of PRIDE

"We did so much last year, from our first in-person LGBTQ+ Day of Service events to our Pride event at Samsung 837. I love leading this ERG, but it wouldn't be possible without the powerhouse team of leaders and members I have worked with!"



Nora Lango
SEA, US
Leader of UNIDOS

"Being the National Leader of UNIDOS is a great honor as it allows me to contribute to creating a welcoming and engaging environment for our members and broader employee base. We established a partnership with DePaul University in 2022, providing free seminars to SEA's employees focused on personal development. We offered 7 seminars delivered by DePaul professors on topics including: Selling the Best Possible You, the Power of Introvert Leaders, and Mindfulness@Work."



Steven Woodgate
SEUK, UK
Leader of True Ability

"I see my invisible disabilities (dyslexia and dyspraxia) as superpowers as I bid to apply creative thinking and problem solving to great success. I want people to have confidence in their disabilities and see them as their superpowers. True Ability has been planning activities to raise awareness about disabilities and it is very much the start of the journey to educate, influence and evolve."

Related article



Seth Brown
SEA, US
Leader of Galaxy of Black Professionals (GBP)

"We have been pushing and partnering for positive change for all. In 2022, we focused on expanding partnerships as a strategic pillar. We connected with 8 other US-based companies to create a suite of programs in honor of the Juneteenth celebration in 2022. This partnership remains active today and the conglomerate is working on the 2nd year of planning for our cross-company employees."

* In collaboration with Microsoft, Verizon, Wyndham, Nike, State Farm, Sodexo, Asurion, and LinkedIn



Mike Atencio
SAS, US
Leader of Military Appreciation Group (MAG)

"Building camaraderie and esprit de corps are key values in our mission as MAG. We have hosted monthly meetings with informative guest speakers, engaged in a couple of volunteering event, and celebrated important milestones for the military. I am also excited that we are including more than our employees at the Austin campus and have focused on those working at our satellite office and the Taylor construction camp."

Tech for All

We provide inclusive products and services that enable users under diverse conditions to enjoy a digital lifestyle that goes beyond convenience.

Accessibility

Accessibility Council

Our Accessibility Council serves as a platform to bring together planners, designers, and developers of different organizational units to work on improving accessibility for all customers using our products and services. The Council's main focuses are enhancing usability for customers with disabilities and advancing technological competitiveness.

Accessibility Vision



Features for Better Visual Accessibility

Mobile and Wearable Devices

TalkBack

- Providing voice feedback to eliminate the need to look at the screen for text and images

Display

- Enabling low-vision users to activate useful accessibility features simultaneously
- Large Display mode to enlarge on-screen elements and bold text
- High Contrast mode to activate an opaque black background, high contrast fonts, high contrast keyboard, and Remove Animations simultaneously



TV

Voice Guide

- Enabling smart TVs to read on-screen text
- Offering verbal feedback for basic features (channel, volume, program information, etc.) and access to smart services



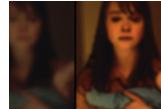
Magnification

- Enabling users to enlarge on-screen text and images up to 200% and zoom in on different parts



Relumino Mode

- Outlining objects, enhancing contrast, and adjusting brightness and color to highlight content



Home Appliances

TalkBack for Home Appliances and Services

- Screen reader to enable users to identify features and services of home appliances connected to SmartThings
- Verified and enhanced by vision-impaired experts to provide tailored user experiences



Braille and Tactile Points

- Providing easy access to the available cycles and features by installing Braille or tactile points on the main dial and buttons
- Available on selected washer models released from 2019 and being applied to other home appliances as well



Control Panel with Improved Visibility

- Control panel of washers and dryers, on which cycle and feature names are typically printed, replaced with an LCD panel with enlarged text to ensure visibility even in dark environments



*Available on models released from 2020

Features for Better Visual Accessibility

TV

Auto Caption Position

- Automatically adjusting subtitle positions so as not to interfere with text through advanced video analysis



Sign Language Guide

- An avatar describing features in the TV Menu in sign language



Mobile Devices

Flash Notifications

- Using the camera flash or screen flash to alert users instead of sound or vibration



Alerting hearing

- Impaired users of important noises such as a smoke alarm or baby crying

Home Appliances

Blinking Light for Door Open Alarm

- Blinking light, in addition to a sound alarm, to indicate a refrigerator door has been left open for more than five minutes



Features for Better Cognitive Accessibility

Mobile Devices

Interaction Control

- Keeping the device focused on a single app by disabling the Back, Home, and Recent buttons and alarms for incoming calls and notifications, as well as the side key, volume keys, and touchscreen function



Home Appliances

Displaying Frequently Used Cycles and Features*

- Remembering frequently used cycles of the washer and dryer and frequently used features of the oven and displaying them at the top of the list

*Applied to products with LCD screens

Features for Better Mobility Accessibility

TV

Slow Button Repeat

- Performing a continuous operation while lowering the speed by pressing and holding one button on the remote control



Mobile Devices

Voice Access

- Providing voice commands to access and operate diverse features such as apps, screen enlargement, volume adjustment, etc.

Home Appliances

Automatic Door Opening

- Enabling mobility-challenged users to open the doors of home appliances with ease



- Available on select models
- Refrigerator: Doors automatically opened when bringing a hand near the touch sensor or when providing voice feedback ("Open the refrigerator door") via Bixby on the smartphone
- Washer: Door automatically opened after the completion of each cycle
- Dryer: Door automatically opened when switched on or completing a cycle

Accolades

- TV, Winner of CES* Innovation Award for Accessibility (2015-2018, 2021, 2023)
- TV, Winner of CES* Best of Innovation Award (2016, 2021)
*CES: Consumer Electronics Show
- TV, Winner of U.K.'s RNIB* Inclusive Society Award (2016)
- Attained U.K.'s RNIB Tried and Tested Accreditation (2020-2022, 2022-2024)
*RNIB: Royal National Institute of Blind People
- TV & Mobile accredited for Accessibility Technologies by ONCE* (May 2021-May 2023)
*ONCE: Organización Nacional de Ciegos Españoles
- Mobile awarded Thailand's TAB*'s Honor Plaque (2021-2023)
*TAB: Thailand Association of the Blind
- Selected as supplier for Korea Communications Commission's project to distribute TVs for people with visual and auditory disabilities (2020-2023)
- Bespoke 1-Door Refrigerator, Grand Prix Winner of Ergonomic Design Award hosted by the Ergonomics Society of Korea (2022)
- Bespoke Jet, Winner of Best of Best of Ergonomic Design Award hosted by the Ergonomics Society of Korea (2021)
- Bespoke Jet Bot AI & Bespoke Qooker, Winner of Best Innovation of Ergonomic Design Award hosted by the Ergonomics Society of Korea (2021)

Privacy Protection

We ensure that personal data is collected in a transparent manner and that the collected data is handled safely. We respect each user's choice, remain prepared for relevant risks, and employ advanced security technologies for privacy protection.

Our Three Privacy Protection Principles

① Transparency

We transparently disclose the details of how we collect and handle personal data.



② Security

All of our products are designed to provide the best services and securely protect users' privacy.



③ Choice

We enable users to choose the type and extent of personal data to be collected, accessed, and shared.



Valuable personal data

Securely protected and easily managed

Samsung.com Privacy Protection Features



Managing all personal data connected to your account at one time

Browsing the Samsung Privacy Policy at one time

Samsung Privacy Policy



Privacy Protection Management

We are operating a country-specific Global Privacy Policy, which reflects the respective country's laws and regulations, to safeguard the privacy of global customers in an optimal manner. The Privacy Protection Guidelines for Employees and Guidelines on the Third-Party Processing of Personal Data are distributed to our employees along with related training to improve their awareness and understanding of the guidelines.

Privacy Protection Management Process



Our Visual Display Business attained both ISO/IEC 27701 (privacy information management system) and ISO/IEC 27001 (information security management system) for digital signage for the first time in the industry.

Organizational Units in Charge

Global Privacy Office
<ul style="list-style-type: none">Establishing privacy strategies, policies, and related processesProviding legal advice and supportConducting regular auditsConducting employee training to raise their awareness of privacy issuesHead of the Global Privacy Office serving as the Chief Privacy Officer (CPO)

Privacy Steering Committee
<ul style="list-style-type: none">Making decisions regarding privacy policies and protection measuresDiscussing privacy-related issues for different products and services with relevant businesses and seeking solutions

Privacy Protection Officers within Businesses
<ul style="list-style-type: none">Reviewing the privacy protection status of the respective business and conducting trainingEnsuring the application and management of privacy protection technologies

Privacy Protection Officers at Regional Offices
<ul style="list-style-type: none">Reviewing the privacy protection status of the respective regional office and conducting trainingResponding to privacy-related issues

Privacy Protection System Operation and Training

We operate in-house systems to reduce privacy risks and encourage all employees to prioritize customer privacy through related training.

Privacy Legal Management System (PLMS)

PLMS is designed to ensure compliance with privacy-related laws and regulations. It is connected to product R&D and the product Life cycle management system to monitor privacy-related matters from product and service planning to development, operation, and discontinuation and thereby prevent risks. It also offers news and the latest developments concerning privacy protection to keep our employees updated.

Privacy Protection Training

We strengthen the privacy protection capacities of our employees through annual trainings - including a mandatory training for all employees based in Korea as well as a targeted training for employees in functions directly involved in handling personal data.

Since 2020, we provide a video guide on the collection, use, and disposition of personal data in line with our Global Privacy Policy.

Number of Employees Who Completed Privacy Protection Training (Korea)

	2020	2021	2022
No. of employees	86,455	90,281	96,459

Data Breach Response Process

At Samsung, we have a data breach response process in place that enables Samsung to assess a data breach incident and to take remedial measures immediately upon detection of the incident. We promptly notify and report to the affected users and the relevant authority respectively in compliance with the applicable data protection laws. Where a notification is provided to the affected users, the following information are communicated via e-mail or a notice on our website; the category of the breached data, when and how the breach occurred, the measures that the affected users can take to minimize the damage, the remedial measures taken by us and our point of contact for any queries by the affected users to prevent data breach and to minimize any damage to our users in the case of such an incident.

Data Breach Response Process



Our Efforts to Ensure Responsible Advertising

We strictly apply the Global Privacy Policy to advertisements that are directly executed on mobile and IoT devices.

Enhanced Privacy Protection

When accessing a user's information for targeted advertisements, a separate randomly generated ID is used. The respective ID can be reset at the request of the user. The use of information collected under the ID prior to reset is immediately suspended.

We also enable users to opt out of receiving targeted advertisements on their mobile and Smart Hub devices. To collect and use personal data for targeted advertisements, we clearly notify our purpose and obtain prior consent from users. The targeted advertisement option can always be disabled in Settings. With this option disabled, only non-targeted advertisements will appear.

Prohibited Content in Advertisements

We have defined the following contents, which may inflict harm on users, and filtered them from advertisements.

- Content that incites violence against or advocates for certain groups, including those defined by race, ethnicity, race, nationality, disability, age, military service status, or sexual orientation or identity
- All forms of illegal acts and acts that instigate illegalities; all forms of illegal substances; and websites related to illicit, false, or exaggerated investment advice and money-making proposals
- Violence including the use of obscene or vulgar language, bullying, physical harm, and injury to or killing of both people and animals
- Religious and occult content, imagery, and symbols
- Illegal drugs and drug paraphernalia
- Tobacco and tobacco-related products
- Firearms
- Obscene and sexual materials
- Alcohol and content related to online and offline marketing or promotional activities that incite excessive alcohol consumption (Prohibited both in online advertisements and broadcast commercials)

Security

To ensure that users can enjoy their digital environment with their minds at ease, we continuously strengthen our security system against complex and intensifying threats.

Four Pillars of Our Cyber Security Control and Our Solution Development Process

Four Pillars of Our Cyber Security Control

Prevention and Hardening: Fulfilling stringent standards

- Hardware chipsets using our proprietary technology in preparation for cyberattack attempts
- Separate security processors

Detection: Staying vigilant at all times

- Monitoring incidents concerning digital devices and networks
- Activating the defense system upon the detection of any possible malicious intrusions
- Detecting and blocking cybersecurity threats such as malware and phishing

Prediction: Preparing for possible incidents

- Performing regular testing to verify the effectiveness of our solutions
- Providing the optimal security system based on our expertise, big data analysis, and AI technology

Response: Taking prompt and targeted actions

- Accurately analyzing detected problems, vulnerabilities, and projected damage
- Promptly blocking cyberattack attempts detected through the security control system
- Offering optimized security patches and updated security solutions

We are equipped with an internal development process to offer advanced security solutions.



Samsung Knox

We take a holistic approach to the security of our products and services. Samsung Knox is engineered to securely protect chipsets, operating systems, and apps against hacking attempts and unauthorized access. Saved user data are protected on a real-time basis while the device is used or booted. Beyond smartphones, tablets, and smart TVs, Samsung Knox continues to expand its integration with smart home appliances, IoT, and 5G network devices.

Samsung Knox Security Principles

Samsung Knox offers advanced and targeted security solutions that meet the evolving needs of corporate clients and have been certified by the government in various countries.

Security Certifications for Samsung Knox



Trust from the Hardware Up



We build our Chain of Trust from tamper resistant hardware Root of Trust (RoT).

Our RoT is deeply embedded in our chips and not exposed to the outside variables while accessible only to a limited set of applications.

We make sure our primary software functions are not tampered with while offering end-to-end protection of personal data.

Provide Securely Protected Software Execution Environment



We provide a dedicated execution environment that processes sensitive and confidential data while protecting against malware attacks.

Protected video playback, user authentication and payment applications run in our safe execution environment. For user authentication apps, our safe execution environment blocks unauthorized access to sensitive biometric information. For payment apps, our safe execution environment ensures secure handling of payment transactions.

Keep Sensitive Data in Fully Isolated Secure Storage



Highly sensitive data such as biometrics, PIN values or PII are stored in fully isolated secure storage that is robust towards data leakage threats. Our fully isolated secure storage is resistant towards physical attacks.

Adopt Proven Cryptography Technologies



We adopt proven cryptographic algorithms and technology to offer data protection solutions.

Samsung's products and services use internationally recognized and standardized cryptographic technologies. We verify and certify implementations of these cryptographic technologies through certifications such as the Federal Information Processing Standard (FIPS). Data is stored in encrypted form. Our data protection mechanisms are applied to data-at-rest and data-in-transit.

Apply Stronger User Authentication Technologies



Apply strong authentication techniques that qualify only designated users to access our devices and services.

A broad range of user authentication technologies such as PIN, pattern, password, fingerprint, and iris recognition are used in combination to offer strong user authentication. Our user authentication technologies grant access to internet services controlled using Samsung Account, and multi-authentication techniques.

Proactively Prevent Tampering of Code and Data



We deploy technologies that detect illegal tampering activities in users' devices and services.

We proactively build mechanisms that notify and alert users of these activities so they can mitigate adverse impacts. We verify the integrity of the executed software at boot up time using secure boot. Our software verification technology applies to software updates and prevents unverified software installation.

Follow a Strict Security Development Process



From concept to end of life, we follow a strict security development process that covers the entire lifespan of our products and customer experience.

Our security policies extend out to classifying, handling and processing how we protect personal data and other forms of confidential data. We go through rigorous security design reviews that consider all type of attack vectors. We constantly monitor the threat landscape for emerging threats over our devices and services.

Apply the Latest Security Updates



We apply the latest security updates and patches to combat attacks from the ever-changing malware and hacking landscape.

Samsung products provide security updates through a variety of channels. We offer online Over-the-Network updates as well as periodic and urgent security updates to broadly and swiftly address vulnerabilities.

Mobile Security

Samsung Knox Vault

Pre-installed in the Galaxy S21 and subsequent series, Samsung Knox Vault combines a secure processor with a new Secure Memory Chip to safely store and protect PINs, passwords, biometric information, digital certificates, and security keys in isolated locations. Samsung Knox Vault offers an operating environment independent from Android, thereby effectively protecting apps and user information against attacks based on Android security vulnerabilities.

- Industry's best security chipset (CC EAL^{*} 4/5+ certification)
- Secure processor that prevents hardware attacks
- Tamper-resistant security memory

* Common Criteria Evaluation Assurance Level (CC EAL) an international standard for online security certification

Mobile Security Updates

We perform regular and prompt security updates.

In close collaboration with Android OS, our chipset partners, and over 200 telecommunications operators around the world, we update security patches for billions of Galaxy devices when security vulnerabilities are detected. We work with over 1,000 partners to establish security standards for all Android devices, as well as security research communities to provide the most secure mobile experiences for users. In February 2022, we expanded the security update warranty for Galaxy mobile devices to up to five years.

* Supported devices: Flagship mobile phones, Tablets, and a part of A series mobile phones released since 2021

Security Training for Employees

We offer a range of training courses to raise internal awareness of cybersecurity, including an on-line course that informs employees of the types of security risks and prevention measures.

Additionally, we provide tailored and technical courses to engineers and developers in each business unit, such as security coding and engineering, security software development process, and vulnerability management.

Key Semiconductor Technologies and Customer Information Protection

Semiconductor Technology Security

We continually strive to enhance protection measures for our important information assets in recognition of the fact that enhanced semiconductor technology security is imperative to preserve the wellness at the national, customer, and user-level beyond our company.

Information Security Management System

We conduct regular audits* to prevent security system and product security accidents. We also ensure that our suppliers' security management is being performed properly. We continue to enhance our security management as evidenced by third-party certifications such as the Common Criteria and ISO 27001.

* Regular audits: The security management system for internal document management, network vulnerabilities, and infiltration threats was reviewed through the 2021 regular audits and enhanced based on the findings.

Semiconductor Technology Security System

Our semiconductor technologies are acknowledged as Korea's National Key Technologies* and are protected based on the Act on Prevention of Divulgance and Protection of Industrial Technology. We have implemented security management guidelines and designated executive-level managers for individual technologies. These managers are responsible for examining technical security procedures and approving measures to protect such technologies.

* National Key Technologies: Designated by Korea's Minister of Trade, Industry and Energy in recognition of their technological and economic impact on the domestic and global markets or high industrial potential

10 Semiconductor Technologies of Samsung Electronics Designated as National Key Technologies

1. Technology for the design, processing, devices, and 3D stacking of DRAM of 30nm class or lower
2. Technology for the design, processing, devices, and 3D stacking of NAND flash of 30nm class or lower
3. Technology for the 3D assembly and testing of DRAM
4. Technology for the 3D assembly and testing of NAND flash
5. Technology for the assembly and testing of advanced system semiconductor package
6. Technology for the processing, devices, and 3D stacking of foundries of 30nm class or lower
7. Technology for the design and processing of mobile application processor SoC
8. Technology for the design of LTE, LTE advanced, and 5G baseband modems
9. Technology for the design, processing, and devices of image sensors with pixels of 1μm or less
10. Technology for the design of OLED display driver IC (DDI) for display panel driving

Information Security for Our Clients

We conclude non-disclosure agreements (NDAs) with our clients to allow only authorized employees to access relevant information. We also employ an email filtering service (Compliance Guide Service) to filter outbound email messages containing any of our corporate customers' information to ensure confidentiality.

Information Security Center and On-Site Activities

To safeguard our key technologies against the rapid changes in the IT industry and internal and external security threats, we are operating the Integrated Information Security Center dedicated to information protection. We are also equipped with a specialized information security system overseen by the executive vice president-level Chief Information Security Officer.

Our frontline staff members are designated as Security Agents empowered to protect the key technologies and intellectual assets of their respective organizational units and foster an organizational culture focused on information security. Our Security Agents are responsible for carrying out security training, inspections, and the identification of vulnerabilities, thereby raising internal awareness on the importance of information security.

AI Ethics

We seek to design user-centric products and services that are easily accessible, safe, helpful, and continuously evolving through learning based on AI technology.

Principles of AI Ethics

Under the aim of ensuring compliance with related laws and fulfilling our corporate, social, and ethical responsibilities, we have set forth the Principles of AI Ethics (fairness, transparency, and accountability) that are reflected in development and operation of our products and services.

Fairness

- The company will strive to apply the values of equality and diversity in AI systems throughout their life cycle.
- The company will strive not to reinforce nor propagate negative or unfair bias.
- The company will strive to provide easy access to all users.

Transparency

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

Accountability

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

AI Ethics Training and Partnerships

AI Ethics Training for Employees

Distributing the Guidelines on AI Ethics

Encouraging our employees to comply with the guidelines throughout the entire process of designing, developing, deploying, implementing, and operating AI-based products and services and practice the Principles of AI Ethics in their everyday activities

Providing AI Model and Data Cards

Providing templates designed for entering information about AI model and service development and evaluation processes as well as relevant data to ensure transparency and accountability

Conducting Online AI Ethics Training

Conducting online training on global regulatory trends and guidelines concerning AI Ethics for developers to raise employee awareness

Partnerships for AI Ethics

We closely cooperate with various stakeholders to bring attention to the social impacts of AI and seek ways to utilize AI technologies in a responsible manner. We continue to participate in the Industrial AI Standardization Forum organized by the Korean government and collaborate with academic, research, and industrial experts to establish effective policies. The Forum aims to accelerate standardization for the establishment of AI credibility evaluation criteria and AI ethics guidelines, accumulation of quality data, and enhancement of the interoperability of AI-driven industries.

AI Ethics for Bixby

We take necessary measures across the entire process of designing and operating Bixby to remain prepared for and prevent any biases that may be incurred.

We ensure compliance with the Sensitive Language Policy that reflects individual countries' laws, regulations, social norms, and customer sentiment, while also developing and implementing the Sensitive Language Database and Sensitive Recognition Engine. We continually update the Sensitive Language Database to reflect evolving social consciousness.

Sensitive Language Policy

- Laws, regulations, and ethics
- Customer sentiment

Sensitive Language Database

- Philosophy, religion, nationality, race, gender, crime, social issues, emergency, etc.

Development and implementation

- Sensitive Recognition Engine
- Reflecting changes to the Sensitive Language Database in real time

Verification

- Searching and testing sensitive language

Operation

- Identifying and responding to issues

CASE

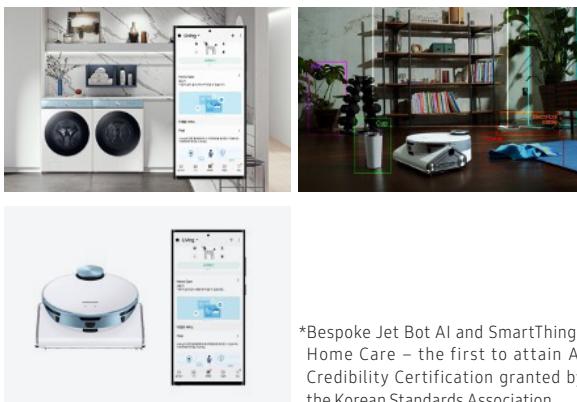
Attaining AI Credibility Certification for Our Home Appliances

We became the first in the nation to attain AI Credibility Certification granted by the Korean Standards Association (KSA) for Bespoke Jet Bot AI and SmartThings Home Care.

AI Credibility Certification was established as a result of the Pilot Private-Sector AI Credibility Certification Project launched in May 2022 by KSA. This certification is granted to AI-based products and services verified for their credibility and ethics. More specifically, they undergo verification in the four areas of transparency, safety, accountability, and diversity.

For this certification, our products' ability to recognize objects regardless of brand, shape, type, etc., was statistically verified. Transparency and safety concerning object recognition data collection and processing were also reviewed. For more details, please click the link below.

See article 



*Bespoke Jet Bot AI and SmartThings Home Care – the first to attain AI Credibility Certification granted by the Korean Standards Association

Open Innovation

Transformative innovation cannot be achieved by a single company alone. It requires open-minded collaboration with multiple partners. Based on our 3P Open Source Strategy, we are focusing on taking the lead in key "projects", securing talented "people", and pursuing a stable development "process" to enhance our open-source competitiveness.

3P Strategy to Enhance Open Source Competitiveness

PROJECT Open Source Projects

Expanding into New Areas including AI, IoT, Security, and Robot

(AI) NNStreamer

- Providing more advanced and efficient AI scenarios by connecting different devices via neural network streamer technology

(IoT) Matter

- Expanding user experiences by connecting mobile devices, TVs, and home appliances with IoT by applying the home IoT open standard protocol to SmartThings

(Security) CredSweeper

- Preventing the leakage of personal data, tokens, passwords, API keys, etc., using the credential detection tool

(Robot) ROS2

- De-facto open source in robotics used for over 90 types of robots and deemed to be the most influential

Tizen

- Our OS for TVs and home appliances, which continues to evolve by supporting IoT, On Device AI, robots, etc., and is used by more than 330 million users from 2012

PEOPLE Open Source Specialists

Expanding Open Source Leaders

- Identifying key open source areas, expanding their scope, and fostering open source leaders through diverse in-house support programs every year

Collaborating with External Developers

Expanding joint open source development projects engaging youth and external developers

- Samsung Junior Software Cup
- Samsung SW Academy for Youth
- Samsung Open Source Influencer SOS Companions

Networking with diverse open source communities

- Samsung Software Developer Conference(SSDC)
- Global events including SOSCON-India and SOSCON-Russia
- Developer community meetup events, training, workshops, etc.

PROCESS Open Source Operation System

Promoting Open Development

Encouraging internal code-sharing and joint development

- Building in-house open source development infrastructure for software collaboration
- Promoting participation through inner source project registration and best practice contests

Operating Samsung Open Source Portal

- Serving as a gateway for external cooperation and communication

Obtaining International Certifications

OpenChain (ISO/IEC 5230:2020)

- Certification for companies equipped with efficient and consistent open source systems for software development

Samsung Software Developer Conference (SSDC)

The Samsung Open Source Conference, which had been held annually since 2014, was revamped into SSDC. SSDC gathers software developers from around the world to discuss and collaborate on research and innovative technologies such as AI, IoT, 5G, cloud computing, and Big Data.

It provides a platform for exchanges between our company and global software developers centered on the theme of "Learn, Share, and Network" and helps them build stronger bonds. It has brought together over 13,500 participants through 360 sessions as of 2022.

SSDC 

Samsung Future Technology Development Initiative

We launched the Samsung Future Technology Development Initiative in 2013 based on our strong belief that investment in basic science is imperative for the long-term advancement of humanity and various industries. This initiative prioritizes support for selected projects in basic science, novel materials, and ICT based on the principle of "high-risk, high impact" aimed at encouraging researchers to pursue high-impact projects without holding them responsible for failure.

Major Projects

Basic Science	Materials	ICT
261 projects	252 projects	251 projects
Tracking and reconfiguring memory traces, defining the mathematical principles of machine learning acceleration techniques, etc.	Treating hereditary brain-nervous system diseases, resolving the heat generation of electronic devices, etc.	Resolving biases incurred by AI technologies, defining third-generation software error verification techniques, etc.

▼
774 research projects

KRW 996.6 billion in research grants

78
research institutes

Over 14,890
participants

* As of April 2023

To facilitate the commercialization of project results, we offer programs such as the R&D Exchange Meeting, patent application mentoring, and expert consulting for startup foundation and commercialization.

Operation Process

① Proposal

Candidates screened by 80 judges

② Presentation and Q&A

Presentations for and discussions with 180 judges by screened candidates

③ Support

R&D Exchange Meeting, patent application mentoring, and expert consulting for commercialization

The Samsung Future Technology Development Initiative is evaluated to have contributed to expanding the horizons of Korea's R&D and developing future technologies by remaining faithful to its principles. On average, about 2,000 entries are submitted to the non-themed contest and 200 entries to the themed contest.

Operation System

① Ensuring expertise, fairness, and objectivity in the project screening stage

* With a panel of 1,300 international judges and 2,200 Korean judges

② Encouraging researchers to take on new challenges and experience trial and error

③ Providing funding and other support to researchers

④ Holding the Global Research Symposium to allow contestants to share and discuss their findings and outcomes with preeminent scholars from around the world

Sustainability in Supply Chains

We closely cooperate with our suppliers to achieve shared growth and build responsible supply chains. Our supply chain operations aim to reinforce our suppliers' capabilities while protecting labor and human rights and enhancing their environmental, health, and safety standards.

Supply Chain Management

Supplier Selection

We thoroughly review potential suppliers' performance in five areas: 1) Purchase and Quality, 2) Environment and Safety, 3) Labor and Human Rights, 4) Eco-Partner Certification, and 5) Finance. We also dispatch our in-house experts in those respective areas to conduct on-site audits as part of the selection of new suppliers.

Evaluation Areas for Screening New Suppliers

① Purchase and Quality

Evaluation of each supplier's quality competitiveness



② Environment and Safety

On-site audits of the 26 items based on the RBA* criteria (essential items include fire extinguishing systems, hazardous materials and waste, and wastewater treatment facilities)



③ Labor and Human Rights

On-site audits of the 19 items based on the RBA criteria (essential items include prohibition on forced labor, prohibition on child labor, compliance with regulations related to working hours, accurate calculation and payment of wages, provision of wage statements and prohibition on delay in the payment of wages, proper payment of social insurance fees and other withholding taxes and contributions, prohibition on inhumane treatment, and prohibition on discrimination based on personal traits)



④ Eco-Partner Certification

Certification issued by Samsung Electronics to those companies that meet our standards for product environment policy, education and training, and hazardous substance control (only certified companies are qualified to register as our suppliers)



⑤ Finance

Evaluation of each supplier's credit rating and financial conditions in consultation with external specialists



Standard Supplier Contract

Our standard supplier contract mandates compliance with internationally accepted labor and human rights standards (e.g., prohibition on forced labor, child labor, discrimination based on ethnicity and gender) and with our in-house workplace safety standards and corporate social responsibility requirements (e.g., codes of conduct). It is written in the respective language of the individual local supplier (English, Chinese, Malay, and other local languages).

Supplier Selection Results in 2022

In 2022, we conducted additional surveys and interviews with prospective suppliers to better evaluate their risks related to forced labor, inhumane treatment, and discrimination. Through these surveys and interviews, we were able to verify with greater accuracy their working conditions – with regard to recruitment channels, recruitment fee payment, dormitory allocation, non-discrimination, and working hours – and screen only the qualified suppliers.

In 2022, such pre-registration evaluations were performed on 116 companies. While all of the candidates met the essential labor and human rights standards, two companies failed to meet environment and safety-related standards such as hazardous chemical management, which resulted in their disqualification in the final selection.

Open Sourcing Program

This program allows companies wishing to partner with us to submit business proposals. Once proposals for parts and materials applicable to our products are submitted, we perform evaluations based on our internal standards to verify potential suppliers' qualifications. In 2022, we reviewed a total of 592 proposals, accepted 96 among them, after which we applied their parts and materials to our products.

Open Sourcing Program

Supplier Management System

We handle all supplier-related matters through our integrated purchase system based on the Global Purchasing Code of Conduct and operate an organizational unit dedicated to comprehensive supply chain management.

Global Purchasing Code of Conduct

The Global Purchasing Code of Conduct comprises the key requirements from the regulations and guidelines on purchase-related tasks and ethical obligations of employees in charge of purchasing. It takes precedence over other regulations and manuals as far as purchasing is concerned. The following are the key criteria and principles set up to ensure ethical purchasing practices.

- We select new suppliers only when we deem them highly competitive compared to existing suppliers or when existing suppliers are no longer capable of meeting our needs (average duration of transaction with suppliers standing at 14 years as of 2022).
- We finalize the unit price through the preset procedures – market research, cost review, price negotiation, and price determination – based on mutual consent.
- We do not require suppliers to provide their technical data to us or a third party for reasons regarding the transaction – price review – without justifiable grounds.
- We provide demand forecasts for materials required for mass production in advance to allow suppliers to make necessary preparations.
- We determine and deliver all payments in consultation with suppliers pursuant to the terms and conditions specified in individual contracts. In 2022, we made full payments to 589 suppliers within 10 days.

Integrated Purchase System (G-SRM)

We manage diverse purchase-related tasks, from supply chain management to risk management and integrated work environment management, through the integrated purchase system (G-SRM).

- We submit our requests for parts to our suppliers through an automated system. We set the delivery date based on the lead time agreed by the two parties and thus we cannot readjust it arbitrarily without the respective supplier's approval. Even with the respective supplier's approval, the system restricts the expedition of the delivery date. As of 2022, only 4.8% of all supplier contracts were subject to delivery date changes based on mutual consent after order placement. We continually strive to improve demand projection accuracy and minimize delivery date readjustment.
- In order to minimize risks related to business continuity, we operate a supply chain risk management system designed to promptly obtain disaster information in connection with relevant institutions and automatically analyze the respective disaster's impact on our supply chain.

Dedicated Organizational Unit and Support Program

We have an organizational unit dedicated to strengthening our suppliers' competitiveness by means of on-site audits of their work environment as well as R&D and employee training programs.

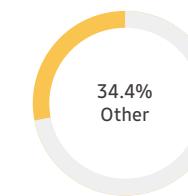
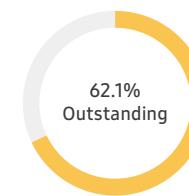
Major Evaluation Items

 Technology	 Response	 Cost	 Finance
 Quality	 Delivery	 Environment and Safety	 Labor and Human Rights

2022 Comprehensive Supplier Evaluation Results

We performed annual comprehensive evaluations on 89% of our suppliers that have been in our supply chain for at least one year. As a result, 62.1% were rated outstanding, and 3.5% required improvement.

* Suppliers registered for less than one year were excluded from the evaluation.



Management System Certifications

We strive to ensure that our suppliers are equipped with robust occupational environment and safety management systems. To this end, we encourage them to get certified against international standards, such as ISO 14001 and ISO 45001, and reflect related outcomes in the comprehensive supplier evaluations.

We also provide consulting to help our suppliers attain certification issued by a specialized agency. In 2022, 132 suppliers benefited from this program.

Comprehensive Supplier Evaluation

We perform annual comprehensive evaluations on all of our suppliers. We provide benefits to those rated outstanding – such as the priority allocation of supply volumes and extra points in the assessment for exemplary innovation cases – and honor them with Awards of Excellence. We reflect the results of the evaluations in the following year's purchasing policy to encourage our suppliers to improve their competence.

Major Evaluation Items



Environment management system (ISO 14001)

International specifications for an environment management system applicable to all industries and operations

Safety and health management system (ISO 45001)

International standards that specify requirements for the systematic management of safety and health

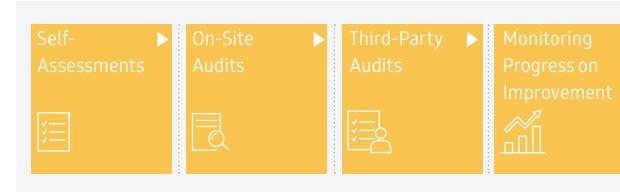
Outcomes reflected in the comprehensive supplier evaluations

ESG Audit and Capacity-Building

We require all of our suppliers to comply with the local laws of their respective countries as well as the Samsung Supplier Code of Conduct based on the RBA Code of Conduct in relation to human rights, environment, health and safety, and ethics. To ensure compliance, we operate an integrated work environment management process consisting of self-assessments, on-site audits, and third-party audits. We reflect the findings from on-site audits and third-party audits in the annual comprehensive evaluations and policy improvements for the following year, and provide benefits to those suppliers rated outstanding, such as extra points in the comprehensive evaluations and cash rewards. In 2023, we established a reward program to acknowledge our suppliers with outstanding ESG performance. Through this program, we gave incentives to two suppliers in recognition of their performance and improvement efforts in the labor and human rights and environment sectors throughout 2022.

The Partner Collaboration Center, Vendor Management Improvement Task Force, Global Technology Research, and each branch's dedicated organizational unit are responsible for ensuring the day-to-day implementation of the human rights policy within our supply chain. The executives and working-level staff of the respective organizational units are in charge of conducting compliance audits on suppliers, promoting improvement efforts, and ensuring information disclosure – which are linked to their performance and compensation. We manage human rights risks at the company level through the Global Labor Issues Council, a consultative body that meets monthly. This council consists of executives and working-level staff of the eight organizational units (People Team, Corporate Legal Team, Partner Collaboration Center, Vendor Management Improvement Task Force, Global Technology Research, Corporate Sustainability Center, Global EHS Center, and Investor Relations Team). We discuss issues of greater magnitude in the Sustainability Council.

We require our first-tier suppliers to manage the work environments of their subcontractors in compliance with our internal work environment policy. For subcontractors with issues deemed to be of serious concern, we monitor via our first-tier suppliers whether they have successfully implemented remedial actions and achieved the desired results.



Supplier Code of Conduct

We update our Supplier Code of Conduct to reflect revisions of the RBA* Code of Conduct and other global norms, and require our suppliers to comply with it. The standard supplier contract mandates compliance with the Supplier Code of Conduct. We also require each supplier to sign the Written Pledge for Compliance every year.

We provide the Supplier Code of Conduct Guide to help suppliers follow the Supplier Code of Conduct more effectively and easily and practice compliance management. Suppliers should cooperate closely during on-site audits and upon request to compile the relevant data for compliance assessment.

* We developed our code of conduct developed for our suppliers based on the Code of Conduct of the Responsible Business Alliance (RBA), an industry coalition dedicated to corporate social responsibility in global supply chains

[Supplier Code of Conduct](#) [Supplier Code of Conduct Guide](#)

Self-Assessment

We developed a self-assessment tool based on the RBA Code of Conduct and distributed it to all of our first-tier suppliers to facilitate annual self-assessments. We also encourage them to obtain certification related to international standards in corporate social responsibility (SA 8000, etc.) by including it as one of the self-assessment items. In 2022, we reflected RBA's updated criteria in this tool to facilitate self-assessment. The updated criteria places greater weight on items of significance, such as forced labor, child labor, and industrial accidents, to preemptively identify potential risks of our suppliers.

We actively collect suppliers' opinions and suggestions to establish a more effective self-assessment system and make improvements accordingly.

On-Site Audit

Our dedicated organizational unit consisting of RBA-certified auditors conducts on-site audits of our suppliers. We review their documents thoroughly, including wage information, contracts, and policies, and perform interviews of their employees (a minimum of square root of the total number of employees) engaging with both working-level staff and managers during the audits. We manage all identified improvement points through G-SRM. We register risk grades and detailed violations on G-SRM once the participating employees of the respective supplier confirm the results. We require each supplier to submit its improvement plan and results, and our staff in charge reviews them along with the supplier's employees or representatives.

We guide suppliers to take immediate remedial actions on site if possible and normally monitor whether they have taken remedial actions within three months from the registration of the improvement points. We monitor facility installation, certification, and other matters that require extended time and significant expenses over a longer term based on the respective supplier's improvement plan. We demand suppliers found to have committed violations in our priority areas, including prohibition of child labor and forced labor, to take immediate remedial actions and impose penalties in the comprehensive evaluations. We also operate a working-hours monitoring program through G-SRM to ensure that our suppliers comply with our work-hours requirements. Through this program, we review the average working hours and highest working hours of our suppliers' employees at different business sites on a monthly basis and rate them in accordance with the seriousness of non-compliance. In 2022, we performed on-site audits based on RBA's criteria on all 329 high-risk suppliers* and implemented remedial actions. As a result, the average on-site audit compliance rate reached 95%.

* High-risk suppliers refer to companies considered to have high labor and human-related risks or a significant impact on our business – in terms of transaction amount/volume, low self-assessment scores, EHS issues raised by NGOs, among others. As of 2022, 18.5% of suppliers equipped with manufacturing facilities were assessed to be in the high-risk group.

** At approximately 150 resident suppliers, we conducted a comprehensive evaluation of their work environment in line with the RBA standards, identified areas of improvement, and established a management system (from December 2022 to April 2023).

Cases of On-Site Audits

Special Audits to Eradicate Child Labor We maintain a zero-tolerance policy for child labor at our suppliers and perform special audits of their recruitment practices every year to eradicate child labor. In 2022, we performed audits on 119 first-tier suppliers and 31 second-tier suppliers during middle school and high school vacation periods when the likelihood of the employment of minors notably increases. Although none were found to have recruited child workers, some failed to meet our recruitment process standards (e.g., lack of a facial recognition system for identity authentication, failure to include the child labor prohibition provision in the employment contract). We immediately had these suppliers establish improvement measures.

We plan to distribute a compliance guidebook, which specifies appropriate recruitment processes and country-specific legal requirements, and ensure that our suppliers conduct regular internal training for their working-level staff based on this guidebook.

Support for Local Legal Requirements We require our suppliers to comply with all local laws as well as the Supplier Code of Conduct. To ensure compliance, we closely monitor any changes made to such laws that may impact their operations. For example, in May 2019, the Mexican government announced the amendment of the Federal Labor Law that guarantees the activities of labor unions and collective bargaining and allows workers to select their labor unions through secret voting. We conducted a presentation on the amended law scheduled to take effect in 2023 for 34 staff members of 21 local suppliers. We also plan to ensure their operations are in compliance with the law by placing a focus on relevant items in the audits.

Third-Party Audit

We conduct third-party audits every three years on the top 90% of our suppliers selected based on annual transaction amounts. An RBA-certified audit firm performs third-party audits in the form of Customer-Managed Audits (CMA) based on RBA's Validated Assessment Program (VAP)*. Any improvements that can be made immediately after the initial audit are corrected on site, and the results of improvement implementation are confirmed through the closure audit.

In 2022, we conducted third-party audits on 121 suppliers. Although we faced difficulties in conducting on-site audits due to the COVID-19 pandemic, we ensured continuity through on-line meetings and inspections.

We typically conduct worker interviews on the premises of the respective suppliers based on mutual trust to minimize the possibility of any production setback. However, we will perform them outside of the company to increase transparency of the audit if there is a perceived risk, such as intervention by managers of suppliers.

In 2023, we plan to conduct third-party audits on some second-tier suppliers on a pilot basis. First-tier suppliers currently manage second-tier suppliers in our supply chains, but we plan to gradually expand the scope of suppliers under our direct management and share the audit outcomes with them.

* Document review (employee wage information, contracts, policies), face-to-face interviews of employees and managers (square root of the total number of employees at minimum), on-site audits (initial and closure audits) and improvements

Compliance Rate by Area*

Area	2020	2021	2022
Labor and human rights	92%	95%	97%
Health and safety	95%	97%	96%
Environment	99%	98%	98%
Ethics	98%	99%	99%
Management system	94%	99%	96%

* Post-closure-audit compliance rate (%)

Monitoring Progress on Improvement

Based on the outcomes of the initial third party audits, we engage with our suppliers to establish improvement measures and monitor their implementation status through the closure audit. Compliance gaps that require an extended period of time for improvement are constantly monitored in collaboration with the respective suppliers.

Improvement Rate by Area*

Area	Improvement rate	Major gaps
Labor and human rights	70%	Working hours, etc.
Health and safety	83%	Emergency response facility inspection, etc.
Environment	79%	Harmful substance control, etc.
Ethics	94%	Intellectual property protection policy, etc.
Management system	81%	Internal assessment, etc.
Total	80%	

* Improvement rate: (Number of non-compliance found in the initial audit – Number of violations found in the closure audit) / Number of non-compliance found in the initial audit

Working-Hours Management Status

Items	Status
Working-hours compliance rate*	93%
Average working hours per week	45 hours
Highest average working hours per week	No more than 47 hours
Compliance rate of guaranteeing at least one holiday per week	97%

* Employees must not work for more than 48 hours per week or for more than 60 hours per week even when including overtime (voluntary). They must be guaranteed at least one day off per week.

Findings in Major Labor and Human Rights Items

Item	Description	No. of Findings	Details
Freely chosen employment	Prohibition of forced labor	3	Failure to reimburse recruitment fees, renew collective bargaining agreements, and cover pre-employment physical assessment fees
	Establishment of forced labor prohibition policies and procedures	-	
	Employment contract signing in native language	5	Failure to include essential information in contracts and comply with cap on temporary worker ratios
	Prohibition of the storage of an original copy of ID	1	Failure to establish relevant policies
	Guarantee of the freedom of movement	-	
Prohibition of child labor	Prohibition of child labor	-	
	Establishment of child labor prohibition policies and procedures	-	
Protection of underage workers	Protection of underage workers	1	Failure to establish relevant policies
	Protection of trainees and interns	-	
Wage and welfare benefits	Accurate calculation and payment of wage	5	Failure to pay overtime work allowances and provide record of work hours
	Issuance of pay slips and prohibition on delay in wage payment	4	Failure to adhere to company payout policy and comply with legal cap on severance pay
	Prohibition of unfair penalty imposition	1	Wage reduction as a disciplinary measure (e.g. product damage)
	Prohibition of inhumane treatment	1	Failure to establish relevant policies and conduct trainings
Humane treatment	Establishment of humanitarian treatment policies and procedures	-	
	Recording and management of disciplinary measures taken	-	
Non-discrimination	Prohibition of discrimination based on gender and other personal traits	1	Hepatitis B screening for new hires
	Establishment of discrimination prohibition policies and procedures	-	
	Provision of space for religious activities	-	
Freedom of association	Guarantee of the right to establish and join labor unions	6	Failure to provide record of worker representation elections and recognize unionized workers
	Guarantee of the right for collective bargaining	3	Failure to renew union activity agreements and recognize employees participating in collective bargaining
	Prohibition of discrimination against labor union members	-	

ESG Diagnosis and Consulting for Suppliers In order to help reinforce ESG management performance in our semiconductor supply chain, the DS Division has offered the ESG diagnosis and consulting service for our suppliers in collaboration with Ecredible, a corporate management assessment institution, since 2022. Our 95 small and medium-sized suppliers based in Korea performed self-diagnoses as well as third-party due diligence. We provided advanced ESG management consulting for the 25 lowest rated suppliers after actual inspections.

[DS Division] ESG Diagnosis and Consulting Process for Suppliers

1. Basic and advanced ESG training for suppliers

2. Online self-diagnosis

3. Third-party due diligence

4. Diagnosis report issuance

5. Selection of the lowest 30% high-risk group

6. Advanced ESG management consulting

7. Improvement monitoring

8. Diagnosis result disclosure

Findings and Corrective Actions

Prohibition on Forced Labor

During a third-party audit, we detected that a recruiting agency hired by one of our local first-tier suppliers in East Asia was imposing fees on migrant workers. Based on further inspection, we found it is customary in the respective country for recruiting agencies to collect recruitment fees from migrant workers. The agency also lacked an understanding of our Supplier Code of Conduct. We immediately took steps to return the paid fees to migrant workers in collaboration with personnel staff of the respective supplier and established the code of conduct concerning the prohibition on the collection of recruitment fees to prevent its recurrence. We had the respective supplier conclude a new contract with the recruiting agency to initiate a new migrant worker policy and stop collecting recruitment fees from them. We also made it mandatory to perform interviews of migrant workers and audit the performance on a quarterly basis.

We found another one of our first-tier suppliers in the same region to be withholding the cost of physical examination required during the recruitment process from new recruits and returning the amount only when they continued their service at the respective supplier for more than 90 days. Upon further investigation, we found that the supplier's policy had been set intentionally to prevent early retirement of new employees. We immediately took steps to remove this unfavorable condition and return the amount to all new recruits and fully update the relevant policy. We also made sure that the updated policy was delivered to all employees to improve transparency in the recruitment procedures.



Employment Contract Signing

We found one of our first-tier suppliers in East Asia failed to provide an employment contract or to specify necessary information, such as job descriptions, working hours, and holidays, in the contract for foreign workers hired through a recruiting agency. This is a violation of our requirement to distribute an original copy of the employment contract to each worker. The respective supplier lacked a proper understanding of this requirement. In collaboration with the personnel manager of the supplier, we had the contract revised to include the necessary information and corrected the process to obtain and manage each worker's signature of acknowledgement. We also made sure that two original copies of the employment contract be issued – one of which is given to the worker and that the recruiting agency and supplier cross-check the issuance of the original copies.



Accurate Calculation and Payment of Wage

We found that holiday night shift allowances for workers recruited by one of our first-tier suppliers in East Asia through a recruiting agency were lower than the legal minimum wage of the region. We require our suppliers to comply with the Supplier Code of Conduct and local laws without exception and strictly prohibit discrimination against workers based on race, ethnicity, gender, among others, for all working conditions including wages and compensation. We obligate all of our suppliers to set the hourly holiday night shift allowance higher than the hourly wage for regular working hours. The respective supplier lacked a proper understanding of this requirement. We informed the personnel staff of the supplier of the violation upon detection and guided the supplier to recalculate and pay accurate amounts to the underpaid workers. We have required the supplier to continue monitoring wage-related laws and regulations and regularly conduct internal audits to prevent the recurrence of a similar incident.

Prohibition on Delay in Wage Payment

We found that one of our first-tier suppliers in East Asia provided severance pay for a retiree after the preset deadline. Pursuant to the Supplier Code of Conduct, all retirees at our suppliers must be paid the full amount of severance pay and wages within 30 days from the date of retirement. We guided the respective supplier to establish a management process to ensure the completion of the payment of severance pay and wages within 30 days from the date of retirement and to have the payment details reported to the personnel staff on a monthly basis to prevent the recurrence of such an incident.



Working-Hours Compliance

We detected a case of surpassing the legal monthly overtime limit by more than 30 hours through a third-party audit on one of our first-tier suppliers in East Asia. Employees of all of our suppliers must comply with the requirements of a standard workweek of 48 hours and a maximum workweek of 60 hours including overtime. Under local laws, the stricter of the requirements must be applied. We determined the respective supplier lacked a proper understanding of the working-hours limit and did not accurately identify the status, since its employees' working hours were kept manually. We first provided training for all of its employees, including the managers, to resolve this issue. We also helped the supplier adopt an automated system that sends alerts when any employee applies for overtime past his/her legal limit and required the personnel staff to communicate with the team manager in charge. We verified that no employees had exceeded the legal working-hours limit two months after the implementation of the improvement measures.



ESG Capacity-Building

ESG Training System

In 2023 we've placed priority on building suppliers' capacities in sustainability management in areas including climate action, resource circularity, human rights, compliance, and social responsibility.

In line with our sustainability-related policies, we have developed training programs for our suppliers to help them meet global standards in information disclosure and prepare for regulations such as the corporate sustainability due diligence legislations in Europe. We strive to raise awareness of the importance of responsible practices and build their capacities on the ground in managing GHG emissions, conducting supply chain due diligence, operating EHS systems, publishing sustainability reports, among others. Moreover, legal compliance courses are offered online which will soon become available to our second and third-tier suppliers that have signed a fair trade agreement with us.

ESG Training for Suppliers

New Expert Track
 Required Basic (Recommended)

Environmental (E) 7 courses	Social (S) 9 courses	Governance (G) 6 courses
ESG Management Leaders (in connection with improvement tasks / ES → ESG)		
GHG Management *DS separately managed	ESG Due Diligence on Supply Chains	Sustainability Report
Energy Management System (ISO 50001)	Safety and Health Management System (ISO 45001)	Fair Transactions (medium-sized companies)
Environmental Management System (ISO 14001)	Supplier Code of Conduct (7 areas) (suppliers based in Korea and other regions)	Hands-On Fair Transactions (first-tier suppliers)
Regulated Substances Control (suppliers based in Korea and other regions)		
Chemical Substances Control Manager (first-tier, second-tier, and third-tier suppliers)		
FTA Basics		
Chemical Substances Control Act	Serious Accidents Punishment Act	Occupational Safety and Health Act (risk assessment)
		Coprosperity and Cooperation Seminar (second- and third-tier suppliers)
Legally required training (4) Sexual Harassment Prevention, Anti-Harassment Policy, Workplace Bullying Prevention, Disability Awareness Enhancement, and Privacy Protection		

Compliance and Human Rights Training

Since 2015, we have hosted a range of compliance and human rights workshops and training sessions for the heads and working-level staff of our suppliers on a yearly basis. In 2022, 408 suppliers¹⁾ around the world participated in our training.

- Sharing global and local legal revisions, audit results and best practices of our suppliers, and environment- and safety-related trends of different regions
- Providing training on the prohibition on forced labor, mutual respect, humane treatment, and anti-discrimination based on the Supplier Code of Conduct
- Providing human rights training encompassing diverse areas from recruitment to corporate culture, personnel, and labor-management relations
- Providing industrial safety training on the protection of pregnant and nursing employees, among others²⁾
- Providing specialized training on chemicals and awarding suppliers with outstanding performance in labor and human rights and environment and safety
- Encouraging participating suppliers to actively share the details of our training and provisions of the Supplier Code of Conduct with their subcontractors
- Providing training on the protection of women, local culture, and local business environment targeting 22 suppliers advancing into Vietnam where the rate of female employees is notably high

1) Including 98% (323) of high-risk suppliers and 85 suppliers projected to have potential risks

2) Rate of employees subject to maternity protection at high-risk suppliers: 2.5% (based on G-SRM information as of January 2023)

Migrant Worker* Recruitment Process Training

As per our Supplier Code of Conduct, we prohibit forced labor and collection of recruitment fees from migrant workers hired by our suppliers. If such case is identified, the respective supplier must reimburse the fees within 90 days.

The collection of recruitment fees from migrant workers is considered a highly serious violation of labor and human rights along with prohibition on child labor and violation of working-hours. We downgrade the rating of those suppliers that fail to achieve improvement on the comprehensive evaluations. If they commit the same violation repeatedly, we suspend transactions with them.

Based on this policy, we reimbursed a total of USD 1,125,734 to 1,649 migrant workers from 11 countries from 2017 to 2022. In 2021, we established the Responsible Recruitment Procedure training course to improve our suppliers' understanding of the procedure, help eliminate relevant risks, and offer a self-diagnosis tool. In 2022, we expanded

the group of countries subject to training to include Hungary, Slovakia, Poland, and China and provided training on recruitment criteria, risk identification and assessment, risk improvement, risk prevention and mitigation, etc., for 505 labor and human rights staff at 213 suppliers. The training sessions were conducted in local languages (English, Chinese, Thai, and Malay) to ensure the understanding of local employees. This training course will soon be designated as a mandatory training course for suppliers located in countries with migrant workers.

We plan to resume special audits on forced labor, which were temporarily suspended due to the COVID-19 pandemic, in 2023 starting with Southeast Asia and Europe. We will continue to improve the labor and human rights conditions of migrant workers by closely monitoring the appropriateness of recruitment fee calculation, legitimacy of deductions from wages, actual reimbursement results, and other items with forced labor risks.

*Rate of migrant workers at high-risk suppliers: 1.5% (Based on G-SRM information as of January 2023)

Training Details

Recruitment Criteria

Correcting and supplementing suppliers' policies based on the provisions related to the prohibition on forced labor in the Supplier Code of Conduct

Risk Identification and Assessment

Identifying the entire recruitment process related to recruiting agencies in departure countries, recruiting agencies in destination countries, and suppliers and assessing risks using the self-diagnosis tool

Improvement

Collecting data through migrant worker interviews and submitted grievances, reaching conclusions in a transparent manner, and establishing improvement plans

Risk Prevention and Mitigation

Analyzing fundamental causes, establishing subsequent corrective measures, and performing training for migrant workers and recruiting agencies

Environmental Health and Safety (EHS) and GHG Emissions Management

The prerequisite for the development and clean production of eco-conscious products is the fulfillment of our responsibility for our supply chains. We work to reduce our environmental impact, mitigate the generation of harmful substances, and improve workplace health and safety in cooperation with our suppliers.

GHG Emissions Reduction

To ensure systematic climate action at the supply chain level, we require suppliers that correspond to the top 90% of our purchase amount to disclose relevant information, set targets, and implement reduction activities. We monitor and support these activities while developing policies to strengthen management and oversight or suppliers' participation.

GHG Emissions Management

Since we joined the CDP Supply Chain Program in 2019, we have collected information on our suppliers' emissions and renewable energy use, engaged in GHG emissions reduction campaigns targeting our suppliers, and organized regular seminars. The number of suppliers participating in the CDP Supply Chain Program has continued to increase from 163 in 2020 to 203 in 2021 and 308 in 2022. We also focus on providing training to enhance their GHG management capacity. In 2022, we developed the GHG management guidelines on how to calculate GHG emissions, set reduction targets, and define reduction activities; provided training on the guidelines for our suppliers; and established the GHG Management course within the ESG curriculum at the Training Center of the Partner Collaboration Academy.

Supporting GHG Reduction Activities

We strive to reduce GHG emissions across our supply chains in close collaboration with our suppliers. We operate a funding program to help them achieve energy efficiency, expand renewable energy use, and develop carbon reduction technology. Moreover, we formed a consulting unit dedicated to helping suppliers improve their on-site practices.

We host the Advanced Tech Fair to introduce innovative carbon emissions reduction technologies and operate development funding programs to promote GHG emissions reduction by our suppliers. We encourage our suppliers to apply for ESG-related government funding and consulting programs by keeping them informed. In 2023, we plan to launch a pilot project with major suppliers to identify best practices in GHG emissions reduction and share them with more suppliers.

Strengthening Management Policy

We continue to advance our supplier management policy to effectively manage our suppliers' GHG emissions. We mandate the calculation and recording of energy use and direct and indirect GHG emissions (Scopes 1 and 2) for each business site through the Supplier Code of Conduct and reflect GHG emissions information disclosure and reduction outcomes in the comprehensive supplier evaluations. We give extra points in the evaluations to suppliers with outstanding reduction performance.

Harmful Substance Control

Eco-Partner Certification

For the meticulous inspection of not just supplied products but also their parts, we operate the Eco-Partner Certification program. We require our suppliers to undergo the Eco-Partner Certification review every two years to maintain their status, and those failing to meet our criteria are subject to transaction restrictions.

We issue the certification based on the results of the review of their adherence to the Harmful Substance Operating Rules and environment and quality control systems.

We require our suppliers to submit raw material data collected from their raw material companies in combination with written proof that guarantees the credibility of harmful substance data. We then visit their manufacturing sites to thoroughly verify the submitted data.

Safe Use of Chemicals

We perform on-site audits to monitor whether our suppliers meet our standards for the safe use of chemicals. We also offer consulting on

handling regulated chemicals and improving related control systems, while providing support for the upgrading of local ventilation system, chemical storage facilities, and chemical leak prevention equipment.

EHS Improvement Support

We have established an organizational unit dedicated to supporting our suppliers' environmental and safety management and operate a range of programs to foster EHS model suppliers, provide specialized support for suppliers that have high-risk processes, and assist them in the attainment of ISO certification.

The DS Division closely communicates with the employees of our suppliers via the Environment and Safety Portal for Our Suppliers. In 2022, a total of 2,267 inquiries were submitted and resolved on this portal, contributing to the prevention of EHS accidents.

Better EHS Management: 2022 Key Milestones in Numbers

505

primary suppliers underwent regular environmental and safety audits.

1,228

supplier employees completed environmental and safety training.

60

suppliers that have high-risk processes were provided with support to prevent environment and safety-related accidents to ensure supply chain stability.

308

suppliers that participate in the CDP Supply Chain program received risk assessments and management concerning their subcontractors.

455

trainees completed training on the understanding of environmental and safety laws and response measures for the Serious Accidents Punishment Act.

Risk Assessment and Management of Our Suppliers

Risk Assessment

We evaluated the accident prevention capacity of our suppliers in the 2022 comprehensive EHS capacity evaluations and reflected the results in the supplier selection process.

Work Suspension System

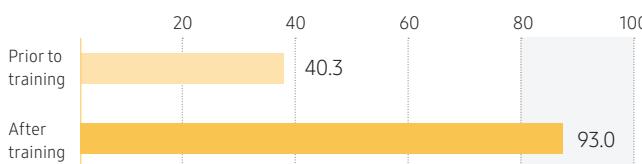
The right to work suspension system includes preemptive measures to prevent hazardous situations. To facilitate the effective operation of the system, we established the Research Group for the Right to Work Suspension to analyze the possibility of hazardous situations. In 2022, our major remedies to build a safer work environment include the installation of footholds and guardrails on facilities with the risk of fall. We will continue to make improvements to ensure the safety of our suppliers' employees.

Environment and Safety Risk Management

We help our suppliers identify and eliminate risk factors through the operation of the right to work suspension system, risk assessment specialist training course, and audits on the results of work risk assessments. Through the risk assessment specialist training course, 1,294 employees at 494 suppliers received training to grow into experts capable of dealing with risk factors.

We performed audits on the results of work risk assessments to help our suppliers proactively identify risk factors of each task and prevent serious accidents. Through audits on 5,812 tasks of our major suppliers, we detected 1,754 mid-to-high risk factors and found that the cases of risk-factor detection by our suppliers doubled compared to the previous year. We guided our suppliers to establish and implement appropriate remedial actions and awarded best practices.

Suppliers' Capacity to Identify Harmful Factors



Disseminating Best Practices

Safety Management Convention for Suppliers To analyze the safety promotion activities of the DS Division's suppliers and share best practices, we held the Safety Management Convention for our suppliers. Through this event, we shared safety expertise in five major areas with our suppliers to enhance their safety capacity. In 2022, the event was held to highlight our suppliers' efforts to identify and eliminate risk factors and award outstanding companies. Special lectures on how to build a safe work environment across the entire supply chain were also organized.

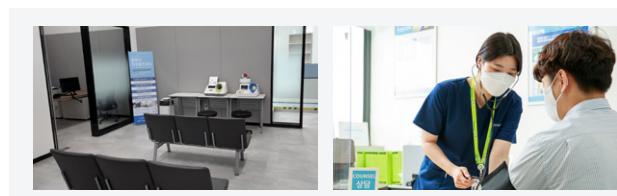
EHS Innovation Day for Suppliers At the DX division, we hosted the EHS Innovation Day for suppliers inviting them to share best practices in workplace safety management. By sharing their experiences in active EHS management – from issue identification to resolution – suppliers were able to exchange views on better managing common issues. The best practices were exhibited on site, of which five were presented as cases of excellence – these cases were in the areas of equipment management, risk assessment, compliance with standard work process, ESG, safety culture.

Health and Wellness Centers

We operate health and wellness centers at each of our business sites for our suppliers. At these centers we offer 1:1 health consultations and personalized physical exercise programs to help employees prevent brain and cardiovascular diseases and musculoskeletal disorders.

Advanced Physical Assessments

We offer advanced physical assessments to our resident suppliers' employees aged 50 and older to help prevent brain and cardiovascular diseases. In addition to legally required examinations, we provide additional check-ups including ECG and HS-CRP. In 2022, a total of 324 employees benefited from this service.



Environment and Safety Academy

We offer environment and safety training at the Environment and Safety Academy for the DS Division suppliers in Hwaseong since 2019 and Pyeongtaek since 2022.

The Pyeongtaek Academy operates the joint environment and safety training program certified by the Ministry of Employment and Labor and Human Resources Development Service of Korea, a first in the industry, and is equipped with facilities to train over 35,000 trainees a year.

We strive to reinforce the environment and safety capacity of our suppliers by utilizing the nation's largest, state-of-the-art infrastructure at the Academy and operating the nation's first "Cutting-Edge Human Resources Consortium Program."



Grievance Handling System

We support our suppliers in establishing and operating an internal grievance resolution process to facilitate communication between the executive management and employees. We have operated a direct hotline for all suppliers since 2013 to collect reports on violations of the work environment criteria or workers' rights by our suppliers via telephone and email to complement on-site audits. We ensure the protection of informants' confidentiality throughout the entire grievance process so that our suppliers' employees can submit reports without fearing retaliation.

We provide hotline guidance posters in local languages and post them in offices, corridors, production sites, dormitories, and cafeterias.

Our organizational unit dedicated to grievance management verifies the factual grounds of all reports within one week of submission, notifies informants of the findings and steps to be taken, and monitors respective suppliers to ensure that they take remedial actions. We strive to engage employees in the design of grievance handling system by collecting their opinions on the hotline system through interviews, conducted during on-site audits, and compliance workshops.

To monitor whether the reported grievances are being remedied effectively, we carry out informant satisfaction surveys since 2020. In 2022, the most frequently reported issues were related to wages and superiors' misconduct. We identified the causes in cooperation with the respective suppliers, performed training to prevent recurrence, and confirmed that appropriate remedies were implemented. In 2023, we plan to conduct employee satisfaction surveys on work environments targeting some of our suppliers in Southeast Asia. Based on the findings from this survey, we will identify the grievances of frontline workers that have not been detected through due diligence, remedy the improvement points detected, and enhance the work environments of our suppliers.

CEOs on Talk

Through "CEOs on Talk", we engage the CEOs of our suppliers in establishing a safety culture on site and discussing effective ways to prevent accidents.

We hold a virtual conference with CEOs of DS Division suppliers once a month – twice a month with those suppliers who perform high-risk tasks.

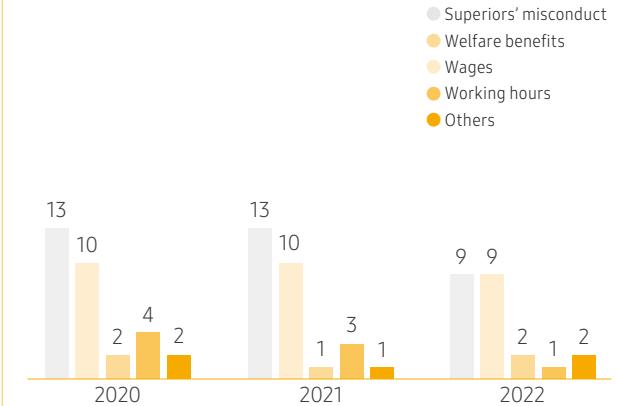
At the beginning of the year's event, we held a ceremony to pledge industrial accident prevention, discussed recent accident cases and the DS Division's environment and safety policy, and organized seminars featuring external experts.

We also held an in-person conference where we shared accident cases of different industries, awarded best practices of safety culture, and engaged in direct communication with our suppliers.



Types of Grievances Submitted through the Hotline

(Unit: Number of submitted cases)



Grievance Resolution Cases

Guarantee of the Freedom of Movement

In October 2022, we received a grievance report that one of our suppliers in Southeast Asia was restricting an employee's freedom of movement on site for meals and drinks. We strictly prohibit any restrictions on workers' freedom of movement as they constitute a serious violation of the prohibition on forced labor. We contacted the respective supplier immediately upon grievance submission and called for its correction. We confirmed that the supplier took remedial actions and continued monitoring their implementation status to prevent the recurrence of such incidents.

Accurate Calculation and Payment of Wages

In November 2022, one of our suppliers in Southeast Asia submitted a grievance report that allegedly it had not properly included overtime allowances in its wages. As a result of fact-checking with the respective supplier, we found that overtime allowances were omitted due to a temporary error in the online wage management system. The Supplier Code of Conduct specifies that suppliers should set overtime allowances higher than the hourly pay for regular working hours and pay them pursuant to local laws and regulations. We took steps to have the supplier calculate and pay the unpaid allowances.

Mutual Respect among Colleagues

We urge our suppliers to build a work environment that ensures respect for all workers through the Supplier Code of Conduct. In April 2022, some employees engaged in a quarrel due to miscommunication at one of our suppliers in Central and South America. We conducted on-site training for mutual respect and human rights among workers. We received feedback that the issue was successfully resolved and plan to provide continued support for creating a sound work environment.

Improvement of On-Premise Cafeteria Services

In February 2022, one of our suppliers in Central and South American submitted a request for the improvement of on-premises cafeteria services. We confirmed that its employees had continually filed internal complaints due to the inadequate amount of food served. As meals served at on-premise cafeterias are directly related to the morale of employees, we recommended that the personnel manager at the respective supplier seek a new catering company and organize a tasting event. We confirmed that the supplier hired a new catering company and took steps to prevent the recurrence of such an incident.

Stakeholder Communication

In order to build a corporate culture centered on respect for human rights, we have organized an annual stakeholder forum in Vietnam since 2018. In 2022, the fifth forum was held in collaboration with the Vietnam General Confederation of Labor (VGCL) and Vietnamese Ministry of Industry and Trade under the theme "Vietnam's Measures for Global Supply Chain Expansion and Due Diligence Response." We shared our activities aimed at nurturing Vietnam's parts industry with over 500 participants from international organizations such as ILO and RBA, local NGOs, press organizations, and academic circles. We also highlighted our efforts to cooperate with our suppliers and ensure their compliance with global guidelines, including RBA and Joint Audit Cooperation (JAC) as well as Vietnamese laws. We plan to continue actively communicating our commitment to respect for human rights, gender equality, and safe workplaces to our stakeholders throughout the future.

Partner Collaboration

Based on our vision of “We Buy Value, We Pay Trust”, we seek to achieve shared growth with our suppliers in a way that strengthens our supply chain competitiveness as well as its sustainability. Driven by such efforts, Samsung Electronics received the highest rating for 11 consecutive years in Korea’s Win-Win Growth Index which assesses comprehensive mutual growth and implementation of fair trade agreements.

Funding Support

Win-Win Fund

- Providing low-interest loans up to KRW 9 billion for facility investment and technological development to help achieve business stability
- Launched in 2010 with KRW 1 trillion for first- and second-tier suppliers
- Replenished by KRW 400 billion in 2018 to extend benefit to third-tier suppliers

Payment Support Fund

- Providing interest-free loans for our suppliers to enable them to pay their sub-suppliers with cash within 30 days
- Initiated in 2017 with KRW 500 billion to improve payment conditions between first- and second-tier suppliers
- Replenished by KRW 300 billion in 2018 to support transactions between second- and third-tier suppliers

Incentives for Resident Suppliers

- Evaluating the technological strength and environment and safety status of first- and second-tier resident suppliers at our semiconductor business sites and offering incentives for different grades
- Provided the cumulative sum of KRW 607.8 billion, including KRW 93.1 billion offered in 2022

Human Resource Development

Recruitment Support

- Operating the Youth Job Center dedicated to assisting our suppliers in finding the talents they need
- Successfully matched our suppliers with 1,083 job seekers in 2022 by providing services that specifically cater to our suppliers’ needs, staging the Samsung Supplier Job Fair, and operating an online recruitment site exclusively for our suppliers in collaboration with recruitment experts

Training Support

- Offering approximately 449 courses free of charge
- Provided training to 20,907 employees from 514 suppliers in 2022

Innovation Support

Innovation Consulting

- Opened the Consulting Center staffed with specialists in manufacturing, quality assurance, development, and purchasing
- Helped suppliers enhance their efficiency in added value, achieve productivity and quality innovation, and improve their personnel, finance, and system operation capacity
- Supported 52 suppliers in 2022

Technology Support

- Staged the Advanced Technology Trans Fair to introduce marketable technologies owned by Korean universities and public institutions and the Biz Technology Trans Fair to present commercialized technologies
- Funded the Technology Development Based on Private-Public Joint Investment project led by the Korean Ministry of SMEs and Startups from 2013* (KRW 30 billion invested in 2022 to provide support over the next five years and KRW 5.7 billion offered to seven suppliers in 2022 alone)
- *Approximately KRW 20 billion from 2013 to 2021
- Transferred over 2,100 patents (cumulative sum as of 2022) free of charge

Partner Collaboration Academy

Since 2014, we offer capacity building programs near our Suwon business site at a dedicated premise spanning approximately 9,917 m². These programs are offered free of charge to our first and second-tier suppliers. Each curriculum is tailored to different needs of our suppliers’ employees, from entry to executive levels, covering topics including leadership, manufacturing, quality purchase, and sales. In recent years, we’ve added course on environment and safety, fair trade, and sustainability related topics including GHG emissions reduction and supply chain due diligence.

Semiconductor Technology and Business Consulting

Product Performance Evaluations

- Operating the R&D support system that evaluates and accredits the technical performance and applicability of products developed by materials, parts, and equipment makers to our mass production line
- Conducted 139 performance evaluations in cumulative sum from 2007 to 2022

Patterned Wafers

- Providing patterned wafers to corporates and research institutes, supporting suppliers’ technological enhancement
- Offered 1,104 patterned wafers in 2022 alone and 8,308 in cumulative sum from 2015 to 2022

Idle Equipment

- Providing equipment unused by our semiconductor production and research facilities to our suppliers to improve their product development environments
- Selling idle equipment at discounted prices to those suppliers that wish to purchase it

Piping Technology Academy

- Established in 2018 to ensure the systematic cultivation of outstanding semiconductor piping specialists in collaboration with our suppliers
- Offering diverse courses including pipe floor plan, pipe removal, and technical accreditation. Contributing to the resolution of the shortage of semiconductor piping specialists. In 2022, 143 trainees (cumulative sum of 591 as of 2022) completed the curriculum.

Semiconductor Business Consulting

1. Tailored Consulting for Materials, Parts, and Equipment Suppliers
 - Helping our suppliers identify tasks, resolve issues, and drive innovation through on-site visits by our semiconductor consultants
 - Provided consulting on 31 tasks in the areas of choice (development, manufacturing, quality, environment and safety, purchasing, sales and marketing) in 2022
2. Business Operation Consulting
 - Sharing sector knowledge and experience with executive management of supplier companies
 - Provided consulting on 18 tasks for 16 suppliers in 2022
3. Manufacturing Competitiveness Consulting
 - Helping second-tier suppliers identify tasks and achieve product and quality improvement
4. Expert Dispatch
 - Sharing our knowhow by dispatching experts in technology, manufacturing, and business operation to our suppliers
 - Dispatched 164 experts to 73 suppliers in cumulative sum from 2013 to 2022

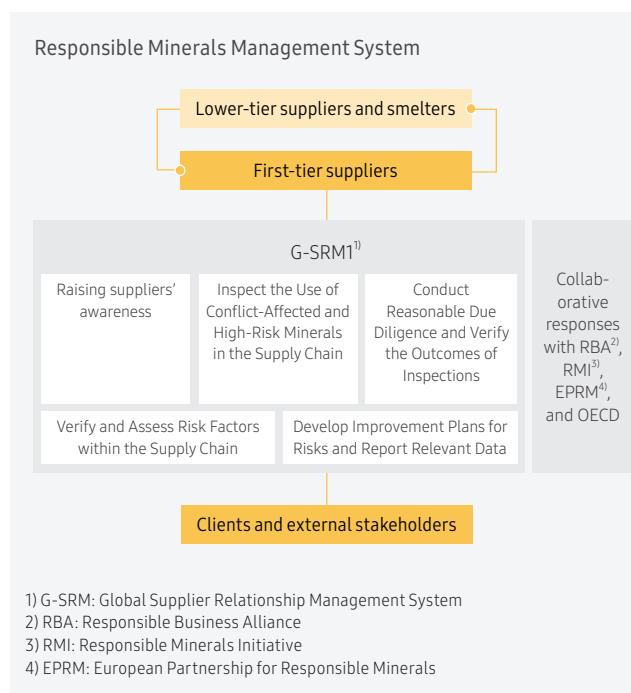
Responsible Minerals

Responsible minerals refer to those mined in a way that respects human rights and the environment and fulfills social responsibility. We strive to eradicate human rights violations, such as child labor and sexual violence, during the mining process and to protect the health and safety of miners.

Our Responsible Minerals Management

We focus on raising awareness of responsible minerals issues, conducting inspections on the status of responsible minerals use, and identifying and remedying risk factors in relation to all of our mass-produced materials suppliers based on the OECD Due Diligence Guidance* for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. We block the inflow of materials that are not sourced in compliance with our responsible minerals policy from the initial point of purchase.

* OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas



Using the RMI's templates on conflict and responsible minerals, including but not limited to the Conflict Minerals Reporting Template (CMRT), Extended Minerals Reporting Template (EMRT), and Pilot Reporting Template (PRT), we collected data from all suppliers that we conduct business with through our Global Supplier Relationship Management (G-SRM) system on conflict and responsible minerals as well as other information on smelters within the supply chain. In addition, we required our suppliers to extend the ban on conflict minerals to their own suppliers in accordance with our conflict minerals policy.

Number of Smelters and Refiners within Our Supply Chains

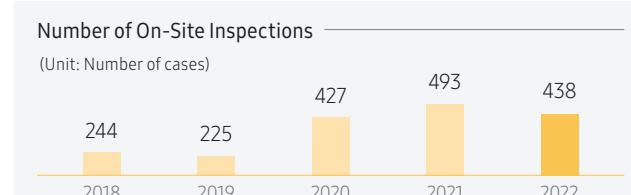
Category	2018	2019	2020	2021	2022
Tantalum	40	40	38	38	36
Tin	73	76	53	55	59
Tungsten	41	41	42	40	39
Gold	104	104	107	107	99
Cobalt	-	30	27	35	42
Mica	-	-	-	10	19
Lithium	-	-	-	16	11
Copper	-	-	-	-	33
Nickel	-	-	-	-	22

*We source tantalum, tin, tungsten, and gold, which are often linked to armed conflicts, only from RMAP-certified smelters and refiners. We plan to gradually expand this certification requirement to other minerals in collaboration with RMI.

**RMAP is the Responsible Minerals Assurance Process developed by RMI

List of smelters and refiners [🔗](#)

We internally review our suppliers' data upon submission, perform additional audits in relation to the submitted data, and sort suppliers that require follow-up monitoring. In 2022, we reviewed the credibility of data submitted by 438 suppliers around the world and their conflict minerals policy implementation status.



*From 2020 to 2022, inspections were performed in a contact-free manner via document review due to the COVID-19 pandemic.

Through such efforts, we are able to screen out conflict minerals illegally mined from 10 African countries including the Democratic Republic of the Congo and only use minerals sourced from smelters certified by globally recognized third-party accreditation entities. In addition to conflict minerals, we continually monitor minerals that entail human rights violations and environmental destruction issues during the mining process and take necessary steps in cooperation with other global organizations.

Responsible Minerals Partnerships

We aim to prevent and address any adverse social and environmental impacts of our supply chains by sourcing minerals in a responsible manner. To this end, we collaborate with global companies and stakeholders in an array of campaigns, including the initiatives for building a responsible minerals management system and standardizing smelter accreditation.



Cobalt for Development

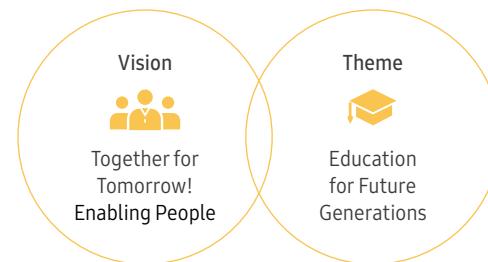
- We undertook the project to enhance the work environments of artisanal cobalt mines and the living conditions of local mining communities in the Democratic Republic of the Congo.
- The project was initiated in 2019 together with Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ), Samsung SDI, BMW Group, and BASF.
- Volkswagen joined the project as a new partner in 2020.
- Key activities (as of 2021)
 - Performed safety training for over 1,000 miners from 14 cooperatives
 - Provided protective gear including helmets
 - Conducted agricultural and financial training for more than 3,000 local residents
 - Supported the foundation of 72 microbusinesses such as bakeries and tailors

Empowering Communities

We announced our CSR vision “Together for Tomorrow! Enabling People” in celebration of our 50th anniversary in 2019. This vision is aligned with Samsung’s core values of “People”, “Shared Prosperity”, and “Catalyzing Change” and reflects our commitment to fostering talents and building a better world.

Corporate Social Responsibility (CSR)

Under Samsung’s CSR vision of “Together for Tomorrow! Enabling People”, we strive to provide equal access to education for the youth.



Mission

Through our education programs, we aim to empower the youth to drive positive social changes. The youth have unlimited potential – the kind that may break new grounds and leave a mark in history. We help young talents realize their full potential by equipping them with the skills for the future workforce.

Core Values

Samsung follows a simple business philosophy: to devote its talent and technology to creating superior products and services that contribute to a better global society. At the core of this philosophy lies our focus on people; thus the cultivation of talent has been our key to success.

Our CSR vision centers on Samsung’s values of People and Coprosperity. The aim is to help individuals realize their potential to the fullest, especially young minds that will become future leaders. We utilize our knowledge and knowhow in technology and innovation to provide greater access to opportunities for all.

Our CSR Activities

Education for Future Generations

We strive to empower young minds to drive innovation and positive social change. We capitalize on our technology, knowledge, expertise, and resources to help them develop future skills which include technical skills as well as soft skills such as creative-thinking, curiosity, and empathy. Moreover, we partner with government institutions and organizations to provide education programs around the world.

[CSR website](#)

Enhancing Creative Problem-Solving Capacity

Samsung Solve for Tomorrow

Samsung Solve for Tomorrow is an idea contest for youth designed to advance their STEM (Science, Technology, Engineering and Math) competencies and creative problem-solving skills required for the future workforce. Teachers and mentor students of Samsung employees on identifying the root causes of problems, finding viable solution, and turning these ideas into action. In 2022, we provided a total of KRW 20.5 billion in funding to Samsung Solve for Tomorrow.

Total Beneficiaries

countries	participants
55	250,304

OUR CASE

Clean Water for Rural Communities (Brazil)

Three young friends living in São Paulo, Brazil, learned at school that the use of pesticides at coffee plantations had continued to increase and was polluting nearby water resources threatening the future of local ecosystems. Seeking solutions, these students developed Macafiltro, which purifies polluted water using macauba fruit commonly found in the region. As the water supplied to rural communities typically does not undergo any purification process, Macafiltro is attached to water supply pipes to purify water as it flows to each household.

INTERVIEW

Participant Interview

"Working to solve the program's tasks, we learned how to operate as a team, with each of its members having a clearly defined role. It was also a great opportunity for me to acquire new skills, such as communicating, attracting new partners, and securing the funds needed to build a prototype of the solution we proposed. I could also draw upon the experience of other teams, including those with an international make-up. I strongly recommend participation in Solve for Tomorrow for my peers, as the entire undertaking is a great intellectual adventure."

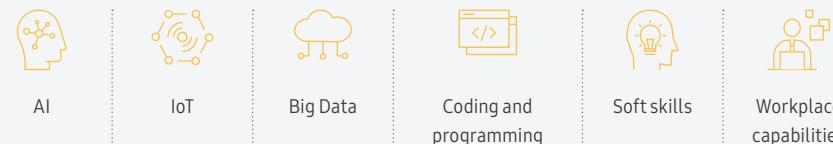
Victoria Stanisławska
Runner-up in Samsung Solve for Tomorrow Poland (2021-2022)
On Forbes magazine's list of "23 women worth following in 2023"

Samsung Innovation Campus

Since 2013, we offer a range of technical training programs for adolescent students and young adults entering the job market. In 2019, we updated and reconfigured these programs into Samsung Innovation Campus. Samsung Innovation Campus offers a range of curricula, from programming to AI, in partnership with local education authorities, academic institutions, and civil society organizations in various countries.

Samsung Innovation Campus helps young students and adults develop skills required for IT functions such as programming, AI, IoT, and big data through theoretical and hands-on training. It also aims to foster their soft skills such as creative thinking, communication skills, and empathy. In 2022, we provided a total of KRW 7.8 billion in funding to Samsung Innovation Campus

Courses



Total Beneficiaries

countries students
32 44,823

OUR CASE

Participant (Indonesia)

Ridwan applied for Samsung Innovation Campus on his teacher's recommendation after graduating from vocational high school. Although he had no previous experience or knowledge in IT, he succeeded in developing a website in cooperation with his team members over the course of just a few months. He takes pride in helping many others resolve diverse issues through this website. He was hired as an intern upon completing Samsung Innovation Campus and plans to create an app with the design team.

INTERVIEW

Staff Interview

"In a fast-paced world, the young generation is hungry to learn new things and adapt to endless possibilities. Watching the young students absorb knowledge so quickly never ceases to amaze me. What we need to do is give the youth opportunities that will help them discover their passion. We truly believe in their remarkable potential to reach new heights of innovation and to develop life-changing solutions. We hope that the young generations discover what they are interested in and get passionate about engaging in various activities, such as Samsung Innovation Campus, to expand their hands-on experiences and capabilities. Once you understand yourself, then you will be able to create your plan and push toward your goal with greater ease. We will accompany your journey towards a better future."

Aslı Askin (Corporate Citizenship Manager, Samsung Electronics Türkiye)

Samsung Smart School

Samsung Smart School supports schools in rural and remote areas that lack digital educational resources with smart devices, training solutions, learning contents, and interior remodeling. with the aim of narrowing the regional education gap and strengthening future skills of youth. Since 2012, we have supported a total of 193 classes at 98 schools in Korea. In 2022, we supported ten exemplary schools in Korea selected in 2021. The program also provides faculty members of beneficiary schools with regular training and access to external support on utilizing smart devices. The smart devices and associated support services are offered to the schools for up to two years.

INTERVIEW

"Parents are highly satisfied as they can follow up with their children's progress at home. This program also works to bring parents and children closer together as children teach their parents how to use different smart devices. Digital classes can be easily set up based on the guide and video materials provided by this program. I intend to continuously improve my classes by exchanging effective teaching methods with my faculty peers."

Teacher at Cheongsong Elementary School

"Since 2012, Samsung Smart School has contributed to expanding access to quality education and innovative training models based on its advanced digital training system aimed at serving marginalized communities in Korea. It has motivated an increasing number of students to engage in self-led learning. The program was benchmarked by the government in its smart education environment policy and is among the education programs most preferred by school teachers."

Samsung Smart School Advisory Professor

Total Beneficiaries

school
10

classes
10

Samsung Software Academy for Youth

Samsung Software Academy for Youth (SSAFY) was established in December 2018, in collaboration with the Korea Ministry of Employment and Labor. Since then, we have offered young Korean students aspiring to become software developers a one-year program of basic courses on algorithms, coding, and web design, and practical training in utilizing AI, IoT, and other advanced technologies. As of now, seven batches of 4,732 students in total have completed the program, of which 3,857 landed jobs recording an 82% employment rate.

The SSAFY Advisory Group holds quarterly consultations with top-tier experts in software learning, liberal arts, and CSR.



INTERVIEW

My experiences at SSAFY enabled me to take a leap as a developer

"The process of solving problems that I encountered in individual projects, rather than the outcomes themselves, was important for me. This experience has been directly applicable to my communication at work and in my professional growth as a self-learning developer. I am currently working as a front-end developer at Nexon Korea."

Lee Eun-chong

(5th batch of SSAFY Seoul Campus, currently working at Nexon Korea)

Samsung Junior SW Academy

Samsung Junior SW Academy was launched in 2013 as part of a partnership agreement with the Korea Ministry of Education. Since then, we have trained teachers who are transferring their skills and knowledge to their students at elementary and middle schools. In 2021, the program was revamped with a focus on AI. We adopt learning contents developed jointly with AI experts in the training of teachers and provide them with learning modules and practice-kits tailored to young students.

Since 2015, we host the Samsung Junior SW Creation Contest inviting young aspiring software developers to take part in deep dive trainings and develop solutions that can drive positive social change. In 2022, we provided a total of KRW 2.9 billion in funding to Samsung Junior SW Academy.

Total Beneficiaries

students
43,012

teachers
708

Samsung Dream Class

Samsung Dream Class, which originally started as a combination of after-school classes and vacation camps in Korea, was revamped in 2021 as a comprehensive education program built on three pillars: career development, future skills training (e.g., global communication, coding, math, logic), and academic curriculum. The program engages Samsung employees and field experts as mentors. In 2022, we provided a total of KRW 10.5 billion in funding to Samsung Dream Class.

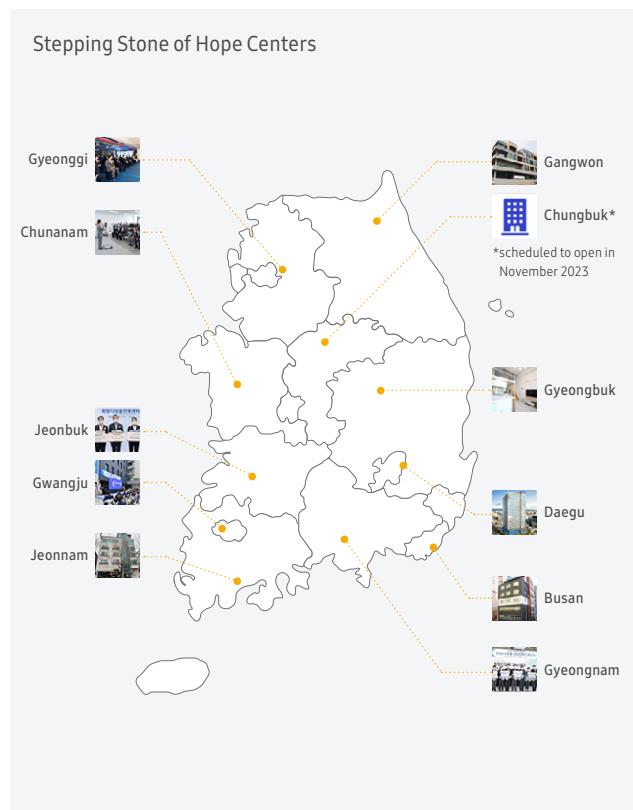
Total Beneficiaries

middle school students
3,897

college students
500

Stepping Stone of Hope

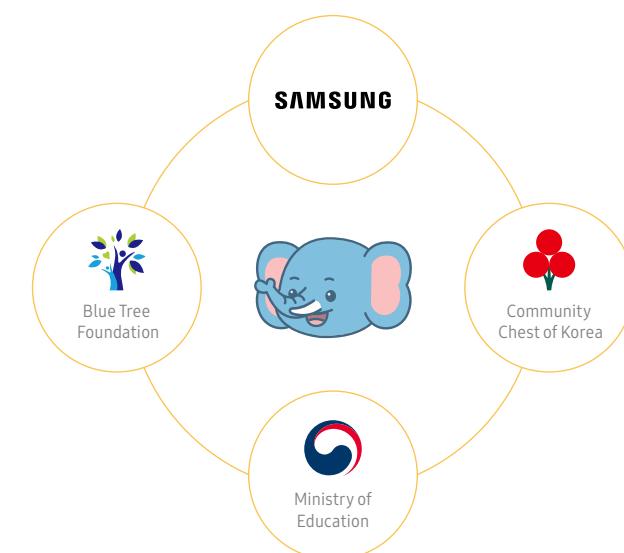
Stepping Stone of Hope provides a residence for adolescents in Korea who are forced to leave protective care facilities at the age of 18 due to the nationally-set age limit. These facilities are provided to individuals for up to two years, through partnerships with local governments and civil society organizations. During their residence, independence training and information on employment opportunities are provided to help the young individuals stand on their own feet. In 2022, we provided a total of KRW 6.5 billion in funding to the Stepping Stone of Hope program.



Blue Elephant

Blue Elephant is a cyber-violence prevention program in Korea targeting the youth, launched in partnership with the Blue Tree Foundation. Sessions on developing prosocial behaviors and skills that help prevent cyber violence are held in-person at the beneficiary schools.

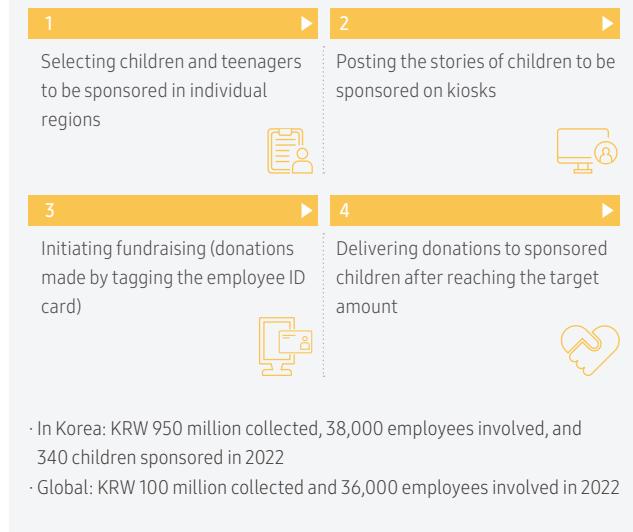
The program induces behavioral change of young students through rehabilitation services, including professional counselling, and strives to foster a culture of non-violence through awareness-raising contents and campaigns targeting all corners of society. It also supports research on addressing the root cause of cyber violence and efforts to develop institutional frameworks to prevent and respond to cyber violence. In 2022, we provided a total of KRW 1.1 billion in funding to the Blue Elephant program.



Kiosk of Sharing

The Kiosk of Sharing is designed to encourage donations by our employees for underprivileged children. KRW 1,000 is donated every time an employee ID card is tagged to a kiosk installed on site. When donations reach the targeted amount, they are delivered to children of vulnerable demographic groups. The Kiosk of Sharing is installed at all business sites in Korea as of 2022 and has grown in global presence since 2019 currently active in Vietnam, India, China, Thailand, and the US.

Kiosk Donation System



SME & Startup Support

We help robust SMEs(Small and Medium Enterprises) and creative startups reach new heights by sharing our knowledge and expertise.

Smart Factory

200 of Samsung's experts in a variety of fields, including quality assurance, logistics, and molding, work with SMEs at their sites and share their knowledge and knowhow in establishing production systems and automation solutions and advancing production innovation through technology. We supported a total of 3,087 SMEs in Korea from 2015 to 2022.

Enhancing Manufacturing Capacity

Smart Factory Solutions

Providing solutions for factory operation, manufacturing automation, process simulation, ultra-precision processing, among others

Manufacturing Innovation

Transferring knowhow on site by dispatching a team of three to ten innovation experts to each SME for eight to ten weeks

Technological Support

Offering technologies that are difficult for SMEs to develop or secure on their own, including molding, processing, automation, and element technologies.

Intelligent Advancement

Providing consistent level-specific support to ensure data-based real-time communication and supporting smart factory establishment to analyze, project, and control data through the AI-driven system

Fostering Self-Sustainability

Marketing Channel Development

Participating in exhibitions to explore business opportunities, producing and distributing promotional videos in 105 countries, becoming a vendor on Samsung's online mall for employees

Talent Cultivation

Fostering smart factory specialists, offering job-specific training, and providing opportunities to benchmark our Gwangju business site

ESG Support

Facilitating sustainability management by creating a safe work environment, reducing energy consumption, and introducing environmentally responsible materials.

Ex-Post Management

Operating the Smart 365 Center, providing maintenance and repair services as well as upgrades

Creative Lab (C-Lab)

We operate C-Lab to develop innovative ideas into business opportunities and contribute to bolstering the Korean startup ecosystem.

As of February 2023, we have supported a total of C-Lab 856 startups (391 in-house and 465 external) – of which 526 (465 from C-Lab Outside and 61 from C-Lab Spinoff) secured a total of KRW 1.36 trillion in cumulative investment amount.

C-Lab Spinoff

C-Lab Spinoff is designed to select projects with high growth potential among those cultivated through C-Lab Inside, our in-house venture program, and support them to become fully-fledged startups.

Types of Support

Funding

Seed funding and other financial support

Stabilization Support

Pre-spinoff training and business mentoring to support early-stage stabilization

Marketing Channel Development

Opportunities to become a vendor on Samsung's online mall for employees as well as its official e-commerce platform in Korea

Reemployment Opportunities

Founder employees are given the option to re-join the company within a preset period of time, which enable them to take on new challenges without fear of failure

OUR CASE

Smart Factory Support

Dong-A Plating headquartered in Busan specializes in surface processing, a key sector in manufacturing. Surface processing was one of the 3D (dirty, difficult, and dangerous) industries shunned by young job seekers as it requires the use of chemicals such as hydrochloric acid and nitric acid. We helped Dong-A Plating introduce a system for real-time data-based management of chemical use history and equipment conditions and achieve automation of dangerous and difficult tasks to ensure the safety of workers. As a result, the company's productivity increased by 37%, the defection rate improved by 77%, and the number of accidents went down to zero. We plan to support Dong-A Plating to develop its smart factory system into an intelligent factory system.

C-Lab Outside

C-Lab Outside was launched in 2018 with the aim of contributing to the startup ecosystem in Korea by sharing our experiences and knowhow from C-Lab Inside.

Types of Support

Funding

Financial support of up to KRW 100 million without acquiring a stake

Infrastructure

Office spaces and meals within our business sites and access to commuter shuttles

Mentoring and Consulting

Tailored programs in user verification, finance, marketing, and promotion

Supporting Growth

Participation in global and domestic IT exhibitions (e.g., CES) and Demo Day events

Collaboration

Business collaboration opportunities with Samsung

OUR CASE

Strengthening the Regional Startup Ecosystem in Korea

We opened C-Lab Outside Daegu Campus at the Samsung Creativity Campus in Daegu in February 2023. The Campus is an extension of our startup acceleration program launched in 2018 to foster outstanding startups in the region. We have offered necessary infrastructure, which is in short supply compared to the Seoul metropolitan area, in collaboration with the Daegu and Gyeongbuk Center for Creative Economy and Innovation and helped launch 185 startups in the area over the past 8 years.

These startups have recorded KRW 570 billion in sales, attracted new investments totaling KRW 280 billion, and hired 2,400 new employees, contributing to the local economy and employment. Some of these startups have also participated in the Consumer Electronics Show (CES) with us and won seven awards in recognition of their innovative achievements.



Social Ventures

We have supported social ventures via the C-Lab program since 2018.

2018

DoBrain AI-based brain development diagnosis and education solution for infants



2019

Cosmos Effect Mobile pet registration service



2020

Dot Incorporation Smart technology enhancing accessibility to invisible information



Waddle Barrier-free online shopping platforms and solutions



Petnow AI-based pet biometric ID service using smartphones



Silvia Contact-free cognitive healthcare platform for the early diagnosis and prevention of dementia



2021

Marine Innovation Environmentally responsible packaging manufacturing solutions based on seaweed byproducts



Cellico AR-based implantable electronic eyes for the visually-impaired

RE:harvest Food upcycling solutions based on beer brewing byproducts



Principle



94
Corporate Governance

97
Compliance & Ethics

Corporate Governance

Our corporate governance ensures that the executive management is effectively monitored by independent directors who have diverse expertise and can remain objective. Responsible management practices are implemented by the Board with the heads of DX, DS, and all major business units participating as executive directors. Environmental, social, and governance issues are overseen by the Sustainability Committee – established through a restructuring of the Governance Committee – under the Board.

Board Composition

The Board consists of a minimum of three to a maximum of 14 members, pursuant to Article 24 of the Articles of Incorporation. We recognize the increasing importance of the Board's diversity and expertise, and therefore strive to ensure a diverse composition of the Board of directors in terms of race, gender, religion, place of origin, nationality, among others. In particular, independent directors are selected on the basis of their expertise in finance, law, IT, public administration, or sustainability, regardless of their nationality or gender. Independent directors bring diverse perspectives to the Board in order to find optimal solutions and offer professional oversight and advice to the executive management. The Board consists of 11 members including six independent directors.

	Name	Gender	Nationality	Position	Date of appointment	Date of completion	Area of specialty	Career highlights
Executive Directors	Jong-hee Han	Male	Republic of Korea	· Chair, Management Committee	March 18, 2020	March 17, 2026	DX Division	· CEO and Vice Chairman, Samsung Electronics · Head, DX Division, Samsung Electronics
	Kye-hyun Kyung	Male	Republic of Korea	· Member, Management Committee	March 16, 2022	March 15, 2025	DS Division	· CEO and President, Samsung Electronics · Head, DS Division, Samsung Electronics
	Tae-moon Roh	Male	Republic of Korea	· Member, Management Committee	March 16, 2022	March 15, 2025	MX Business	· President and Head, MX Business, Samsung Electronics
	Hark-kyu Park	Male	Republic of Korea	· Member, Management Committee	March 16, 2022	March 15, 2025	Corporate Management	· President and Head, Corporate Management Office, Samsung Electronics
	Jung-bae Lee	Male	Republic of Korea	· Member, Management Committee	March 16, 2022	March 15, 2025	Memory Business	· President, Memory Business, Samsung Electronics
	Han-jo Kim	Male	Republic of Korea	· Chair, Board · Chair, Audit Committee · Chair, Sustainability Committee · Member, Related Party Transactions Committee · Member, Compensation Committee	March 20, 2019 (serving a second term)	March 19, 2025	Finance and CSR	· Chairman, Hana Nanum Foundation · Former Vice Chairman, Hana Financial Group
Independent Directors	Sun-uk Kim	Female	Republic of Korea	· Chair, Related Party Transactions Committee · Chair, Independent Director Recommendation Committee · Member, Sustainability Committee	March 23, 2018 (serving a second term)	March 22, 2024	Law and Human Rights	· Professor Emeritus, School of Law, Ewha Womens University · Former Minister, Ministry of Government Legislation
	Jong-hun Kim	Male	USA	· Chair, Compensation Committee · Member, Audit Committee · Member, Related Party Transactions Committee · Member, Sustainability Committee	March 23, 2018 (serving a second term)	March 22, 2024	IT and Business Operation	· Executive Chairman, Kiswe Mobile · Former President, Alcatel-Lucent Bell Labs
	Jun-sung Kim	Male	Singapore	· Member, Compensation Committee · Member, Sustainability Committee	March 16, 2022	March 15, 2025	Finance and Investment	· CIO, Endowment Fund, National University of Singapore · Former Managing Director, Government of Singapore Investment Corporation (GIC)
	Eun-nyeong Heo	Male	Republic of Korea	· Member, Independent Director Recommendation Committee · Member, Sustainability Committee	November 3, 2022	November 2, 2025	Environment and Energy	· Professor, College of Engineering, Seoul National University · Former Vice Chairman, International Association of Exhibitions and Events (IAEE)
	Myung-hee Yoo	Female	Republic of Korea	· Member, Independent Director Recommendation Committee · Member, Sustainability Committee	November 3, 2022	November 2, 2025	International Trade	· Visiting Professor, Graduate School of International Studies, Seoul National University · Former Head, Office of Trade Negotiations, Ministry of Trade, Industry and Energy

Board Principles

In 2018, we separated the Chair of the Board and CEO positions to increase the independence and transparency of the Board. In February 2020, an independent director was appointed as the Chair for the first time. In March 2023, an independent director was appointed as the new Chair.

The Chair balances different views serving as a mediator among Executive Directors and Independent Directors to ensure objectivity in the Board's oversight of the executive management. Additionally, the independent directors hold meetings to share their views on enhancing shareholder value and on the overall business management.

Independence



Those engaged in our business management, holding shares or significant interest in the company, or have been employed by the company within the last two years are not eligible for independent directorships.

Transparency



Executive directors shall be appointed from the candidates recommended by the Board. Candidates for independent directors shall be recommended by the Independent Director Recommendation Committee, which is composed of independent directors only.

Expertise



Independent director candidates are selected among those with knowledge and experience in business management, economics, accounting, law, technology, and sustainability management.

Diversity



The selection of independent director candidates is based on their potential ability to bring diverse and independent perspectives to the Board and is not limited by a candidate's nationality, gender, place of birth, religion or area of expertise.

Appointment of Directors

Directors are appointed by the resolution of shareholders at the general shareholders meeting in accordance with Article 382 of Korea's Commercial Act. Executive directors are selected among the candidates recommended by the Board, while independent directors are selected among the candidates recommended by the Independent Director Recommendation Committee pursuant to Article 542-8 of the Commercial Act.

The same Article stipulates that majority of an Independent Director Recommendation Committee must consist of independent directors. Our Independent Director Recommendation Committee consists only of independent directors and strictly abides by the preset candidate recommendation procedures. Each director's term of office is three years. A director may be reappointed through the general shareholders meeting upon completion of the initial term. However, an independent director's total term is limited to six years pursuant to the Commercial Act.

Board Operation

Board Convocation

To convene a Board meeting, the Chair notifies each director of the date, time, venue, and agenda at least 24 hours prior to the meeting pursuant to Article 30 of the Articles of Incorporation and Article 8 of the Board of Directors Regulations.

Individual directors are entitled to request the Chair to convene a Board meeting, with the agenda and reasons clearly defined, if deemed necessary. If the Chair fails to uphold this responsibility without a justifiable reason, the respective director may directly convene a Board meeting.

Board Resolution

Pursuant to Article 31 of the Articles of Incorporation and Article 9 of the Board of Directors Regulations, an agenda item is deemed to have been resolved with the attendance of a majority of the directors and a majority vote of the attendees unless otherwise prescribed in relevant laws. As specified in Article 391 of the Commercial Act, all directors may participate in a Board meeting digitally using remote telecommunications devices capable of simultaneous voice transmission and reception.

We systematically avoid potential conflicts of interest by restricting the voting rights of those directors with special interests related to certain agenda items pursuant to Article 9 of the Board of Directors Regulations.

Board Evaluation

Independent directors are evaluated comprehensively across their Board activities based on our internal criteria. Qualitative and quantitative evaluations are conducted based on their meeting attendance rates, performance as individual committee members, level of expertise, understanding of material issues, and efforts to ensure independence. The evaluation results are used to innovate Board operations and enhance the efficiency and composition of the Board and its affiliated committees.

Committees under the Board

The Board delegates its authorities to six affiliated committees pursuant to Article 28-2 of the Articles of Incorporation and Article 11-2 of the Board of Directors Regulations to ensure greater efficiency in its operation. In July 2021, we restructured the Governance Committee into the Sustainability Committee, composed of only independent directors to drive sustainability management in the areas of environmental, social, and governance and enhance shareholder value.

The Management Committee comprises five executive directors entrusted with relevant authorities to resolve general management matters in a timely manner. The other five committees consist of only independent directors to reinforce independence.

The composition, operation, and authorities of each committee are specified in the individual committee regulations enacted by the resolution of the Board. Matters resolved by the committees are notified to all directors within two days. Directors may request the Chairman of the Board to convene a Board meeting if deemed necessary, and the Board may reconsider and revoke on the decisions made by each committee. However, decisions of the Audit Committee are not subject to revoke to ensure its independence.

Committees under the Board

Committee	Position	Category	Name	Gender	Details
Management Committee (5)	Chair	Executive Director	Jong-hee Han	Male	· Deliberates and makes decisions on general management matters, finance-related issues, and matters delegated by the Board
	Member	Executive Director	Kye-hyun Kyung	Male	
	Member	Executive Director	Tae-moon Roh	Male	
	Member	Executive Director	Hark-kyu Park	Male	
	Member	Executive Director	Jung-bae Lee	Male	
	Member	Independent Director	Sun-uk Kim	Female	
	Member	Independent Director	Eun-nyeong Heo	Male	
Independent Director Recommendation Committee (3)*	Member	Independent Director	Myung-hee Yoo	Female	· Screens and recommends candidates based on their independence, diversity, and competence
	Chair	Independent Director	Han-jo Kim	Male	
	Member	Independent Director	Sun-uk Kim	Female	
Audit Committee (3)	Member	Independent Director	Jong-hun Kim	Male	· Performs audits of all business affairs including financial status
	Chair	Independent Director	Sun-uk Kim	Female	
	Member	Independent Director	Jong-hun Kim	Male	
Related Party Transactions Committee (3)	Chair	Independent Director	Sun-uk Kim	Female	· Aims to enhance business transparency by promoting voluntary adherence to fair transaction regulations
	Member	Independent Director	Han-jo Kim	Male	
	Member	Independent Director	Jong-hun Kim	Male	
Compensation Committee (3)	Chair	Independent Director	Jong-hun Kim	Male	· Aims to ensure objectivity and transparency in the decision-making process of director compensation
	Member	Independent Director	Han-jo Kim	Male	
	Member	Independent Director	Jun-sung Kim	Male	
Sustainability Committee (6)	Chair	Independent Director	Han-jo Kim	Male	· Launched in July 2021 by restructuring the Governance Committee · Aims to fulfill corporate social responsibility, drive sustainability management in the areas of environmental, social, and governance, and increase shareholder value
	Member	Independent Director	Sun-uk Kim	Female	
	Member	Independent Director	Kim Jong-hun	Male	
	Member	Independent Director	Jun-sung Kim	Male	
	Member	Independent Director	Eun-nyeong Heo	Male	
	Member	Independent Director	Myung-hee Yoo	Female	

*Chair position currently vacant and expected to be filled soon.

Sustainability Governance

Samsung Electronics' activities are supervised by the Board of Directors, our highest decision-making body.

The Sustainability Committee drives sustainability management in the areas of environmental, social, and governance to increase shareholder value. The Sustainability Council, presided by the CEO, is convened with the executives of relevant business and functional units to discuss diverse sustainability-related issues.

The Corporate Sustainability Center, our sustainability control tower, is responsible for establishing relevant strategies in collaboration with relevant internal units and councils, monitoring outcomes, and strengthening collaboration and communication with our external stakeholders.

We also offer training for our employees to help them incorporate sustainability into their everyday business.

The Sustainability Management Office within each business unit establishes tailored strategies and supports their internal implementation. Regionally-based sustainability units monitor and identify issues of key interest to local stakeholders and develop relevant projects.

To embed sustainability into our business, we have included sustainability-related indicators in the performance evaluation of organizational units and executives since 2021. The performance metrics, depending on the area or function of the units and executives, include indicators on GHG emissions reduction, renewable energy transition, energy efficient product development, compliance, and product accessibility. We plan to continue strengthening the link between sustainability and performance management.

Sustainability Management



Compliance & Ethics

At Samsung Electronics, compliance with laws and ethical standards is a top priority business principle. We conduct our business in compliance with laws and ethical standards to fulfill our social responsibilities and build a sound corporate culture that is fair and transparent.

Our Business Principles

Efforts to Ensure Compliance Management

The Compliance Team reports directly to the CEO, and the Chief Compliance Officer attends all Board meetings and Management Committee meetings to support decision-making. The Compliance Team operates the Compliance Program Management System (CPMS), an IT system that enables efficient oversight of compliance and ethics, while managing potential risks in focus areas, such as anti-corruption, fair trade, intellectual property rights, privacy protection, labor and human rights, environment and safety.



Efforts to Ensure Ethical Management

Samsung Electronics, together with its partners, external stakeholders, and employees, seeks to fulfill its roles and social responsibilities while adhering to compliance and ethics. To this end, we have in place a set of management principles and guidelines based on compliance and ethics.

Business Principles (2)

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

Business Conduct Guidelines for Employees

- The guidelines for our employees are posted in our intranet system in 15 languages including Korean.
- The guidelines are shared with all of our employees globally at least once a year through offline and online training sessions.

Business Guidelines for Partner Companies

- We provide guidelines for our partner companies to ensure transparency in transactions.

Compliance and Ethics Programs

Prevention

Disclose compliance policy and guidelines on the Compliance Program Management System (CPMS)



Monitor regulatory trends to minimize potential non-compliance risks



Operating employee training programs

· Employee training: To emphasize the importance of Ethics and Compliance Management to all employees – including contractual and part-time employees – including contractual and part-time employees – compliance and anti-corruption trainings are conducted once a year. In addition, training on Korea's Improper Solicitation and Graft Act is provided to contractual administrative function employees who are dispatched by partner companies. Training programs tailored to specific job functions are also available.
· Executive management training: To strengthen the awareness and leadership of the top executives, which is key to compliance and ethical management

Compliance consultation through 1:1 sessions



Monitoring

Report results of the annual audit performed by dedicated organizational units and specialists to the Board of Directors at least once a year

The results of the annual compliance and ethics audit our business sites in Korea and other regions are reported to the Board of Directors at least once a year. Based on the results, we identify points of improvement and reflect them in our business activities. In 2022, we conducted audits on different areas each quarter and found satisfactory results overall.

Major Audit Activities in 2022

Period	Description of Item	Areas
Q1	Current status of confidential information management	Trade secrets
	Compliance of third-party production in Korea and other regions	Technology leakage, product liability
Q2	Compliance of organizations in Korea involved in development	Trade secrets, technology misuse
	Voluntary compliance of global subsidiaries	Compliance program operation status
Q3	Compliance of global sales subsidiaries	Fair trade, trade secrets
	Risks related to external sponsorships and internal transactions	Anti-corruption, fair trade
Q4	Compliance of patent application process	Technology misuse, trade secrets
	Compliance of global production subsidiaries	Technology misuse, anti-corruption

Receive reports on violations of laws and acts of corruption by the company or its employees through the whistleblowing channels and apply the principles of protecting the identity of whistleblowers and preventing retaliatory actions against them.

We keep diverse whistleblowing channels open for internal and external whistleblowers and receive reports via email, telephone, and fax. All of our whistleblowing channels operate under a strict policy of whistleblower identity protection and prohibition of retaliatory actions – including confidentiality requirements related to whistleblower identity and their reports, the prevention and suspension of any unfavorable dispositions against whistleblowers and investigation supporters, remedial actions for damage, and sanctions on those who incur unfavorable dispositions.

Our Compliance and Ethics Whistleblowing Channels

Channel for internal whistleblowers

- CPMS > Whistleblowing
- Ethical Management website > Whistleblowing

Channel for external whistleblowers

- <https://sec-compliance.net>
- <https://sec-audit.com>

Telephone

- 1811-6341 · 1577-7988

Email

- cp.wb.sec@samsung.com · audit.sec@samsung.com

Fax

- 031-277-1166 · 031-200-9966

*Some channels are only available in Korea

Response

Assess Risks

- Take stock of major violations in areas such as fair trade and anti-corruption, and identify key risks based on the possibility of occurrence and potential scope of impact
- Incorporate the results of risk assessment into compliance programs, such as employee training



Assessing effectiveness of our compliance control system

- Assess whether our compliance control system is operated in a way that meets relevant regulations



Prevent Recurrence

- Establish measures to prevent recurrence by analyzing the results of audits, whistleblower reports, and response to issues



Measures on employees

- Impose disciplinary or corrective measures, including training, pursuant to our internal standards based on the gravity of the specific incident



Strengthening a Culture of Compliance

Corruption Risk Review Process

The External Sponsorship Council conducts a preliminary review of all external sponsorships of KRW 10 million or above and reports the review results to the Audit Committee. External sponsorships of KRW 1 billion or above in annual amount require the approval of the Board of Directors.

Furthermore, approval from the Compliance Team is required for new vendor registration and signing of contracts in line with the anti-corruption review process.



External Sponsorship Council



Anti-Corruption Review for Vendor Registration



Anti-Corruption Review for Contract Signing

Evaluation and Awards

To foster a culture of compliance, we strive to improve the evaluation system of employees and operate an award system. We have increased the weight of compliance items in the evaluation of executives and introduced compliance items in the evaluation of organizational performance. Moreover, SEC Annual Awards are presented by the CEO to employees and organizations for their contributions to building a culture of compliance.



Executive Evaluation



Organizational Performance Evaluation



Employee Awards

Samsung Compliance Committee

An Independent External Committee to Monitor Compliance

The Samsung Compliance Committee is an external organization with guaranteed independence and autonomy. It was launched on February 5, 2020, under the aim of practicing integrity-based management, which is one of our key values, by reinforcing compliance monitoring and control over Samsung's seven major member companies*.

It is composed of six external members including the chair and one internal member. Chan-hee Lee, a former president of the Korean Bar Association, currently serves as the second chair following the first chair, Ji-hyung Kim, who is a former justice of the Supreme Court of Korea. The Committee's external members are selected from experts equipped with knowledge and experience in diverse fields including law, accounting, economics, and public administration.

* 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

- ① Hold regular and special meetings
- ② Review external sponsorships and internal transactions
- ③ Operate a separate whistleblowing channels to receive reports on compliance violations
- ④ Assess our compliance system and make recommendations for improvement

Other Activities

November 2022

- Meeting with Business Support Task Force, EPC Competitiveness Improvement Task Force, and Financial Competitiveness Reinforcement Task Force

June 2022

- Meeting between the Committee's Labor Subcommittee and the labor-management relations advisory group

June 2022

- Meeting with the executive management of Samsung member companies

January 2022

- Discussion with external experts on ways to improve corporate compliance

Implementation of the Committee's Recommendations

The Committee delivers recommendations on a range of issues to improve the compliance management practices of Samsung member companies. We have developed measures to ensure their implementation. We continue to work in collaboration with the Committee to operate an advanced monitoring program and compliance system and closely manage potential non-compliance risks.



Formed a labor-management relations advisory group of external experts under the Board of Directors



Held a conference between senior members of civil society organizations and our executive management



Increased the weight of compliance-related factors in the evaluation of executives



Formed a regular council of Chief Compliance Officers of member companies

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Economic Performance

Key financial performance	2020	2021	2022
Sales	KRW 1 trillion	236.8	279.6
Operating profit	KRW 1 trillion	36.0	51.6
Net income	KRW 1 trillion	26.4	39.9

1. Based on consolidated financial statements

Sales by division (based on net sales)	2020	2021	2022
Sales by division (absolute value)			
DX	KRW 1 trillion	148.9	166.3
DS	KRW 1 trillion	74.1	95.4
SDC	KRW 1 trillion	30.6	31.7
Harman ²⁾	KRW 1 trillion	9.2	10.0
Sales by division (percentage)			
DX	%	57	55
DS	%	28	31
SDC	%	12	11
Harman ³⁾	%	3	3

1. Based on net sales

2. Harman [sales by division (absolute value)]: Acquired in 2016

3. Harman [sales by division (percentage)]: Acquired in 2016

Sales by region	2020	2021	2022
Sales by region (absolute value)			
Americas	KRW 1 trillion	78.3	97.9
Europe	KRW 1 trillion	46.0	50.3
China	KRW 1 trillion	37.8	45.6
Korea	KRW 1 trillion	37.0	44.0
Asia and Africa	KRW 1 trillion	37.7	41.8
Sales by region (percentage)			
Americas	%	33	35
Europe	%	19	18
China	%	16	16
Korea	%	16	16
Asia and Africa	%	16	15

1. Based on net sales

Economic value distribution	2020	2021	2022
[Suppliers] Purchasing costs ¹⁾	KRW 1 trillion	168.7	192.0
[Local communities] CSR costs ²⁾	KRW 1 trillion	0.5	0.4
[Shareholders and investors]	KRW 1 trillion	20.3	9.8
Dividends ³⁾			9.8
[Shareholders and investors]	%	78	25
Dividend payout ratio			18
[Creditors] Interest costs ⁴⁾	KRW 1 trillion	0.6	0.4
[Employees] Personnel expenses ⁵⁾	KRW 1 trillion	31.0	34.6
[Government] Taxes and public duties by region			
[Government] Taxes and public duties by region ⁶⁾	KRW 1 trillion	5.9	10.2
Asia	%	18	14
Korea	%	51	67
Americas and Europe	%	28	16
Others	%	3	3
Percentage of distributed economic value			
Suppliers ¹⁾	%	73.5	77.0
Local communities ²⁾	%	0.1	0.1
Shareholders and investors ³⁾	%	8.9	3.9
Creditors ⁴⁾	%	0.3	0.2
Employees ⁵⁾	%	13.5	13.9
Government ⁶⁾	%	3.7	4.9

1. Suppliers: Costs related to all materials, products, equipment, and services purchased for business

2. Local communities: Total costs of CSR activities

3. Shareholders and investors: Dividends

4. Creditors: Interest costs

5. Employees: Sum of wages, retirement benefits, and welfare benefits included in sales costs, SG&A expenses, and R&D expenses

6. Government: Sum of corporate taxes (based on cash flow statement) and other taxes and public duties, from the report in 2023.

Social Performance

Compliance and ethics		2020	2021	2022
Compliance training				
Compliance training ¹⁾	Individuals	115,787	141,723	126,867
Anti-corruption training				
Anti-corruption training ²⁾	Individuals	187,228	198,592	254,045
Compliance whistleblowing				
Compliance whistleblowing ³⁾	Cases	549	911	1,098
Corruption whistleblowing				
Corruption whistleblowing ⁴⁾	Cases	728	929	999
Corruption whistleblowing rate	%	11	12	13
Consumer complaint rate	%	28	30	34
Others	%	61	58	54

1. Scope of data collection for compliance training: Employees at our business sites in Korea and other regions (including part-time employees)

2. Scope of data collection for anti-corruption training: Employees at our business sites in Korea and other regions

3. Compliance whistleblowing data: Based on statistics of our compliance microsite (<https://sec-compliance.net>)

4. Corruption whistleblowing data: Based on statistics of our ethics microsite (<https://sec-audit.com>)

Corporate citizenship		2020 ³⁾	2021 ³⁾	2022
Hours of employees' volunteer work				
Hours of employees' volunteer work	Hours	635,564	824,329	1,068,867
Hours of volunteer work per employee ¹⁾	Hours	2.37	3.04	3.95
Cumulative number of beneficiaries				
Samsung SW Academy for Youth	Individuals	2,250	3,950	6,250
Samsung Dream Class	Individuals	107,095	112,602	116,999
Samsung Smart School ²⁾	Individuals	4,237	5,917	5,917
Samsung Junior SW Academy	Individuals	84,140	112,341	156,061
Stepping Stone of Hope	Individuals	8,612	10,476	16,760
Samsung Blue Elephant	Individuals	93,862	353,201	662,142
Samsung Solve for Tomorrow	Individuals	1,948,186	2,146,951	2,397,255
Samsung Innovation Campus	Individuals	35,802	74,984	119,807

1. Hours of volunteer work per employee: Including employees at all of our business sites in Korea and other regions

2. Beneficiaries of Samsung Smart School in 2022: Based on our business sites in Korea

3. Data updated for error correction in some countries in 2020 and 2021

SME support		2020	2021	2022
Beneficiaries of smart factory support				
Beneficiaries of smart factory support ¹⁾	Companies	369	284	277
Partner companies in our supply chains	Companies	66	24	33
Non-partner companies	Companies	303	260	244

1. Beneficiaries of smart factory support: Figures of 2021 corrected after the publication of the 2021 Sustainability Report due to business discontinuation of two beneficiary companies

Privacy protection		2020	2021	2022
In-house consulting	Cases	5,716	6,273	5,858
Response to government request for information¹⁾				
Requests	Cases	188	179	187
Response	Cases	130	122	126
Response rate	%	69	68	67

1. Response to government requests for information: Compiled statistical data with regards to the warrants issued by Korean courts in accordance with the applicable Korean laws

For the status of other sanctions imposed on the company, please refer to Samsung's the Semi-Annual Business Report.

Labor and human rights		2020	2021	2022		2020	2021	2022
Number of employees					Number of non-Samsung Electronics employees⁶⁾			
Number of employees ¹⁾	Persons	267,937	266,673	270,372		41,633	50,080	54,492
Global*	Persons	161,607	155,547	152,445	Men	Persons	24,761	31,926
Korea	Persons	106,330	111,126	117,927	Women	Persons	13,025	13,266
Number of employees by employment type				Others**	Persons	3,847	4,888	4,916
Non-fixed-term employees	Persons	264,030	262,794	266,705	Number of non-Samsung Electronics employees by region			
Fixed-term employees ²⁾	Persons	3,907	3,879	3,667	Korea	Persons	27,861	34,428
Number of employees by age group				Southeast Asia, Southwest Asia, and Japan	Persons	3,590	4,305	4,583
Under 30	Persons	99,823	89,911	83,169	China	Persons	599	527
30s	Persons	106,236	108,469	111,651	North America and Central and South America	Persons	3,487	4,006
40 and above	Persons	56,380	68,293	75,552	Europe	Persons	4,598	5,003
Number of employees by job type³⁾				Middle East	Persons	581	691	852
Development	Persons	71,539	75,229	80,496	CIS	Persons	910	1,108
Manufacturing	Persons	127,256	122,809	117,190	Africa	Persons	7	12
Quality assurance and EHS	Persons	19,354	19,459	19,763	Welfare benefit expenses in Korea and abroad			
Sales and marketing	Persons	22,704	23,267	24,716	Welfare benefit expenses in Korea and abroad	KRW 1 billion	4,655	5,073
Others	Persons	27,084	25,909	28,207				6,092
Number of employees by rank				1. Number of employees: As of yearend (excluding those dispatched by partner companies, those on leave, interns, and full-time students)				
Working level ⁴⁾	Persons	190,507	184,739	182,367	2. Fixed-term employees: Those hired pursuant to the Act on the Protection of Fixed-Term and Part-Time Employees at our business sites in Korea and subcontractors and apprentices at our global business sites			
Manager level	Persons	76,057	80,540	86,548	3. Number of employees by job type: "Manufacturing" divided into "manufacturing" and "quality assurance and EHS"			
Executive level ⁵⁾	Persons	1,373	1,394	1,457	4. Working-level employees: Encompassing those opting for flexible work arrangements and those not categorized under the manager and executive levels			
Number of employees by region				5. Executive-level employees: Including those at the vice president level and higher at our global business sites				
Korea	Persons	106,330	111,126	117,927	6. Number of non-Samsung Electronics employees: Based on those who chose to indicate their gender			
Southeast Asia, Southwest Asia, and Japan	Persons	101,929	94,583	88,992	* "Global" refers to countries excluding Korea			
China	Persons	18,099	17,820	17,891	** Those who chose not to indicate their gender			
North America and Central and South America	Persons	25,004	25,695	27,166				
Europe	Persons	12,861	12,704	11,710	Percentage of new female hires and retirement rate	2020	2021	2022
Middle East	Persons	3,160	4,171	4,303	Percentage of new female hires			
CIS (Commonwealth of Independent States)	Persons	1,748	1,739	1,756	Korea	%	28.4	27.5
Africa	Persons	554	574	627	Global	%	32.4	33.0
				Retirement rate¹⁾				
				Total retirement rate	%	17.7	13.9	
				Retirement rate of men ²⁾	%	8.5	7.6	
				Retirement rate of women ²⁾	%	9.2	6.3	
							5.9	

1. Retirement rate: Ratio of those who retired during the respective fiscal year to the total number of employees

2. Retirement rates of men and women: Based on the number of employees in Korea and abroad who chose to indicate their gender

Diversity and inclusion		2020	2021	2022	2020	2021	2022
Percentage of female employees							
Percentage of female employees ¹⁾	%	37.3	36.3	35.1			
Percentage of female employees by job type²⁾							
Development	%	18.0	18.8	19.2			
Manufacturing	%	48.9	46.8	45.1			
Quality assurance and EHS	%	41.3	42.3	40.8			
Sales and marketing	%	31.5	32.3	33.6			
Others	%	35.8	36.0	35.9			
Percentage of female employees by region							
Korea	%	24.9	25.1	25.2			
Southeast Asia, Southwest Asia, and Japan	%	52.7	51.4	49.5			
China	%	33.4	33.8	34.2			
North America and Central and South America	%	35.4	34.9	34.4			
Europe	%	33.8	34.0	40.1			
Middle East	%	11.3	14.5	15.6			
Africa	%	42.4	42.5	42.6			
Percentage of female employees by rank							
Working level	%	46.3	45.3	43.9			
Manager level	%	15.3	16.1	16.9			
Executive level ³⁾	%	6.6	6.8	6.9			
Number of employees on parental leave⁴⁾							
Men	Persons	856	999	1,310			
Women	Persons	3,041	2,936	3,054			
Rate of return to work after parental leave⁵⁾							
Men	%	93.8	96.3	96.5			
Women	%	98.9	98.9	98.9			
Maximum number of children accommodated at in-house daycare centers							
Maximum number of children accommodated at in-house daycare centers ⁶⁾				Persons	3,020	3,050	3,078
Number of in-house daycare centers							
Number of in-house daycare centers ⁷⁾				Centers	13	13	13
Number of employees with disabilities							
Number of employees with disabilities ⁸⁾				Persons	1,465	1,574	1,664
Percentage of employees with disabilities							
Percentage of employees with disabilities ⁹⁾				%	1.5	1.6	1.6

1. Percentage of female employees: Based on the total number of employees

2. Percentage of female employees by job type: "Manufacturing" divided into "manufacturing" and "quality assurance and EHS"

3. Percentage of executive-level female employees: Including those at the vice president level and higher at our global business sites

4. Number of employees on parental leave: Based on the number of employees at business sites in Korea

5. Rate of return to work after parental leave: Based on the number of employees at business sites in Korea

6. Maximum number of children accommodated at in-house daycare centers: Based on our business sites in Korea

7. Number of in-house daycare centers: Based on our business sites in Korea

8. Number of employees with disabilities: Based on the number of employees at our business sites in Korea

9. Percentage of employees with disabilities: Based on the number of employees at our business sites in Korea

Safety and health	2020 ⁴⁾	2021 ⁴⁾	2022
Frequency rate ¹⁾	%	0.035	0.106
Injury rate ²⁾	%	0.008	0.022
Injury rate of suppliers ³⁾	%	0.045	0.076

1. (Number of incidents / Total working hours) x 1,000,000; based on employees in Korea and at our global production sites

2. (Number of incidents / Number of on-site employees) x 100; based on employees in Korea and at our global production sites

3. Based on suppliers stationed at our sites

4. Data updated for error correction in some countries in 2020 and 2021

Career development	2020	2021	2022	Sustainable supply chain	2020	2021	2022
Number of training sessions							
Total							
Total	10,000 cases	734	818	914	Percentage of evaluated suppliers ¹⁾	%	92
Global	10,000 cases	350	366	407	Percentage of those rated outstanding	%	73
Korea	10,000 cases	384	452	508	Percentage of those with ISO 14001 certification ²⁾	%	86
Hours of training per employee							
Hours of training per employee ¹⁾	Hours	55.8	54.9	60.1	Percentage of those with OHSAS 18001 certification ³⁾	%	47
Global	Hours	46.0	45.7	52.1	Win-Win Fund		
Korea	Hours	70.8	67.7	70.5	Funding	KRW 100 million	9,736
Average hours of training by gender							
Men	Hours	59.6	58.2	61.1	First-tier suppliers	KRW 100 million	7,294
Women	Hours	49.4	48.2	58.3	Second-tier and third-tier suppliers ⁴⁾	KRW 100 million	2,442
Average hours of training by employment type²⁾							
Regular employees	Hours	55.8	54.8	60.5	Supplier incentives	KRW 100 million	777
Non-regular employees	Hours	52.2	43.8	40.3	Companies participating in supplier training	Companies	720
Training expenses							
Total training expenses ³⁾	KRW 100 million	1,014	1,321	1,853	Companies participating in supplier training	Companies	911
Training expenses per employee ⁴⁾	KRW 1,000	953	1,188	1,571	First-tier suppliers	Companies	511
Ratio of training expenses to sales ⁵⁾	%	0.05	0.05	0.07	Second-tier and third-tier suppliers	Companies	209
Ratio of training expenses to personnel expenses ⁶⁾	%	0.6	0.8	0.5	Employees participating in supplier training	Persons	16,756
Re-employment through the Career Development Center							
Re-employment support through the Career Development Center ⁷⁾	Cases	7,561	7,940	8,246	First-tier suppliers	Persons	13,107
Re-employment through the Career Development Center ⁸⁾	Cases	6,679	6,982	7,286	Second-tier and third-tier suppliers	Persons	3,649
Rate of re-employment through the Career Development Center	%	88.3	87.9	88.4	Employees participating in supplier training ⁵⁾	Persons	18,725

1. Average training hours per employee: Online training + offline training
2. Average training hours per non-regular employee: Based on subcontractors and apprentices
3. Total training expenses: Employees in Korea
4. Training expenses per employee: Total training expenses / Total number of employees in Korea
5. Ratio of training expenses to sales: Total training expenses / Sales (sales of DX division (absolute value) + sales of DS division (absolute value))
6. Ratio of training expenses to personnel expenses: Total training expenses / Total compensation for employees of the headquarters in Korea
7. Cases of re-employment support through the Career Development Center: Cumulative sum since 2001
8. Cases of re-employment through the Career Development Center: Cumulative sum since 2001

1. Percentage of evaluated suppliers: The annual comprehensive supplier evaluation - in 8 areas - applies to all suppliers, except for those registered for less than a year
2. Percentage of suppliers with ISO 14001 certification: Fulfillment of ISO 14001 or equivalent is required as part of the Standard Supplier Contract
3. Percentage of suppliers with OHSAS 18001 certification: Includes 23 suppliers with SA8000 certification
4. Second-tier and third-tier suppliers supported by Win-Win Fund: Third-tier suppliers included since 2018
5. Supplier training participating employees: Including cases of cross-attendance

Transparency in responsible minerals sourcing management	2020	2021	2022
On-site inspections of suppliers ¹⁾	Companies	427	493
1. On-site inspections of suppliers aimed at eradicating the use of conflict minerals			

Innovation support for first-tier suppliers		2020	2021	2022
Innovation support for first-tier suppliers	Companies	28	30	66
Global	Companies	0	0	5
Korea	Companies	28	30	61
Work environment management				
First-tier suppliers performing third-party audits	Companies	78	108	121

Supplier Third-Party Audit Compliance Rate by Area¹⁾		2020	2021	2022
Labor and human rights				
Freely chosen employment ²⁾	%	97	98	98
Guarantee of freedom of movement	%	99	99	100
Prohibition of child labor	%	100	100	100
Protection of underage workers	%	98	100	100
Working hours	%	82	87	93
Guarantee of at least one day off per week	%	92	97	97
Wages and benefits ³⁾	%	90	91	96
Humane treatment	%	100	100	100
Non-discrimination ⁴⁾	%	100	100	100
Freedom of association ⁵⁾	%	99	99	98
Safety and Health				
Occupational safety	%	94	96	95
Emergency preparedness	%	96	95	94
Occupational injury and illness	%	99	99	98
Physically demanding work	%	95	99	97
Machine safeguarding	%	98	99	98
Sanitation, food, and housing	%	95	99	99
Environment				
Pollution prevention	%	99	98	99
Hazardous substances	%	97	99	96
Wastewater and solid waste	%	99	100	98
Air emissions	%	100	100	99
Materials restrictions	%	100	100	100

1. The figures include the improvement implementation results based on each year's third-party audit (performed on 121 suppliers in 2022).

2. Freely chosen labor: Including prohibition of forced labor and establishment of relevant policies, labor contract-signing, guarantee of freedom of movement and prohibition of keeping the original copy of an employee's identification document

3. Wages and benefits: Including accurate calculation and payment of wages, provision of wage statements, prohibition of delay in the payment of wages, prohibition of unjust penalty imposition and compulsory payments such as social insurance contributions

4. Non-discrimination: Including prohibition of discrimination based on gender and other personal traits to ensure access to equal opportunities and pay, establishment of non-discrimination policies and procedures, provision of spaces for religious gathering

5. Freedom of association: Including guarantee of the right to establish and join labor unions, right to collective bargaining, freedom of assembly and association and prohibition of discrimination against labor union members

Ethics		2020	2021	2022
Corporate ethics	%	96	98	100
Prohibition of ill-gotten gains	%	94	98	100
Information disclosure	%	97	100	100
Intellectual property	%	100	100	99
Confidentiality and prohibition of retaliation	%	97	100	100
Privacy protection	%	100	99	100
Management System				
Will for compliance	%	99	100	98
Management responsibility	%	96	100	95
Risk assessment	%	87	97	92
Training	%	95	100	98
Communication	%	96	99	97
Employee feedback	%	100	99	100
Remedial action	%	91	98	95
Management of business improvement targets	%	90	98	93

Enhancement of customer value ¹⁾		2020	2021	2022
Korea				
Visual Display and Digital Appliances	Score	77.3	80.6	83.8
Mobile and Networks	Score	85.0	84.8	86.8
Global				
Visual Display and Digital Appliances	Score	66.8	69.2	71.2
Mobile and Networks	Score	61.7	64.4	66.3

1. Customer satisfaction rate based on Samsung Customer Services' Net Promoter Scores (NPS)

*The CE Division (including Visual Display and Digital Appliances) and IM Division (Mobile and Networks) were integrated into the Device eXperience (DX) Division in December 2021. The figures of 2020 and 2021 are based on the previous business categorization.

Environmental Performance

GHG emissions management (Scope 1, 2)	2020	2021	2022
GHG emissions from business sites			
GHG emissions from business sites ¹⁾			
1,000 tonnes CO ₂ e	14,806	17,400	15,053
Direct emissions (Scope 1)	1,000 tonnes CO ₂ e	5,726	7,604
Indirect emissions (Scope 2) ²⁾	1,000 tonnes CO ₂ e	9,079	9,796
GHG emissions intensity ³⁾	Tonnes CO ₂ e / KRW 100 million	6.6	6.7
CO ₂	1,000 tonnes CO ₂ e	10,266	11,005
CH ₄	1,000 tonnes CO ₂ e	3	3
N ₂ O	1,000 tonnes CO ₂ e	329	489
HFCs	1,000 tonnes CO ₂ e	685	902
PFCs	1,000 tonnes CO ₂ e	3,322	4,787
SF ₆	1,000 tonnes CO ₂ e	202	214
1. GHG emissions from business sites: Calculated based on country-specific GHG management guidelines, the IPCC Guidelines, and ISO 14064			
* Location-based GHG emissions that do not reflect the use of renewable energy: 17,571,000 tonnes CO ₂ e in 2020, 20,170,000 tonnes CO ₂ e in 2021, and 19,892,000 tonnes CO ₂ e in 2022			
2. Indirect emissions (Scope 2) from business sites: Market-based GHG emissions that reflect the use of renewable energy			
3. GHG emissions intensity: GHG emissions from business sites (Scopes 1 and 2) / Sales (sales of DX division (absolute value) + sales of DS division (absolute value), KRW 100 million)			
GHG emissions management (Scope 3)	2020	2021	2022
Other indirect emissions (Scope 3)	1,000 tonnes CO ₂ e		124,715
Purchased products and services	1,000 tonnes CO ₂ e		14,596
Capital goods	1,000 tonnes CO ₂ e		1,508
Fuel- and energy-related activities	1,000 tonnes CO ₂ e		900
Upstream transportation and distribution	1,000 tonnes CO ₂ e		3,965
Waste generation and treatment	1,000 tonnes CO ₂ e		246
Business trips of employees	1,000 tonnes CO ₂ e		87
Commuting of employees	1,000 tonnes CO ₂ e		303
Rented assets	1,000 tonnes CO ₂ e		107
Downstream transportation and distribution	1,000 tonnes CO ₂ e		366
Processing of sold products	1,000 tonnes CO ₂ e		142
Use of sold products	1,000 tonnes CO ₂ e		101,236
Discard of sold products	1,000 tonnes CO ₂ e		1,206
Leased assets	1,000 tonnes CO ₂ e		1
Investment	1,000 tonnes CO ₂ e		52

* Other indirect emissions (Scope 3): The internal calculation standard of 14 categories has been set in 2022 and all the categories have been assured by the independent 3rd party. Data used for calculating suppliers' emissions - in the categories of Purchased goods & services, Capital goods, and Processing of sold products - are based on 2021.

** Scope 3 emissions and assured categories in 2020: 14,725,000 tonnes CO₂e, sum of 4 categories (purchased products and services, upstream transportation and distribution, downstream transportation and distribution, and business trips of employees)

*** Scope 3 emissions and assured categories in 2021: 123,235,000 tonnes CO₂e, sum of 12 categories (NOT including capital goods, processing of sold products, and franchises)

Energy management	2020	2021	2022
Energy consumption at business sites			
Energy consumption at business sites			
Electricity	GWh	29,024	32,322
Others ¹⁾	GWh	22,916	25,767
Energy intensity ²⁾	MWh/ KRW 100 million	6,109	6,555
Renewable energy consumption	GWh	13.0	12.4
1. Others (Energy consumption at business sites): LNG			
2. Energy intensity: Energy consumption at business sites (MWh) / Sales (sales of DX division (absolute value) + sales of DS division (absolute value), KRW 100 million)			
Energy efficiency of products ¹⁾⁽²⁾	2020	2021	2022
Amount of GHG emissions reduced in the product use phase			
Amount reduced by year	1,000 tonnes CO ₂ e	31,671	32,906
Energy efficiency improvement rate			
Product energy consumption reduction rate	%	32	33
1. Energy efficiency of products: Target product categories expanded in 2022 from 7 to 13 -2020-2021: 7 major product categories (refrigerator, air conditioner, washer, TV, monitor, laptop, and smart phone) -2022: 13 major product categories (refrigerator, air conditioner, washer, dryer, microwave oven, vacuum cleaner, TV, monitor, PC, smart phone, tablet, wearable, and base station)			
2. Energy efficiency of products: BAU base year changed from 2008 to 2021 -2020-2021: Reduction compared to 2008 BAU -2022: Reduction compared to 2021 BAU			
*Compared to 2008 BAU, the reduction in 2022 stands at 18,909,000 tonnes CO ₂ e, which is equivalent to an average energy consumption improvement of 18%.			
Resource efficiency of products	2020	2021	2022
Plastic with recycled resin			
Cumulative use ¹⁾	Tonnes	276,972	310,291
Amount used by year	Tonnes	30,992	33,319
Percentage of Plastic with recycled resin used ²⁾	%	4.3	4.4
Recycled packaging			
Recycled packaging ³⁾	Tonnes	13,529	13,788
1. Cumulative use: From 2009			
2. Percentage of Plastic with recycled resin used: amount of Plastic with recycled resin used / total amount of plastic used			
3. Recycled packaging: Based on data collected in Korea			

Collection and recycling of e-waste		2020	2021 ²⁾	2022
Cumulative amount of e-waste collected ¹⁾	Tonnes	4,540,155	5,099,436	5,699,938
Amount of e-waste collected				
Amount of e-waste collected	Tonnes	506,627	559,281	600,502
Europe	Tonnes	279,902	311,687	332,373
Americas	Tonnes	41,426	46,584	50,955
Asia and Oceania	Tonnes	185,299	201,010	217,174

1. Cumulative amount of e-waste collected: From 2009

2. 2021: Figures updated (due to the delay in data collection in some countries)

Amount of e-waste collected by year and product type ¹⁾		2020	2021	2022
Amount of e-waste collected by year and product type	Tonnes	113,850	120,718	132,681
Heat exchanger	Tonnes	97,544	75,463	75,879
Telecommunications service equipment	Tonnes	6,948	9,249	10,644
Display	Tonnes	4,170	3,292	1,930
Other electric and electronics equipment	Tonnes	5,188	32,715	44,228
Amount of materials recovered for recycling²⁾				
Amount of materials recovered for recycling	Tonnes	97,815	103,716	111,406
Scrap metal	Tonnes	52,666	55,843	57,763
Nonferrous metal	Tonnes	11,779	12,489	11,996
Synthetic resin	Tonnes	26,741	28,354	33,157
Glass	Tonnes	2,883	3,057	4,068
Others	Tonnes	3,747	3,973	4,422

1. Amount of e-waste collected by year and product type: From 2009

*E-waste classification system changed in 2021 from the existing system of "large-sized equipment, telecommunications service equipment, medium-sized equipment, and small-sized equipment"

2. Amount of materials recovered for recycling: Based on data collected in Korea

Waste management		2020	2021	2022
Amount of waste generated				
Amount of waste generated	Tonnes	1,181,741	1,324,972	1,413,365
General waste	Tonnes	835,875	903,753	931,929
Hazardous waste ¹⁾	Tonnes	345,866	421,219	481,436
Amount of waste treated				
Amount of waste treated	Tonnes	1,181,741	1,324,972	1,413,365
Amount of waste recovered for recycling	Tonnes	1,125,037	1,268,985	1,364,367
Incineration (off-site)	Tonnes	23,346	26,078	25,479
Landfill (off-site)	Tonnes	19,758	19,480	14,927
Others	Tonnes	13,600	10,430	8,593
Percentage of waste recovered for recycling				
Percentage of waste recovered for recycling	%	95	96	97

1. Hazardous waste: Based on monitoring standards of individual countries where our business sites are located

Water management	2020	2021	2022	Pollutant management ¹⁾	2020	2021	2022
Water intake							
Water intake							
Water intake	1,000 tonnes	141,648	163,660 ¹⁾	172,811	NOx	Tonnes	652
Municipal water (surface water)	1,000 tonnes	141,063	163,102	172,113	SOx	Tonnes	6
Underground water	1,000 tonnes	585	558 ²⁾	698	NH ₃	Tonnes	71
Wastewater discharge							
Wastewater discharge	1,000 tonnes	109,201	130,955	136,118	HF	Tonnes	18
Water reused							
Water reused	1,000 tonnes	70,181	93,949	116,590	PM ²⁾	Tonnes	210
Ultra-pure water reused							
Supply	1,000 tonnes	57,226	61,986	70,989	Volatile organic compound emissions		
Recovery	1,000 tonnes	19,691	22,543	24,731	Volatile organic compound emissions	Tonnes	289
Suppliers' water consumption³⁾							
Suppliers' water consumption	1,000 tonnes	70,128	84,737	94,814	Water pollutant discharge		
1. 2021 data updated for error correction					COD	Tonnes	1,033
3. Suppliers' water consumption: Based on the water consumption for Samsung Electronics product manufacturing by the top 90% of suppliers in terms of transaction scale					BOD	Tonnes	315
Workplace environment management					SS	Tonnes	377
Investment in EHS	KRW 100 million	9,412	13,997	21,836	F	Tonnes	428
Violations of environment-related laws and regulations	Cases	0	0	Heavy metals	Tonnes	9	
2. On 13 October 2022, the Gwangju City Hall imposed a fine of KRW 3.2 million on Samsung Electronics for violating Article 39 (Self-Measurement), Paragraph 1 of the Air Environment Conservation Act regarding the recording of self-measurement results of air pollutants. Samsung Electronics voluntarily paid the fine and conducts periodic cross-measurements to improve the reliability of its measurements. For reference, the events related to the imposition of the above fines are as follows: On 2 March 2021, the Yeongsan River Basin Environment Agency of the Ministry of Environment (MOE) notified Samsung Electronics' Gwangju Plant of the cancellation of its designation as a green company, citing Article 16(3)(1) of the Environmental Technology and Environmental Industry Support Act (Cancellation of Designation of Green Companies). On 7 July 2022, the Gwangju District Court sentenced two employees of Samsung Electronics to a fine of KRW 3 million each for violating Article 18 of the Environmental Testing and Inspection Act, and the sentence was upheld.	2 ^{1,2)}			Consumption of ozone depleting substances (CFC-11 eq)³⁾			
2. On 22 December 2002, the Ministry of Environment imposed a fine of KRW 1.6 million on Samsung Electronics for violating Article 31 (Operation of Emission Facilities and Prevention Facilities) of the Atmospheric Environment Protection Act. Samsung Electronics has voluntarily paid the fine and is striving to comply with relevant laws and regulations by strengthening inspections of air pollution prevention facilities.				Consumption of ozone depleting substances (CFC-11 eq)	Tonnes	2	
For the status of sanctions related to environmental violations by other companies, please refer to the Business (Semi-Annual) Report.						1	
※ On 10 June 2022, the Texas Commission on Environmental Quality (TCEQ) issued a Notice of Corrective Action regarding the wastewater spill at the Samsung Austin Semiconductor LLC (SAS) of the subsidiary of Samsung Electronics' DS Division, and no financial sanctions such as fines were imposed as of the reporting date.						2	

- To mitigate air pollutant emissions, we are pushing ahead with the introduction of a NOx reduction system, implementation of a catalytic oxidation process, and installation of electric dust collection facilities. In accordance with the Montreal Protocol, all of our business sites are gradually replacing the refrigerants for freezers and air conditioners with alternatives with less ozone depletion potential (ODP). We are also working to remove water pollutants through our optimized wastewater treatment facilities prior to wastewater discharge.
- Previous dust emissions disclosure standards changed
- Scope of data collection: Korea

Chemicals management ¹⁾	2020	2021	2022
Chemicals consumption ²⁾	1,000 tonnes	455	520
Discharge of major hazardous substances	Cases	0	0

- Scope of data collection: Korea
- Chemicals consumption: Based on the European Pollutant Release and Transfer Register (E-PRTR) from 2018

Available Water Resources by Region

Region	Water intake												Water discharge											
	Total amount of intake		Water intake from third-party sources (local governments, water utility companies, etc.)								Direct intake		Total amount of discharge		Direct discharge into freshwater ecosystems		Treatment and discharge by third-party agencies		Amount of water used		Amount of water reused		Basins	
			Surface water		Underground water		Surface water		Underground water															
	2021	2022	2021	2022	2021	2022	2021	2022	2021 ¹⁾	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
Korea	1,000 tonnes	121,272	130,959	121,026	130,664	-	-	-	-	246	295	97,720	103,786	64,974	63,633	32,746	40,153	23,552	27,171	64,787	86,331	4 including the Han River		
China	1,000 tonnes	18,716	18,733	18,716	18,733	-	-	-	-	-	-	15,327	15,324	-	-	15,327	15,324	3,389	3,409	22,271	22,917	3 including the Huang He River		
Europe	1,000 tonnes	208	365	205	329	-	-	-	-	3	36	97	224	-	-	97	224	111	142	3	3	2 including the Danube River		
Russia	1,000 tonnes	100	56	100	56	-	-	-	-	-	-	31	30	-	-	31	30	68	26	44	23	The Volga River		
Southeast Asia	1,000 tonnes	11,977	10,901	11,977	10,901	-	-	-	-	-	-	9,729	8,541	203	213	9,526	8,328	2,248	2,361	2,729	2,555	4 including the Hong River		
Southwest Asia	1,000 tonnes	426	493	426	493	-	-	-	-	-	-	54	35	-	-	54	35	372	458	215	199	2 including the Ganges River		
North America	1,000 tonnes	10,380	10,734	10,380	10,734	-	-	-	-	-	-	7,654	7,894	-	-	7,654	7,894	2,727	2,840	3,824	4,557	4 including the Lower Colorado River		
Central and South America	1,000 tonnes	334	381	25	14	-	-	-	-	309	367	117	115	100	96	17	19	217	267	13	8	2 including the Amazon River		
Africa	1,000 tonnes	247	188	247	188	-	-	-	-	-	-	226	169	-	-	226	169	22	19	61	-	2 including the Nile River		
Total	1,000 tonnes	163,660	172,811	163,102	172,113	-	-	-	-	558	698	130,955	136,118	65,276	63,942	65,679	72,176	32,706	36,691	93,949	116,590			

1. Relevant figures changed due to the correction of direct underground water intake in 2021

Performance by Division

	DX		DS		Total	
	2021	2022	2021	2022	2021	2022
Supply chain management						
Comprehensive supplier evaluation						
Suppliers evaluated ¹⁾	%	97	91	82	83	93
Suppliers rated outstanding ²⁾	%	65	59	77	74	68
Suppliers with ISO 14001 certification ³⁾	%	88	90	89	92	88
Suppliers with OHSAS 18001 certification	%	45 ⁴⁾	47 ⁵⁾	56	67	47
Supplier Training						
Participating companies	Companies	535	552	376	501	911
Participating individuals	Persons	6,641	8,677	12,084	12,230	18,725
Supply chain work environment management						
Third party-audited first-tier suppliers	Companies	84	93	24	28	108
						121

1. All suppliers, excluding those registered for less than a year, evaluated in 8 areas

2. Higher score taken into consideration if evaluated for both DX and DS

3. ISO 14001 or equivalent certification required in the Standard Supplier Agreement

4. Including 12 SA8000-certified suppliers

5. Including 23 SA8000-certified suppliers

Environment	DX		DS		Total	
	2021	2022	2021	2022	2021	2022
GHG emissions from business sites ¹⁾	1,000 tonnes CO ₂ e	1,790	366	15,610	14,687	17,400
Direct emissions	1,000 tonnes CO ₂ e	263	254	7,341	5,718	7,604
Indirect emissions	1,000 tonnes CO ₂ e	1,527	112	8,269	8,969	9,796
Other indirect emissions	1,000 tonnes CO ₂ e			109,951	14,764	124,715
Energy consumption at business sites	GWh	4,396	4,327	27,926	30,850	32,322
Electricity	GWh	3,143	3,067	22,624	25,249	25,767
Others	GWh	1,253	1,260	5,302	5,601	6,555
Renewable energy consumption	GWh	556	2,856	4,722	5,849	5,278
Transition to renewable energy	%	18	93	21	23	20
Waste generated	Tonnes	348,427	329,861	976,545	1,083,504	1,324,972
General waste	Tonnes	290,851	274,126	612,902	657,803	903,753
Hazardous waste ²⁾	Tonnes	57,576	55,735	363,643	425,701	421,219
Water intake	1,000 tonnes	19,392	18,822	144,269	153,988	163,660
Municipal water (surface water)	1,000 tonnes	18,833	18,124	144,269	153,988	163,102
Underground water ³⁾	1,000 tonnes	558	698	0	0	558
Chemicals consumption at business sites ⁴⁾	1,000 tonnes	8	6	512	572	520
						578

1. Market-based GHG emissions that reflect renewable energy use

2. Based on the monitoring standards of individual countries where our business sites are located

3. Relevant figures changed due to the correction of direct underground water intake in 2021

4. Scope of data collection: Korea

Sustainability Value Creation

In order to quantitatively measure the positive and negative effects of our sustainability activities, we have utilized the True Value method of KPMG since 2016. We also developed a set of indicators based on the results of our research on the economic value of our socioeconomic activities to convert the measured effects into monetary value. Our sustainability value consists of 1) financial value, 2) socioeconomic value, and 3) environmental value, which are marked with + (positive) or - (negative).

Value Measurement Methods

Category	Type	Calculation Method
Financial value	Benefit	Net income of the year
Socioeconomic value	Government support	Benefit Corporate taxes paid to the government
	Investor value	Benefit Dividends and interest paid to investors and creditors
	Employee support	Benefit Wages and welfare benefits paid to employees
	Supplier support	Benefit Based on the amount of support through the Coprosperity Fund
	Development of local communities	Benefit Donations for the resolution of individual communities' issues Calculation of the ROI (118%) of educational project investment costs ¹⁾
Environmental value	GHG emissions reduction in the product use stage	Benefit Calculation of social benefits for GHG emissions reduction in the product use stage ²⁾
	GHG emissions from business sites	Cost Calculation of social costs concerning GHG emissions ²⁾
	Impacts on the atmospheric environment	Cost Calculation of social costs concerning air pollutant (NOx, SOx, and PM) emissions ³⁾
	Impacts on aquatic ecosystems	Cost Calculation of social costs concerning water consumption based on the water stress levels of individual regions where our business sites are located ⁴⁾
	Impacts of waste on the environment	Cost Calculation of social costs concerning the burial, incineration, and recycling of waste ⁵⁾

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

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

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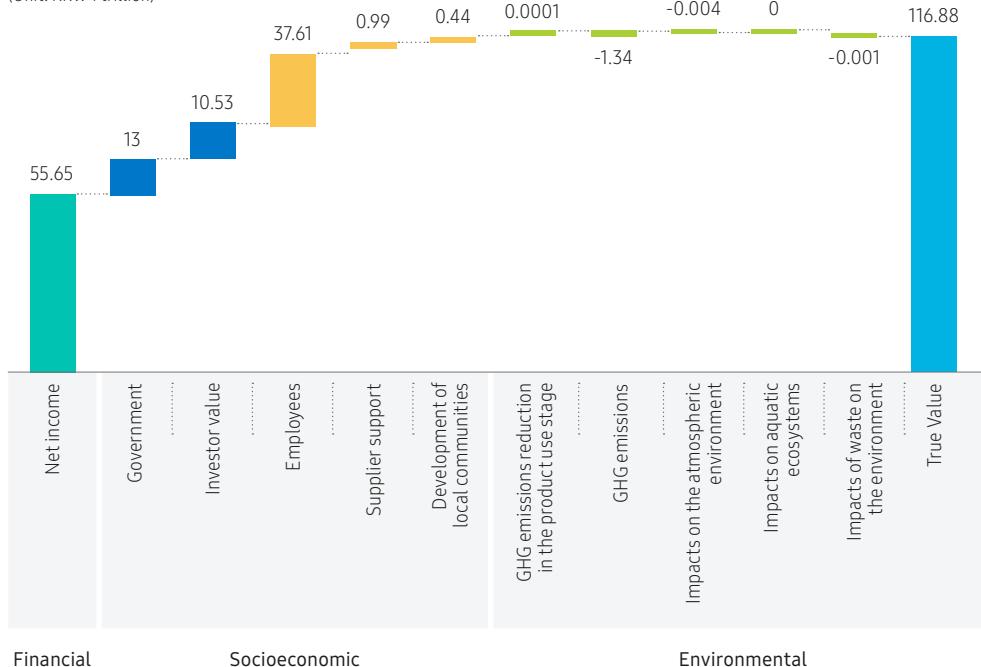
* KRW 1,267 per USD and KRW 1,351 per euro based on the exchange rates on December 30, 2022

Sustainability Value in 2022

We have continually monitored the latest global trends in socioeconomic value measurement research as an extension of our efforts to more accurately assess the value of our sustainability activities. As a result, we began to include wages and taxes, GHG emissions reduction in the product use stage, etc., in the set of indicators to measure our socioeconomic value in 2023. Our total sustainability value created from January 1 to December 31, 2022, stands at around KRW 116.88 trillion. Our financial value reaches KRW 55.65 trillion, a 39% increase compared to 2021. Our socioeconomic value stands at KRW 61.23 trillion incurred due to a drastic rise in the amount of corporate tax paid (KRW 13 trillion) and wages and welfare benefits paid to our employees (KRW 37.61 trillion). In 2023, our financial value is projected to decrease substantially due to the global economic recession and industry stagnation. The drawback of the current measurement method is that the sustainability value is heavily influenced by changes in the financial value. As such, we will continue to strive to advance the measurement method by monitoring and analyzing related research trends.

Sustainability Value in 2022

(Unit: KRW 1 trillion)



Financial value

Socioeconomic value

Environmental value

* The sustainability value in 2022, measured using indicators of the previous years, stands at approximately KRW 66.27 trillion.

Materiality Assessment

Every year we conduct the materiality assessment to identify key interests of our stakeholders and significant issues that affect our business, and communicate the findings to our stakeholders in a transparent manner. We conducted the 2023 materiality assessment at the headquarters level and at our subsidiaries in Europe adopting the method proposed by EU's Corporate Sustainability Reporting Directive (CSRD). The double materiality assessment as defined by CSRD takes into consideration both the level of social and environmental impacts of corporate activities and the impact of sustainability issues such as climate change and inequality on corporate value.

Materiality Assessment Process

The double materiality assessment consists of three stages including surveys of internal and external stakeholders, to identify material issues based on their social and environmental as well as financial impacts.

Pooling Material Issues	Assessing Social and Environmental Impact	Assessing Financial Impact
<ul style="list-style-type: none">Creating a comprehensive list of material issues including those already identified in the previous sustainability report and new global issuesIdentifying 21 issues based on global sustainability standards (GRI, UN SDGs, TCFD, SASB), domestic indicators (K-ESG, KCGS), and analysis of the latest industry trends	<ul style="list-style-type: none">Assessing the positive and negative impacts of the assessed company on the environment and society in the short term and mid-to-long term and related sustainability issuesAssessing the social and environmental impact of individual material issues through the quantification of the sustainability issues covered by the media recently, competitors' material issues, analysis of various international ESG standards, and surveys of internal and external stakeholders<ul style="list-style-type: none">Analyzing media reports and competitors' issuesAnalyzing international standards (GRI, ESRS, UN SDGs)Conducting employee surveysConducting external stakeholder surveys	<ul style="list-style-type: none">Assessing the financial impact of sustainability issues on the assessed company's economic value creationAssessing the financial impact based on the findings from the analysis of ESG information by key financial institutions and rating agencies, shareholders' and investors' interests, and internal cost and profit analysis<ul style="list-style-type: none">Analyzing ESG-related inquiries by financial institutionsAnalyzing ESG information disclosure by financial institutions and rating agenciesConducting employee surveys and external stakeholder surveys



Materiality Assessment Results

The issues of materiality identified through the 2023 double materiality assessment were climate action and energy management, sustainable supply chain, talent development and quality of life , human rights management, circular economy, water resource management, and diversity and inclusion.

Area	Issue	Social and environmental impact	Financial impact	UN SDGs	Response	Activities	Sections for reference
Social	Human rights management	●	●	10 REDUCED INEQUALITIES 	We ensure that current and potential employees at all of our business sites are guaranteed equal opportunities. We do not discriminate against employees or applicants based on their gender, race, ethnicity, nationality, religion, age, marital status, sexual orientation, sexual identity and manifestation, social status, disability, pregnancy, military service status, genetic information, political inclination, etc.	<ul style="list-style-type: none"> · Expanding employment opportunities for persons with disabilities · Operating an in-house advisory group of persons with disabilities for accessibility improvement · Launching of Operating Hopes and Stars Forest, a subsidiary-type workplace for employees with disabilities · Supporting Employee Resource Group (ERG) activities 	Diversity, Equality, and Inclusion
	Sustainable supply chain	●	●	8 DECENT WORK AND ECONOMIC GROWTH 	We strive to help our suppliers to improve their performance in human rights, environment, and health and safety as well as their business competitiveness, to make our supply chain responsible and environmentally aware.	<ul style="list-style-type: none"> · ESG diagnosis and consulting for suppliers · Working environment and climate change management for suppliers · Establishment and operation of a grievance handling system for suppliers · Partner collaboration activities such as Partner collaboration academy and funding support 	Sustainability in Supply Chain
	Talent development and quality of life	●	●	3 GOOD HEALTH AND WELL-BEING 	We strive to create an environment where our employees can work without worrying about health and safety. We also focus on minimizing the impact of harmful chemical substances on the environment and our employees' health.	<ul style="list-style-type: none"> · Regular physical examinations for employees · Access to a Range of Capacity-Building Programs, Opportunities to Switch Jobs Internally · The UniverSE · SCI(Samsung Culture Index) 	Human Rights, Human Resource Management
Environmental	Climate action and energy management	●	●	13 CLIMATE ACTION 	We identify and prioritize climate change issues based on their business impact and probability of occurrence, analyze risks and opportunities, and establish response measures accordingly. We strive to reduce our footprint by investing in GHG emissions reduction equipment and optimizing operations of our equipment.	<ul style="list-style-type: none"> · Reducing energy for manufacturing and process gases · Expanding use of renewable energy · Identifying and implementing projects of GHG emissions reduction · Monitoring and managing suppliers' GHG emissions · Capturing carbon and reducing particulate matter 	Climate Action, Clean Tech Ecosystem
	Circular economy	●	●	12 RESPONSIBLE CONSUMPTION AND PRODUCTION 	We reuse and recycle resources to ensure resource circularity and a minimized environmental impact. We strive to expand the use of recycled materials, improve product durability, reduce packaging sizes, minimize the sourcing mining of new resources, and extend product lifecycles.	<ul style="list-style-type: none"> · Applying recycled and recyclable materials in products · Researching on technologies contributing to a circular economy · Expanding e-waste collection system · Engaging in responsible minerals sourcing 	Circular Economy, Sustainability in Supply Chain
	Water resource management	●	●	6 CLEAN WATER AND SANITATION 	We ensure water resource efficiency by reducing water use and reusing and recycling water. Our in-house standards for wastewater treatment are more stringent than the legal requirements of individual countries. We strive to minimize our impact on water resources.	<ul style="list-style-type: none"> · Monitoring and improving aquatic ecosystems · Attaining Alliance for Water Stewardship (AWS) Platinum Certification 	Sustainability in Operations

*Materiality: ● High impact ● Medium impact ● Low impact

Alignment with UN SDGs

Adopted at the United Nations General Assembly in September 2015, the Sustainable Development Goals (SDGs) aim to mobilize the international community's efforts to establish a sustainable world by engaging in community outreach, environmental preservation, and inclusive economic growth activities. The program began in earnest in 2016 with the aim of achieving the goals by 2030. As a responsible corporate citizen, we have strived to help advance the achievement of the SDGs through our business operations. We have identified the goals with the highest relevance to our business areas and promote various activities according to the goals.

*See "Materiality Assessment" for details on SDG-aligned activities linked to the issues of materiality

SDGs	Objectives	Activities	Sections for reference
	We help youth around the world develop the capabilities required to build a better future based on our ICT expertise and knowledge.	<ul style="list-style-type: none"> Samsung Solve for Tomorrow and Samsung Innovation Campus Samsung SW Academy for Youth and Samsung Junior SW Academy Samsung Stepping Stone of Hope 	Empowering Communities
	Based on our belief that access to equal opportunities is the key to economic growth, political stability, and positive social change, we strive to offer women around the world various channels to improve their lives.	<ul style="list-style-type: none"> Female leadership goals Next generation female leadership workshops Global self-diagnoses of gender equality Monitoring of gender pay gap 	Diversity, Equity, Inclusion
	We strive to expand our use of renewable energy to combat climate change. We take a variety of different measures at our global business sites, from solar panel and geothermal unit installation to renewable energy supply contracting and green pricing.	<ul style="list-style-type: none"> Joining RE100 Participating in ACEC Expanding renewable energy use 	Climate Action
	We strive to improve the accessibility of our IT devices and technologies to ensure that all individuals benefit equally from our innovations. We comply with cybersecurity-related international laws and regulations to protect consumers and maintain world-class product and service security.	<ul style="list-style-type: none"> Developing products based on accessibility technologies Reinforcing security based on the Samsung Knox platform 	Tech for All
	We take action to minimize any possible adverse impacts of our business sites on biodiversity. We strive to preserve ecosystems by identifying endangered flora and fauna near our business sites and engaging in activities to protect their habitats.	<ul style="list-style-type: none"> Preserving river ecosystems Less microfiber cycle and filter in Washer 	Sustainability in Operations, Clean Tech Ecosystem
	We share our advanced technologies to contribute to the resolution of a diverse range of social issues (education, healthcare, employment, and environment). We also operate programs that have been optimized for different local communities in cooperation with stakeholders.	<ul style="list-style-type: none"> Samsung Global Goals app Participation in the government-led Industrial AI Standardization Forum Samsung Software Developer Conference Samsung Future Technology Cultivation Initiative 	Business Sustainability, Tech for All

Appendix



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About This Report

Independent Assurance Report on the Identified Sustainability Information in Samsung Electronics's Sustainability Report (English Translation of a Report Originally Issued in Korea)



To the management of Samsung Electronics

We have undertaken a limited assurance engagement in respect of the selected sustainability information (the 'Identified Sustainability Information') in the Samsung Electronics's Sustainability Report for the year ended 31 December 2022 ('Sustainability Report' or the Report) listed below.

Identified Sustainability Information

The Identified Sustainability Information included in the Samsung Electronics's Report for the year ended 31 December 2022 is summarized below:

- 'Global Reporting Initiative (GRI) Standards Index' stated on pages 121 ~ 123
- 'Sustainability Accounting Standards Board (SASB) Index' stated on pages 126 ~ 127
- 'ESG DATA' within the 'Facts & Figures' heading on pages 102 ~ 112

Our assurance was with respect to the year ended 31 December 2022 information only and we have not performed any procedures with respect to earlier periods or any other elements included in the Report and, therefore, do not express any conclusion thereon.

Criteria

The criteria used by Samsung Electronics to prepare the Identified Sustainability Information are 'GRI Standards' and 'Hardware, Semiconductors Sustainability Accounting Standard (SASB)' (the 'Criteria').

Samsung Electronics's Responsibility for the Identified Sustainability Information

Samsung Electronics is responsible for the preparation of the Identified Sustainability Information in accordance with the Criteria. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation of Identified Sustainability Information that is free from material misstatement, whether due to fraud or error.

Inherent Limitations

The absence of a significant body of established practice on which to draw to evaluate and measure non-financial information allows for different, but acceptable, measures and measurement techniques and can affect comparability between entities.

Our Independence and Quality Control

We have complied with the ethical requirements of the Republic of Korea, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Our firm applies International Standards on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Identified Sustainability Information based on the procedures we have performed and the evidence we have obtained. We conducted our limited assurance engagement in accordance with International Standard on Assurance Engagements 3000 (Revised), Assurance Engagements other than Audits or Reviews of Historical Financial Information issued by the International Auditing and Assurance Standards Board. These standards require that we plan and perform this engagement to obtain limited assurance about whether the Identified Sustainability Information is free from material misstatement.

A limited assurance engagement involves assessing the suitability in the circumstances of Samsung Electronics's use of the Criteria as the basis for the preparation of the Identified Sustainability Information, assessing the risks of material misstatement of the Identified Sustainability Information whether due to fraud or error, responding to the assessed risks as necessary in the circumstances, and evaluating the overall presentation of the Identified Sustainability Information. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks.

The procedures we performed were based on our professional judgment and included inquiries, observation of processes performed, review of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records.

Given the circumstances of the engagement, in performing the procedures listed above we:

- Interview with the personnel responsible for internal reporting and data collection regarding Samsung Electronics's Identified Sustainability Information to understand their approaches to manage material issues
- Understand the systems and processes in place for managing and reporting the Identified Sustainability Information
- Review documents relevant to the risk assessment process, sustainability-related policies and standards, materiality assessment, engagement activities of the stakeholders and others
- Perform inquiries and analytical reviews on the Identified Sustainability Information

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement. Accordingly, we do not express a reasonable assurance opinion about whether Samsung Electronics's Identified Sustainability Information has been prepared, in all material respects, in accordance with the Criteria.

Limited Assurance Conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that Samsung Electronics's Identified Sustainability Information the year ended 31 December 2022 is not prepared, in all material respects, in accordance with the Criteria.

Restricted Use

This Report is prepared solely for the management of Samsung Electronics to assist in obtaining understanding of Samsung Electronics's sustainable management performance and activities. Accordingly, we accept no liability or responsibility to any third party, other than Samsung Electronics and its management, who gains access to this report.

Seoul, Korea

Hoonsoo Yoon, Chief Executive Officer

Samil PricewaterhouseCoopers
29 June 2023

This report is effective as of 29 June, 2023, the report date. Certain subsequent events or circumstances, which may occur between the report date and the time of reading this report, could have a material impact on the Report on the Identified Sustainability Information. Accordingly, the readers of the report should understand that there is a possibility that the above report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

Verification Statement on 2022 Scope1, 2 Greenhouse Gas Emission Report



Verification Target

Korean Foundation for Quality (hereinafter "KFQ") has conducted the verification of "2022 Report on Quantity of emitted Greenhouse gas Consumption (hereinafter 'Inventory Report') for Samsung Electronics Co.,Ltd (hereinafter "Company")

Verification Scope

In this verification, domestic corporations and 25 overseas subsidiaries under operational control of Samsung Electronics Co.,Ltd , and reported emission is including Scope 1 and Scope 2 emission.

Verification Criteria

The verification process was based on 'Rules for verification of operating the greenhouse gas emission trading scheme (Notification No. 2022-279 of Ministry of Environment)', GHG Protocol Scope 2 Guidance' and 'ISO 14064-1,3:2006'

Level of Assurance

The Verification has been planned and conducted as the 'Rules for verification of operating the greenhouse gas emission trading scheme', and the level of assurance for verification shall be satisfied as reasonable level of assurance. And it confirmed through the internal review whether the process before the verification conducted effectively.

Verification Limitation

Accuracy and completeness of emission data reported in the 'GHG Inventory' are subject to inherent limitations due to their nature and the methodology used in determining, calculating and estimating such data.

Verification Opinions

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) 2022 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 2022 domestic Greenhouse Gas Emission, material discrepancy is less than the criteria of 2.0% for the organization which emits more than 5,000,000 tCO₂eq/year in accordance with the requirements of the 'Guidelines of verification for Greenhouse gas emission trading scheme'.
- 3) For the 25 overseas subsidiaries, document review was conducted for entire 25 subsidiaries as well as Company self assessment. The result of material discrepancy is less than 2.0%.
- 4) 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 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.
- 5) Except unconsidered emission source in the 'Samsung Electronics Co.,Ltd , Greenhouse Gas Inventory Guideline', material error, omission or insignificant issues was not found in 2022 Samsung Electronics Co.,Ltd , Greenhouse Gas Emission

Organization

Samsung Electronics Co.,Ltd

Emission calculation period

The emission caculation period is from January 1 to December 31, 2022

GHG Emission verification results (Unit: ktCO₂eq)

Division	Total		Domestic		Overseas	
	Location based	Market based	Location based	Market based	Location based	Market based
Scope 1	5,972	5,972	5,100	5,100	872	872
Scope 2	13,920	9,081	9,830	8,935	4,090	146
Total	19,892	15,053	14,930	14,035	4,962	1,018

* Total emissions may differ ±1 ktCO₂eq due to rounding differences in the summation process.

DX GHG Emission verification results (Unit: ktCO₂eq)

Division	Location based	Market based
Scope 1	254	254
Scope 2	1,681	112
Total	1,935	366

DS GHG Emission verification results (Unit: ktCO₂eq)

Division	Location based	Market based
Scope 1	5,718	5,718
Scope 2	12,239	8,969
Total	17,957	14,687

April 18th 2023

CEO Ji Young Song
Korean Foundation for Quality

Verification Statement on 2022 Scope3 Greenhouse Gas Emission Report



Verification Target

Korean Foundation for Quality (hereinafter 'KFQ') has been engaged by Samsung Electronics Inc. to independently verify its 2022 Scope3 Greenhouse Gas Emissions and Energy consumption Report (hereinafter 'GHG Inventory'). This verification is for the purpose of a limited guarantee that Scope3 is free from material errors and distortions in technical content.

Verification Scope

The verification of other indirect emissions (Scope 3) was carried out in the self selected category according to the following criteria.

* Verification Category: Purchased goods & services, Capital goods, Fuel and Energy Related Activities Not Included in Scope1 or Scope2, Upstream Transportation and Distribution, Waste Generated in Operations, Business Travel, Employee Commuting, Upstream Leased Assets, Downstream Transportation and Distribution, Processing of Sold Products, Use of Sold Products, End of Life Treatment of Sold Products, Downstream Leased Assets, Investments

Verification Criteria

Technical Guidance for Calculating Scope 3 Emissions, Carbon Emission Factor (Korea Environmental Industry Institute), World Resource Institute (WRI), GHG Emissions Calculating tool emission factor, National LCI database information network and overseas information network, etc.

Level of Assurance

The verification was performed according to the procedure stipulated in ISO 14064-3, and through the verification and cross validation of the Scope3 emission calculation results, there is limited assurance that the data applied to the emission calculation is accurate and that the emission is calculated appropriately according to the verification criteria above. We planned and conducted verification to obtain.

Verification Limitation

This verification is not for the purpose of verifying the validity of the calculation criteria set by the company itself. Assurance results contain inherent limits of uncertainty inherent in the company's own calculation standards. Depending on our own calculation standards, significant differences may occur in the emission calculation results, which may affect comparability.

Verification Opinions

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) Scope 3 emissions for 2022 of Samsung Electronics Co., Ltd. were properly calculated according to verification standards.
- 2) For Scope 3 emissions, no significant errors or omissions were found, except for emissions information that was not considered within the scope of the selected category. In the process of estimating the emissions, it was confirmed that the estimates were reasonably based on objective grounds so that the emissions were not underestimated or overestimated when estimating some activity data.
- 3) The standards set, estimated/assumed, and the relevant process when calculating emissions were transparently reflected in the internal calculation process.
- 4) No material errors, omissions or inappropriate matters were found in the 2022 Scope 3 emission information and data of Samsung Electronics Co., Ltd., except for emissions information not considered in the Samsung Electronics Co., Ltd. greenhouse gas calculation guidelines.

Organization

Samsung Electronics Co.,Ltd

Emission calculation period

The emission caculation period is from January 1 to December 31, 2022

Company Scope3 Emissions verification Results (Unit: ktCO₂eq)

Category	Scope3 Emissions
Purchased goods & services	14,596
Capital goods	1,508
Fuel-and Energy-Related Activities Not Included in Scope1 or Scope2	900
Upstream Transportation and Distribution	3,965
Waste Generated in Operations	246
Business Travel	87
Employee Commuting	303
Upstream Leased Assets	107
Downstream Transportation and Distribution	366
Processing of sold products	142
Use of Sold Products	101,236
End-of-Life Treatment of Sold Products	1,206
Downstream Leased Assets	1
Franchise	N/A
Investments	52
Total	124,715

* Data used for calculating suppliers' emissions - in the categories of Purchased goods & services, Capital goods, and Processing of sold products - are based on 2021.

April 21th 2023

CEO Ji Young Song

Korean Foundation for Quality

GRI Index

GRI Standards	No.	Disclosures	Status	Page	Notes
GRI 2 Universal Standards					
The organization and its reporting practices	2-1	Organizational details	●	5, 6	
	2-2	Entities included in the organization's sustainability reporting	●		Refer to the Annual Business Report
	2-3	Reporting period, frequency and contact point	●	128	
	2-4	Restatements of information	●	X	Disclose the changes to the report
	2-5	External assurance	●	118	
Activities and workers	2-6	Activities, value chain and other business relationships	●	4-5, 6, 74-86	Refer to the Annual Business Report
	2-7	Employees	●	103-104	
	2-8	Workers who are not employees	●	103	
Governance	2-9	Governance structure and composition	●	94-96	
	2-10	Nomination and selection of the highest governance body	●	94-96	
	2-11	Chair of the highest governance body	●	94-96	
	2-12	Role of the highest governance body in overseeing the management of impacts	●	7, 94-96	
	2-13	Delegation of responsibility for managing impacts	●	96	
	2-14	Role of the highest governance body in sustainability reporting	●	96	
	2-15	Conflicts of interest	●	94-96	
	2-16	Communication of critical concerns	●	94-96	
	2-17	Collective knowledge of the highest governance body	●	96	
	2-18	Evaluation of the performance of the highest governance body	●	94-96	
	2-19	Remuneration policies	●		Refer to the Annual Business Report
	2-20	Process to determine remuneration	●		Refer to the Annual Business Report
	2-21	Annual total compensation ratio	○	X	We made the decision to keep this information private based on the necessities of our company.
Strategy, Policies, and Practices	2-22	Statement on sustainable development strategy	●	4	
	2-23	Policy commitments	●	97-99	Refer to the Website

GRI Standards	No.	Disclosures	Status	Page	Notes
Strategy, Policies, and Practices					
	2-24	Embedding policy commitments	●	16, 24, 42, 43, 47, 59, 66, 71, 76, 79, 80	
	2-25	Processes to remediate negative impacts	●	43, 48	
	2-26	Mechanisms for seeking advice and raising concerns	●	97-99	
	2-27	Compliance with laws and regulations	●	110	Refer to the website
	2-28	Membership associations	●	7, 40, 86	
Stakeholder Engagement	2-29	Approach to stakeholder engagement	●	7	
	2-30	Collective bargaining agreements	●	43, 77	
GRI 3: Universal Standards					
Disclosures on Material Topics	3-1	Processes to determine material topics	●	114-115	
	3-2	List of material topics	●	114-115	
	3-3	Management of material topics	●	114-115	
GRI 200: Economy					
Economic Performance	201-1	Direct economic value generated and distributed	●	101	
	201-2	Financial implications and other risks and opportunities due to climate change	●	124	
	201-3	Define benefit plan obligations and other retirement plans	●	-	Refer to the Annual Business Report
Market Presence	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	●	43, 60, 79	
Indirect Economic Impacts	203-1	Infrastructure investments and services supported	●	87-92	
	203-2	Significant indirect economic impacts	●	87-92	
Procurement Practices	204-1	Proportion of spending on local suppliers	○	X	
Anti-corruption	205-1	Operations assessed for risks related to corruption	●	97-99	
	205-2	Communication and training about anti-corruption policies and procedures	●	97-99	
	205-3	Confirmed incidents of corruption and actions taken	●		Refer to the Annual Business Report
Anti-competitive Behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	●		Refer to the Annual Business Report
Tax	207-2	Tax governance, control, and risk management	●		Refer to the Website
	207-3	Stakeholder engagement and management of concerns related to tax	●		Refer to the Website
	207-4	Country-by-country reporting	●	101	

GRI Index

GRI Standards	No.	Disclosures	Status	Page	Notes
GRI 300: Environment					
Materials					
	301-1	Materials used by weight or volume	○	X	We made the decision to keep this information private based on the necessities of our company.
				24-26,	
	301-2	Recycled input materials used	●	108- 109	
				108- 109	
	301-3	Reclaimed products and their packaging materials	●		
Energy					
	302-1	Energy consumption within the organization	●	22,108	
	302-2	Energy consumption outside of the organization	○	X	We made the decision to keep this information private based on the necessities of our company.
	302-3	Energy intensity	●	108	
	302-4	Reduction of energy consumption	●	20-24	
	302-5	Reductions in energy requirements of products and services	●	10-13, 16,21, 24	
Water and Effluents					
	303-1	Interactions with water as a shared resource	●	35-37, 110-111	
	303-2	Management of water discharge-related impacts	●	35-37	
	303-3	Water withdrawal	●	35-37, 110-111	
	303-4	Water discharge	●	35-37, 110-111	
	303-5	Water consumption	●	35-37, 110-111	
Biodiversity					
	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	●	37	
	304-2	Significant impacts of activities, products, and services on biodiversity	●	37	
	304-3	Habitats protected or restored	●	37	
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	●	37	

GRI Standards	No.	Disclosures	Status	Page	Notes
Emissions					
	305-1	Direct (Scope 1) GHG emissions	●	108,111	
	305-2	Energy indirect (Scope 2) GHG emissions	●	108,112	
	305-3	Other indirect (Scope 3) GHG emissions	●	108, 113	
	305-4	GHG emissions intensity	●	108	
	305-5	Reduction of GHG emissions	●	17,21, 23-24	
	305-6	Emissions of ozone-depleting substances (ODS)	●	108, 110	
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	●	110	
Waste					
	306-1	Waste generation and significant waste-related impacts	●	108- 109	
	306-2	Management of significant waste-related impacts	●	108- 110	
	306-3	Waste generated	●	108-111	
	306-4	Waste diverted from disposal	●	32-33, 110	
	306-5	Waste directed to disposal	●	32-33, 111	
Supplier Environmental Assessment					
	308-1	New suppliers that were screened using environmental criteria	●	74,84, 105	
	308-2	Negative environmental impacts in the supply chain and actions	●	74	

GRI Index

GRI Standards	No.	Disclosures	Status	Page	Notes
GRI 400: Society					
Employment	401-1	New employee hires and employee turnover	•	103-104	
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	•	57-58	
	401-3	Parental leave	•	104	
Occupational Health and Safety	403-1	Occupational health and safety management system	•	50-53	
	403-2	Hazard identification, risk assessment, and incident investigation		50-53	
	403-3	Occupational health services	•	50-53	
	403-4	Worker participation, consultation, and communication on occupational health and safety	•	50-53	
	403-5	Worker training on occupational health and safety	•	50-53	
	403-6	Promotion of worker health	•	50-53	
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	•	50-53	
	403-8	Workers covered by an occupational health and safety management system	•	50-53	
	403-9	Work-related injuries	•	104	
Training and Education	403-10	Work-related ill health	•	85	
	404-1	Average hours of training per year per employee	•	105	
	404-2	Programs for upgrading employee skills and transition assistance programs	•	54-56	
	404-3	Percentage of employees receiving regular performance and career development reviews	•	55	
Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	•	59-60	
	405-2	Ratio of basic salary and remuneration of women to men	•	60	
Non-discrimination	406-1	Incidents of discrimination and corrective actions taken	•	48	
Freedom of Association and Collective Bargaining	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	•	43-44, 77	
Child Labor	408-1	Operations and suppliers at significant risk for incidents of child	•	44, 80, 86	

GRI Standards	No.	Disclosures	Status	Page	Notes
Forced or Compulsory Labor	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	•	42, 44, 74, 80	
Security Practices	411-1	Security personnel trained in human rights policies or procedures	•	N/A	
Local Communities	413-1	Operations with local community engagement, impact assessments, and development programs	•	33, 45, 47, 87-92	
Supplier Social Assessment	414-1	New suppliers that were screened using social criteria	•	105	
	414-2	Negative social impacts in the supply chain and actions taken	•	74-82	
Public Policy	415-1	Political contributions			Use of company funds for political contributions is prohibited by the corporate Code of Conduct
Customer Health and Safety	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services			Refer to the Annual Business Report
Marketing and Labeling	417-1	Requirements for product and service information and labeling			Refer to the Website
	417-3	Incidents of non-compliance concerning marketing communications			Refer to the Annual Business Report

· Statement of Use: Samsung Electronics has reported in accordance with the GRI standards for the covered period (from January to December, 2022).
 · GRI 1 used: GRI 1 : Foundation 2021

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Category	Our Performance	Page																					
Governance	a) Describe the board's oversight of climate-related risks and opportunities.	We believe all environmental issues, including climate change, directly affect our business operations and financial performance. As such, these issues are supervised by the Board of Directors, our overarching decision-making body. The Board of Directors approves all strategies and goals related to environmental management, oversees their latest developments, and regularly reviews our relevant activities through the Sustainability Committee comprised of independent directors. Our corporate environmental strategy encompassing mid-to-long-term climate actions and resource circularity goals was passed by the Sustainability Committee in September 2022. The CEO establishes environmental management plans and reviews implementation progress through the Sustainability Council composed of the top executives of relevant units. We continue to reinforce our environmental management capacity by strengthening environmental indicators in the performance evaluations of our business units. In addition, the Environmental Management Task Force defines action items/projects - including those related to climate action - and monitors progress. Each business manages and monitors their environmental issues on site through their respective EHS meetings. The Eco-Council establishes strategies for developing environmentally responsible products while ensuring their quality.	P.20, P.96, P.124 CDP: C1 P.20, P.96, P.124 CDP: C1																				
	b) Describe management's role in assessing and managing climate-related risks and opportunities.																						
Strategy	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	The risks and opportunities posed by climate change are affecting our products and services, as well as our manufacturing processes, supply chain, R&D, and other business activities. Samsung Electronics monitors the risks arising from its global operations in accordance with risk management processes and manuals in each field, including environmental safety, climate change and energy, and compliance. To understand the financial impact of risks and opportunities arising from climate change, Samsung Electronics categorizes risk factors into transition risks and physical risks and analyzes the risks; while and opportunities arising from them. In the short term, we see rising carbon credit prices, extreme weather events, and the introduction of high-efficiency technologies as potential risks, securing carbon credits and reducing energy costs are recognized as opportunities. In the medium term, we anticipate changing consumption patterns and expansion of renewable energy use as opportunities, and physical impacts such as rising temperatures as long-term risks. For long-term risks, we establish response plans in line with the Nationally Determined Contributions (NDCs) under the Paris Agreement, the Representative Concentration Pathways (RCP) scenarios of the International Panel on Climate Change (IPCC) assessment report, and the International Energy Agency's (IEA) energy technology outlook.	P.22-23, P.124 CDP: C2																				
<table border="1"> <thead> <tr> <th>Climate Change Risks and Opportunities</th> <th>Financial Impacts of Climate Change Risks</th> <th>Financial Impacts of Climate Change Opportunities</th> </tr> </thead> <tbody> <tr> <td>① GHG emissions trading scheme</td> <td>· Emission allowance prices falling due to the post-pandemic economic slowdown - dropped to KRW 11,550 on the same day (April 27, 2023) * Refer to Annual Business Report</td> <td>· Minimize purchases with greenhouse gas reduction activities</td> </tr> <tr> <td>② High-efficiency technology development</td> <td>· Increased investment in high-efficiency facilities, greenhouse gas reduction facilities, and water recycling facilities</td> <td>· Mitigate carbon price sensitivity by securing external carbon credits</td> </tr> <tr> <td>③ Customer consumption pattern changes</td> <td>· High-efficiency and environmental product certification costs increased · Sales of low-energy efficiency products decreased · R&D investment in high-efficiency and environmentally responsible products increased</td> <td>· Reduce workplace GHG emissions and reduce energy costs · Create business opportunities such as energy management systems</td> </tr> <tr> <td>④ Expansion of renewable energy consumption</td> <td>· Production costs increased due to a short-term electricity price spike · Customers' demand for renewable energy</td> <td>· Increase sales of launching high-efficiency, environmentally responsible products · Consumers' awareness raised</td> </tr> <tr> <td>⑤ Natural disasters (e.g., storms, floods)</td> <td>· Investment in environmental/safety/disaster prevention equipment increased · Costs related to restoration and business opportunity loss in the event of natural disasters increased</td> <td>· Electricity expenses reduced through renewable energy supply contracts and participation in power generation projects</td> </tr> <tr> <td>⑥ Temperature rise and yellow sand dust pollution</td> <td>· Increased costs of operational costs such as cooling and heating facilities · Increased investment in air-pollution prevention facilities</td> <td>· Reducing insurance premiums by investing in facilities to respond to natural disasters · Creating new business opportunities such as national disaster networks and safety communication networks · Business expanded and sales increased (e.g., high-efficiency air conditioners, air purifiers, dryers)</td> </tr> </tbody> </table>			Climate Change Risks and Opportunities	Financial Impacts of Climate Change Risks	Financial Impacts of Climate Change Opportunities	① GHG emissions trading scheme	· Emission allowance prices falling due to the post-pandemic economic slowdown - dropped to KRW 11,550 on the same day (April 27, 2023) * Refer to Annual Business Report	· Minimize purchases with greenhouse gas reduction activities	② High-efficiency technology development	· Increased investment in high-efficiency facilities, greenhouse gas reduction facilities, and water recycling facilities	· Mitigate carbon price sensitivity by securing external carbon credits	③ Customer consumption pattern changes	· High-efficiency and environmental product certification costs increased · Sales of low-energy efficiency products decreased · R&D investment in high-efficiency and environmentally responsible products increased	· Reduce workplace GHG emissions and reduce energy costs · Create business opportunities such as energy management systems	④ Expansion of renewable energy consumption	· Production costs increased due to a short-term electricity price spike · Customers' demand for renewable energy	· Increase sales of launching high-efficiency, environmentally responsible products · Consumers' awareness raised	⑤ Natural disasters (e.g., storms, floods)	· Investment in environmental/safety/disaster prevention equipment increased · Costs related to restoration and business opportunity loss in the event of natural disasters increased	· Electricity expenses reduced through renewable energy supply contracts and participation in power generation projects	⑥ Temperature rise and yellow sand dust pollution	· Increased costs of operational costs such as cooling and heating facilities · Increased investment in air-pollution prevention facilities	· Reducing insurance premiums by investing in facilities to respond to natural disasters · Creating new business opportunities such as national disaster networks and safety communication networks · Business expanded and sales increased (e.g., high-efficiency air conditioners, air purifiers, dryers)
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Category	Our Performance	Page
Strategy	<p>b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.</p> <p>As climate change continues to have adverse effects around the world, many countries are strengthening their relevant regulations. The costs related to natural disaster recovery and lost business opportunities are expected to rise in line with the aggravation of climate change. We continue to make investments in the areas of environment and safety and disaster-proof equipment to preempt the impacts of natural disasters as much as possible, which in turn is expected to decrease our insurance premiums.</p> <p>As a company subject to Korea's emissions trading scheme, we project that our costs for responding to reinforced GHG emissions regulations and renewable energy purchasing will inevitably increase. In addition, failure to comply with global regulations and implement proper climate actions may compromise our brand value and adversely affect our sales.</p>	P.124 CDP: C3.3, C3.4
	<p>c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.</p> <p>Climate risks are anticipated to have far-reaching effects through a set of highly complex channels. We strive to identify the socioeconomic impacts of climate change on our business through various scenarios, which are classified into aggressive action scenarios that require our global stakeholders to reach more ambitious targets and passive action scenarios that focus on maintaining the status quo.</p> <p>In accordance with the aggressive action scenarios, products with low energy efficiency ratings are projected to decrease in sales in the long term, while environmentally responsible, high-efficiency products - including air conditioners, air purifiers, and dryers - are expected to record continued sales growth. To remain prepared for such scenarios, we plan to make continued investments to develop ultra-low-power semiconductors and improve energy efficiency across our product categories. We will also take active measures to ensure GHG emissions mitigation and the transition to renewable energy.</p>	P.124 CDP: C3.2a, C3.4
Risk Management	<p>a) Describe the organization's processes for identifying and assessing climate-related risks.</p> <p>Our climate risks concerning business operations, product planning, and industry trends are assessed regularly by related organizational units - including EHS, marketing, sales, and compliance - based on the environmental management frameworks of ISO 14001 and ISO 50001. Individual business sites are required to enter their GHG data - including electricity, fuel, and process gases - into the EHS System, and we review their changes on a monthly basis and analyze the causes of such changes. The organizational units in charge manage GHG emissions of our business sites in Korea and other regions in an integrated manner. Annual third-party audits are conducted to ensure the credibility and alignment of emissions data.</p>	P.20 CDP: C2.1b, C2.2
	<p>b) Describe the organization's processes for managing climate-related risks.</p> <p>To manage climate risks, the corporate unit in charge EHS monitors our energy consumption, GHG emissions, and renewable energy use as well as the physical impacts of climate change. Relevant issues affecting or expected to affect our business sites around the world are discussed at the EHS Council and other regularly convened consultative bodies to seek optimal solutions.</p> <p>The Sustainability Council discusses relevant risks and opportunities from a company-wide perspective and makes necessary decisions. The Eco-Council examines climate change-induced business opportunities and shares the findings with pertinent organizational units for execution.</p>	P.18, P.20 CDP: 2.2, 2.2a
	<p>c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.</p> <p>Given the large amount of energy required in manufacturing semiconductors, the prices of emissions permit and renewable energy use are considered factors that directly affect our business and are thus closely monitored. In addition, climate change-related regulations of individual countries are included in our company-wide risk management system since they are likely to influence our business activities and reputation.</p>	P.20, P.124 CDP: 2.2
Metrics and Targets	<p>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> <p>To assess and manage the risks and opportunities related to climate change, we closely monitor metrics including GHG emissions, per-unit GHG emissions, energy consumption, renewable energy use, and water consumption of individual business sites as well as the ratio of recycled materials used in products, amount of e-waste collected, and average power consumption of products.</p>	P.18, P.20-24 CDP: C6, C7, C8
	<p>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> <p>We disclose our Scope 1, 2, and 3 emissions via the Sustainability Report and CDP Report.</p>	P.108, P.112 CDP: C6, C7, C8
	<p>c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.</p> <p>Please refer to the targets of the New Environmental Strategy and relevant progress specified in the 2023 Sustainability Report.</p>	P.20 CDP: C4

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Hardware

Sustainability Disclosure Topics and Accounting Metrics

	Code	Accounting Metric	Page and Comment
Product Security	TC-HW-230a.1	Description of the approach to identifying and addressing data security risks in products	P.66-70
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.103-104
Product Lifecycle Management	TC-HW-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	We comply with global regulations (EU RoHS, REACH, TSCA, etc.) and manage internal rules in line with domestic and international standards. We conduct rigorous pre-inspection and follow-up management of all parts and raw materials used in our products. Please refer to p. 42 herein for our efforts to manage potentially hazardous substances.
	TC-HW-410a.2	Percentage of eligible products that meet the EPEAT registration criteria or equivalent ¹⁾	<ul style="list-style-type: none"> · Computers: 54% · Mobile phones: 95% · Displays: 22%
	TC-HW-410a.3	Percentage of eligible products that meet the ENERGY STAR® criteria ¹⁾	<ul style="list-style-type: none"> · Audio devices: 65.8% · Computers: 99.4%
	TC-HW-410a.4	Weight of end-of-life products and e-waste recovered, percentage recycled	P.13, P.17, P.28, P.109
Supply Chain Management	TC-HW-430a.1	Percentage of Tier 1 supplier facilities audited in the RBA Validated Audit Process (VAP) or equivalent, by (a) all facilities and (b) high-risk facilities	P.45, P.105
	TC-HW-430a.2	Tier 1 suppliers' (1) non-compliance 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.45
Materials Sourcing	TC-HW-440a.1	Description of risk management associated with the use of critical materials	P.86

1) Based on sales in North America (US and Canada)

Activity Metrics

Code	Topic	Page and Comment
TC-HW-000.A	Number of units produced by product category	P. 27-29, 2022 Annual Business Report (II. Business Overview)
TC-HW-000.B	Area of manufacturing facilities	P.6
TC-HW-000.C	Percentage of production from owned facilities	P. 27-29, 2022 Annual Business Report (II. Business Overview)

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Semiconductors

Sustainability Disclosure Topics and Accounting Metrics

	Code	Accounting Metric	Page and Comment
Greenhouse Gas Emissions	TC-SC-110a.1	(1) Gross global Scope 1 emissions and (2) amount of total emissions from perfluorinated compounds	P.21, P.108, P.112
	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.15-17, P.21
Energy Management in Manufacturing	TC-SC-130a.1	(1) Total energy consumption, (2) percentage of electricity delivered from grids, and (3) percentage renewable	P.13, P.108
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.110-111
Waste Management	TC-SC-150a.1	Amount of hazardous waste from manufacturing, percentage recycled	P.109, P.112
Employee Health and Safety	TC-SC-320a.1	Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards	P.50-53
	TC-SC-320a.2	Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations	P. 501-502, 2022 Annual Business Report (XI. Other Information)
Recruiting & Managing a Global & Skilled Workforce	TC-SC-330a.1	Percentage of employees that are (1) foreign nationals and (2) located offshore	P.103-104
Product Lifecycle Management	TC-SC-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	We comply with global regulations (EU RoHS, REACH, TSCA, etc.) and manage internal rules in line with domestic and international standards. We conduct rigorous pre-inspection and follow-up management of all parts and raw materials used in our products. Please refer to p. 42 herein for our efforts to manage potentially hazardous substances.
Materials Sourcing	TC-SC-410a.2	Processor energy efficiency at a system-level: (1) servers, (2) desktops, and (3) laptops	N/A
	TC-SC-440a.1	Description of risk management associated with the use of critical materials	P.86
Intellectual Property Protection & Competitive avior	TC-SC-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	P. 498, 2022 Annual Business Report (XI. Other Information)

Activity Metrics

Code	Topic	Page and Comment
TC-SC-000.A	Total production	P. 27-29, 2022 Annual Business Report (II. Business Overview)
TC-SC-000.B	Percentage of production from owned facilities	P. 27-29, 2022 Annual Business Report (II. Business Overview)

About this report

The 2023 Sustainability Report - the 16th edition of the report - is published with the aim of communicating our economic, social, and environmental performances and relevant activities to our stakeholders in a transparent manner.

Reporting Standard

This report aligns with the Global Reporting Initiative (GRI) Standards: Core Option, and reflects the indicators of the UN Sustainable Development Goals (SDGs), Task Force on Climate-Related Financial Disclosures (TCFD), and Sustainability Accounting Standards Board (SASB).

Covered Activities

This report covers the activities of all of our business sites in Korea and other regions as well as our supply chains. Our consolidated financial performance is reported in accordance with K-IFRS, and our environmental performance is reported based on data collected from 31 production sites in Korea and other regions.

Covered Period

This report illustrates our performance and activities from January to December, 2022. Performance as of May 2023 has been included in some areas. The report provides quantitative data of the last three years to illustrate recent YoY trends.

Reporting Cycle

Annual - previous edition published in June 2022.

Third-Party Assurance

Samil PwC, an independent assurance provider, conducted a third-party verification to ensure confidence in the report-making process and information disclosed, as per the ISAE3000 verification criteria.

Related Information

- Samsung Electronics Website
<http://www.samsung.com/sec>
- Sustainability Website
<http://www.samsung.com/global/sustainability/main>
- IR Website
<http://www.samsung.com/sec/ir>
- Samsung Newsroom
<http://news.samsung.com/kr>
<http://news.samsung.com/global>

For More Information

- Samsung Electronics Corporate Sustainability Center
- Address: 129 Samseong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do (16677)
- Email: csr.partner@samsung.com

References

- Annual Business Report [🔗](#)
- Corporate Governance Report [🔗](#)
- Responsible Minerals Report [🔗](#)
- CDP Report [🔗](#)
- Global Code of Conduct [🔗](#)
- Guidelines on the Global Code of Conduct [🔗](#)

Forward-Looking Statement

Certain statements made in our Sustainability Report, including those related to our sustainability targets and strategies, may constitute forward-looking statements under applicable laws. This Report contains forward-looking statements that reflect Samsung's current views with respect to future events and performance. These statements involve risks and uncertainties.

You can identify forward-looking statements by the fact that they do not relate strictly to current or historic facts. Examples of forward-looking statements include information concerning Samsung's outlook and guidance, as well as any other statement that does not directly relate to any historical or current fact. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "could," "should," "forecasts," "expects," "intends," "plans," "aims to," "goals," "trying to," "anticipates," "projects," "outlook," "believes," "estimates," "predicts," "potential," "continue," "preliminary," "strategy," or the negative of these terms or other comparable terminology.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we can give you no assurance these expectations will prove to have been correct. These statements are being provided for the purpose of assisting readers in understanding our approach to key sustainability topics, strategies and initiatives, and in obtaining a better understanding of our anticipated operating environment. Readers are cautioned that such information may not be appropriate for other purposes.

Forward-looking statements in this document may include, but are not limited to: statements regarding Samsung's greenhouse gas emissions, energy consumption, water consumption, and other environmental targets, external sustainability commitments and operational strategies. Many risks, contingencies and uncertainties could cause actual results to differ materially from Samsung's forward-looking statements.

Such factors may include, but is not limited to, the following : statements related to the expected effects on our business of geopolitical events, global economic conditions, fluctuations in cost and availability of raw materials, our ability to maintain favorable supplier relationships and arrangements, economic and political conditions in the markets we serve, foreign exchange rates and fluctuations in such rates, fluctuations in tax rates, the impact of future legislation, the impact of environmental regulations, unexpected business disruptions, the effectiveness of our internal control over financial reporting, the results of governmental investigations, and the unpredictability of existing and possible future litigation. Unlisted factors may present significant additional obstacles to the realization of forward-looking statements.

This Report also includes forward-looking statements regarding our sustainability; safety and health; cybersecurity; culture; diversity, equity, and inclusion; community engagement; and related goals, commitments and strategies.

Our actual future results, including the achievement of our targets, goals or commitments, could differ materially from our projected results as the result of changes in circumstances, assumptions not being realized, or other risks, uncertainties and factors.

Although Samsung believes that the forward-looking statements in this Report is based on information, assumptions, and beliefs that are current and reasonable, such forward-looking statements – and the underlying information, assumptions, and beliefs – are necessarily subject to a number of factors, risks, and uncertainties, which could cause actual results to differ materially from management's expectations and plans as set forth in such forward-looking statements.

Any forward-looking statement speaks only as of the date on which such statement is made, and Samsung undertakes no obligation to update any forward-looking statement, whether as a result of new information, future events or otherwise.

SAMSUNG