Samsung Electronics Sustainability Report 2024

A Journey Towards a Sustainable Future

SAMSUNG

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Message from Our CEO

Dear Shareholders, Customers, Partners, and Employees,

Samsung Electronics faced a very challenging year in 2023 due to macroeconomic uncertainties with high interest rates, inflation, and geopolitical issues as well as a sluggish memory industry and increased competition for various product lines. It is thanks to the interest and encouragement of our stakeholders that we have been able to invest KRW 28.3 trillion in R&D, the highest level ever, and KRW 53.1 trillion in strategic facility investments to strengthen our technology leadership, responding to mid- and long-term needs in advance, laying the foundation for sustainable growth even in such challenging internal and external environments. Once again, I would like to express my deepest gratitude.

Reflecting this rapidly changing economic situation, the field of corporate sustainability is also facing many changes. In particular, information disclosure regarding corporate sustainability activities is entering a new era in line with the spread of global non-financial information disclosures. The International Financial Reporting Standards Foundation (IFRS Foundation) issuing its sustainability disclosure standards in June 2023, the EU's Corporate Sustainability Reporting Directive (CSRD) and the United States Securities and Exchange Commission's (U.S. SEC) subsequently confirming their climate disclosure rules all demonstrate the beginning of an era of mandatory ESG information disclosure.

In addition, the EU is consistently strengthening its environmental regulation through means like the Carbon Border Adjustment Mechanism (CBAM) and Battery Regulation. Interest in human rights continue to grow as well as, seen by Germany's Supply Chain Due Diligence Act, mandating supply chain human rights and work environment management, coming into effect in 2023, and the EU Corporate Sustainability Due Diligence Directive (CSDDD) being approved in May 2024 by member states.

Samsung Electronics continued our efforts for a sustainable future in line with this trend. Samsung Electronics announced our New Environmental Strategy in September of 2022, which includes our goals to join in overcoming the global climate crisis through achieving net zero Scope 1, 2 emissions by 2050, maximizing resource circularity to contribute to a circular economy, and tackling environmental challenges through technological innovation.

Our two divisions are pursuing a number of environmental efforts. The DX Division, aiming to be net zero Scope 1, 2 emissions by 2030, recorded a Renewable Energy (RE) transition of 93.4% by the end of 2023. This includes a 100% RE transition for our major manufacturing facilities worldwide including the United States, EU, China, Republic of Korea, Vietnam, India, and Brazil. The DX Division is also working in line with our Resource Circularity Roadmap and applied recycled resin in 25% of procured plastic parts.

The DS Division installed 16 new process gas treatment facilities (Regenerative Catalytic Systems, RCS) on 4 production line buildings to achieve net zero Scope 1, 2 emissions by 2050, and strived to reduce greenhouse gas (GHG) emissions by expanding our liquid natural gas (LNG) waste heat recovery system. We proved our water management system's excellence by obtaining the highest level of certification ('Platinum') from the Alliance for Water Stewardship (AWS) for our Giheung, Hwaseong, Pyeongtaek (Korea) and Xi'an (China) facilities with the goal of reducing our water withdrawal to 2021 levels in 2030. We also aim to reduce our waste generation and are expanding the number of resource circularity certifications obtained from the Republic of Korea's Ministry of Environment. The list current stands at 49 items including 9 new certifications for items like wafer boxes in March of 2024.

In the social sector, Samsung Electronics aligned with our Global Human Rights Principles (announced in February 2023) to establish a Global Grievance Resolution Policy in March 2024, setting up standards for our grievance submission channels' resolution process and submitted grievance resolution principles. We are also expanding our supply chain work environment management scope to include non- and second-tier manufacturing suppliers, depending on risk analysis results.

Samsung Electronics also seeks to fulfill our corporate social responsibility. For example, the DS Division established a standard workplace for people with disabilities, named 'Stellar Forest', as a subsidiary in March 2023. Stellar Forest is dedicated to providing a stable workplace for individuals with development disabilities, starting with operating a confectionary manufacturer that supplies baked goods to Samsung Electronics employees.

This year's Sustainability Report is organized in line with global disclosure regulation frameworks to identify our company's key sustainability management issues and to faithfully communicate these key issues' governance structure, strategy, implementation activities and current status. We also designed the Sustainability Report to closely connect to Samsung Electronics' newly launched Sustainability Website.

As Samsung Electronics experiences an era where environmental, social, and economic risks and geopolitical uncertainties have become part of everyday life, sustainability is an unwavering indicator of the direction we must take and a driving force for business competitiveness and technological innovations. As the saying goes, "Difficulty is the Nurse of Greatness", and Samsung Electronics will continue to do our best to seek new heights through sustainability and meet the expectations of our stakeholders with even greater progress.

Thank you.

CEO and Vice Chairman of Samsung Electronics Co.
Jong-hee Han

DS Division Head and Vice Chairman of Samsung Electronics Co.
Young-hyun Jun

About Us

Samsung Electronics Co., Ltd. (Samsung Electronics) aims to be a global first-class company that contributes to society by creating the best products and services based on a talented workforce and advanced technology. To this end, Samsung Electronics has established five Key Values that reflect the company's management philosophy and refined the core values into principles and behavioral guidelines, or the Global Code of Conduct. Samsung Electronics will continue to grow by internalizing these five core values in our corporate culture, using the Global Code of Conduct as the standard for all corporate activities.

About Our Organization

Samsung Electronics is divided into two Divisions, Device eXperience (DX) and Device Solutions (DS), operated independently according to product characteristics. The DX Division produces and sells finished products such as TVs, refrigerators, washing machines, air conditioners, smartphones, network systems, and computers, while the DS Division consists of the Memory Semiconductor Business, Foundry Business, and System LSI Business which produce and sell semiconductor components such as DRAM, NAND Flash, and mobile APs.

DX Device eXperience

Sales: KRW 169.9923 trillion

Operating Profit: KRW 14.3847 trillion

Major Business Units: Mobile eXperience, Visual Display, Digital Appliances, Networks, Health & Medical Equipment

DS Device Solutions

Sales: KRW 66.5945 trillion

Operating Profit: KRW (-) 14.8795 trillion

Memory, Foundry, System LSI

※The sales and operating profits above are based on 2023 figures, including intersegment transactions and excluding the performances of Harman and Samsung Display Company (SDC).

Regional Headquarters[1]	Sales Offices[2]	Manufacturing Sites	Procurement Centers
15	109	32	6
R&D Centers	**Design Centers**	**Others[3]**	**Total**
40	7	23	232

Employees 267,860

Suppliers[4] 2,515

Operations in 76 countries

R&D expenditure KRW 28.3 trillion

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

Stakeholder Engagement

Active communication with our stakeholders is an important part of fulfilling our responsibility as a global corporate citizen. Samsung Electronics transparently and timely discloses relevant information on our Sustainability Website.

In addition, we seek to strengthen our relations and align ourselves with our stakeholders on issues regarding sustainability through active communication via multiple channels, including stakeholder forums, surveys, and on-site visits.

Stakeholders	Key Interests		Communication Channels		Major Activities	
Customers (B2C & B2B)	· Quality of products and services · Safety in product use · Environmental impact of products throughout their life cycle	· Accurate product information · Transparent communication	· Customer satisfaction surveys · Contact centers, service centers · Samsung Electronics Newsroom · Samsung.com	· Samsung Semiconductor Newsroom · Sustainability Website · Sales Channels · Product Environmental Report	· Reinforce quality and safety management systems · Offer product information via country-specific websites	· Resolve issues identified through Voice of the Customer (VOC) · Staff sustainability specialists at the subsidiary and business levels
Shareholders and Investors	· Economic performance · Risk management · Information disclosure	· ESG agenda, including environmental, social, and governance	· Annual General Meeting · Non-Deal Roadshows, Investor Meetings · Earnings Releases	· Investors Forum · Investor ESG Roadshow · IR Website	· Forecast business performance and environment · Update shareholder return policy · Publish disclosures	· Release corporate governance information · Share environmental and social performances · Pool shareholder, investor views
Employees	· Safe and healthy work environment · Diversity, equity, and inclusion · Training and career development	· Employment and benefits · Labor relations · Organizational culture	· Labor unions, work councils · Counseling centers · Satisfaction surveys (work concentration, organizational health, employee experience) · Sustainability Website	· Communications with the executive management · Online comm. platforms, including Samsung NOW · Compliance and ethics whistleblowing channels · Industrial Safety and Health Committee	· Offer tailored career development programs · Host town halls by individual business units · Perform collective bargaining · Operate labor-management relations advisory group · Operate health promotion programs (diet programs, etc)	· Mentor executive management by younger generation employees · Manage our business sites' work environment · Foster a culture of trust and communication · Carry out Employer Branding Activities
Suppliers	· Partner Collaboration · Workplace EHS (Environment, Health & Safety) improvement · Fair Trade	· Worker human rights protection · GHG emissions reduction	· Global Supplier Relationship Management System (G-SRM) · Hotline, online whistleblowing channels	· Partner Collaboration Academy · Partner Collaboration Day, supplier dialogues · Sustainability Website	· Support employee training and innovation · Manage GHG emissions reduction	· Provide funding and technology support · Manage and take responsibility for suppliers' work environment · Collect and resolve grievances
Local Communities	· Local employment & economic development · Indirect economic effects, incl. investment/employment	· Conservation of local environment · Philanthropic activities	· Local volunteer centers · Sustainability Website	· CSR Website	· Support SMEs, including Smart Factory construction · Conserve river ecosystems near our business sites	· Run community outreach programs on education and employment(Samsung Stepping Stone of Hope, Samsung SW Academy for Youth, etc.)
Intl. Organizations, NGOs, Associations, Specialized Organizations	· Social responsibilities for local communities, human rights, and the environment · Cross-regional & business sector collaboration	· UN SDGs contributions (climate action, etc) · Transparent and timely information disclosure	· Corporate dialogues · NGO meetings · Stakeholder forums · Sustainability Website	· Meetings between civil society groups and executive management. · Labor-human rights stakeholders workshops · Industrial Associations	· Collect global NGO opinions · Engage with RBA[1], RMI[2], BSR[3] 1) Responsible Business Alliance 2) Responsible Minerals Initiative 3) Business for Social Responsibility	· Engage with UNGC[1] · Engage with ACEC[2], SCC[3] 1) United Nations Global Compact 2) Asia Clean Energy Coalition 3) Semiconductor Climate Consortium
Government	· Indirect economic effects, incl. investment/employment · Occupational health and safety	· Fair trade · Compliance · Business Ethics	· Policy conferences · National Assembly · Policymaking public hearings	· Policy advisory boards · Sustainability Website	· Support SMEs in collaboration with the government	· Operate joint venture investment windows in collaboration with the government
Media	· Strategy, performances for major products, business units · Future growth strategies such as investment, R&D, and M&A · ESG progress (Net Zero, etc)	· HR, labor relations, health & safety, patents, product & service quality, etc.	· Press releases · Sustainability Website · Media dialogues	· Samsung Electronics Newsroom · Samsung Semiconductor Newsroom	· Support media coverage of global IT exhibitions and unpack events · Implement planned promotional activities	· Participate in interviews & press conferences · Participate in media days

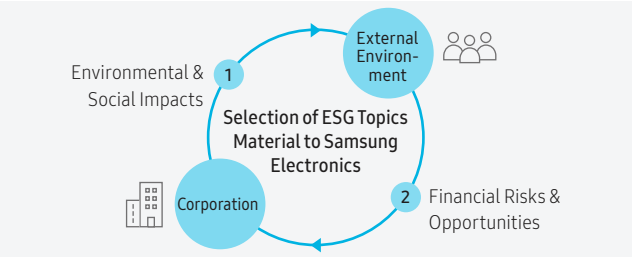
Materiality Assessment

Materiality Assessment

Samsung Electronics conducts materiality assessments identifying and prioritizing key sustainability issues material to our business, transparently disclosing the processes and results. In 2024, We conducted a Double Materiality Assessment (DMA) adapted from the European Financial Reporting Advisory Group's (EFRAG) materiality assessment implementation guidance.

DMA Definition

Samsung Electronics' 2024 DMA evaluates topics of potential materiality to Samsung Electronics' sustainability, considering both relevant company activities' impacts to the external environment and relevant external factors' financial impacts to the company in order to ascertain material topics for Samsung Electronics' sustainable management.



DMA Process

Samsung Electronics' DMA process consists of four steps: ① understanding the business, ② identifying impacts, risks, and opportunities (IROs), ③ evaluating IROs, and ④ selecting material topics.

Step 1. Understanding the Business

Understanding the business involved analyzing our business' internal/external environments and value chain, then identifying primary topics. In the internal/external environment analysis, we reviewed disclosed company data such as our Annual Business Report and internal company data such as stakeholder inquiries to secure base materials for future evaluation processes.

We also conducted a value chain analysis to derive ESG topics that comprehensively consider relevant stakeholder characteristics within the value chain. We first organized the value chain into 'upstream (raw materials, parts, and other suppliers) – own operations (manufacturing, sales) – downstream (transportation, sales, repairs/services)' phases and identified each phase's key stakeholders' industrial sectors and business activities. We then analyzed ESG topics for each industrial sector referencing the Sustainability Accounting Standards Board (SASB) standards, after which we derived material ESG topics for each Division and Business Unit's individual value chain phases.

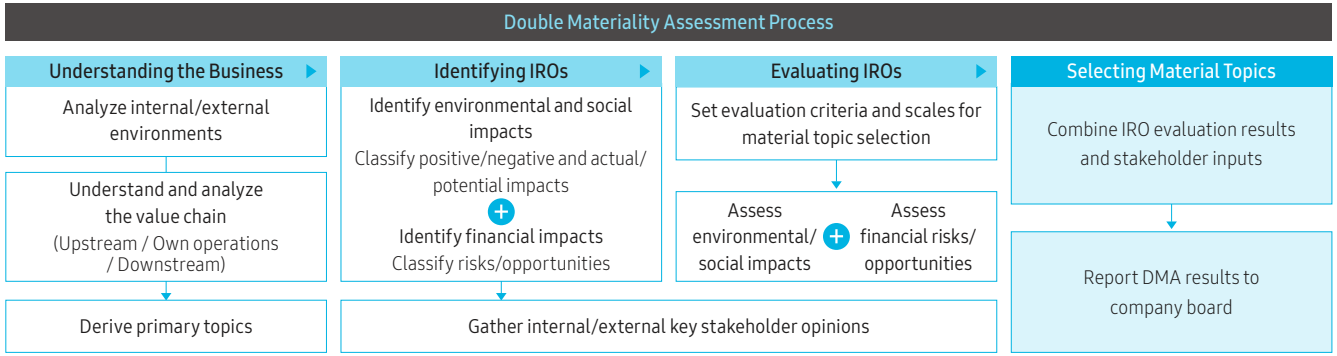
We also identified key stakeholder groups interested in our sustainability activities in order to widely gather stakeholder opinions during the assessment process. We also established various opinion gathering plans to accommodate our diverse stakeholders' characteristics.

Reflecting DX/DS Divisional Characteristics Samsung Electronics strived to reflect our Divisional characteristics during the DMA process. In the value chain analysis step we identified individual value chains by DX, DS Divisions and their respective Business Units to comprehensively consider sector-specific ESG topics in issue pool composition and assessment. We also identified and performed surveys/interviews with Division specific employees, customers, and suppliers while evaluating stakeholder groups.

[Derive Primary Topics]

Samsung Electronics formed an issue pool of 115 issues, constructed from 92 sub-topics as suggested by the European Sustainability Reporting Standards (ESRS) and 23 additional, sector specific issues. Each issue was evaluated against four criteria (alignment with company strategy, alignment with global initiatives, key issues in the industry, and results of value chain analysis) to derive 52 issues, and 13 primary topics were selected to encompass these 52 issues based on the topic taxonomy of the ESRS.

Primary Topics		
Climate Change and Energy	Working Conditions - Employees	Information Security and Protection
Pollution	Equal Treatment and Opportunities - Employees	Product Quality and Safety
Water	Forced Labor - Employees	Accessibility
Resource Circularity and Waste	Supply Chain	Business Conduct
		Governance



Step 2. Identifying IROs

Samsung Electronics identified environmental/social impacts and financial risks/opportunities for the 13 primary ESG topics. We first prepared identification bases for primary topics including related regulations, media, Sustainability Website and Report contents as well as requests from key stakeholders like our customers, investors, and rating agencies, then analyzed topic relevant Samsung Electronics business activities. Next we identified environmental/social impacts of relevant value chain business activities and classified each impact into positive/negative and actual/potential traits. Using the identification bases, we also identified and analyzed how topical external environments can financially impact us and classified each impact into risks and opportunities, analyzing the respective account subjects.

ID Bases	Identifying IROs	
Legal/Regulative Issues Externally disclosed information (media, Sustainability Website, Sustainability Report, etc.) Stakeholder requests (customers, investors, suppliers, rating agencies, etc.)	Environ-mental/ Social Impacts	· Company activity's environmental and social impacts related to ESG topics · Classified as positive/negative, actual/potential
	Financial Risks/ Opportu-nities	· External environmental impacts on company finances related to ESG topics · Classified as risks/opportunities

Step 3. Evaluating IROs

Samsung Electronics designed evaluative scales for identified primary topics' IROs referencing EU ESRS requirements and performed evaluations based on robust stakeholder participation.

Classification		Assessment Standard
Env./ Social Impacts	Scale	Size of impacts
	Scope	Geographic/physical reach of impacts
	Remediability	Time required to remediate negative impacts
	Likelihood	Time estimated for potential impacts to occur
Financial Risks/ Opportunities	Quantitative size	Quantitative size of risks/opportunities considering company sales, net worth, net income before tax, etc.
	Qualitative reach	Qualitative reach of risks/opportunities considering expected or realized time of executive managements' strategy formation and decision making
	Likelihood	Time expected for financial risks/opportunities to occur

Stakeholder Engagement-Based Assessment

Stakeholder Surveys

In March 2024, we conducted an online survey for relevant internal/external stakeholders including Samsung Electronics employees, customers, partners, investors, NGOs, and international organizations. We distributed assessment guides and video materials to aid stakeholders in understanding the survey. We also held separate briefing sessions for our employees to inform them in detail of survey purpose, participation method, evaluation scale, and result usage.

Executive Management Interviews

In March 2024, we conducted in-person and written interviews with DX/DS Division sustainability-related executives to obtain their views on ESG topics material to the company.

EU Stakeholder Forum

In March 2024, we held a sustainability forum in Brussels, Belgium, titled 'Innovate & Empower: Samsung's Sustainability Journey' for EU stakeholders. Key stakeholders including European government agencies such as EFRAG and DG GROW, international organizations such as the ILO, OECD, UNDP, UNEP, UNGC, and UN PRI, associations such as the RBA and WBCSD, and professional organizations discussed major challenges and opportunities for non-financial disclosure standards and regulations, climate action, resource circularity, and labor rights in Europe. Samsung Electronics also identified areas for improvement through meetings with stakeholders, and plans to continue to strengthen communication with stakeholders in the future.

Step4. Select Material Topics

Samsung Electronics selected eight material topics based on a combination of quantitative and qualitative analyses of the survey results, including: climate change and energy, water, resource circularity and waste, working conditions - employees, supply chain, information security and protection, product quality and safety, and business conduct. Due to sectoral differences between each Division, we further selected environmentally material issues by Division. The DX Division's material environmental issues included climate change and energy, water, resource circularity and waste, while the DS Division's material environmental issues included climate change and energy, water, resource circularity and waste, and pollutants. After management review, selected material issues were reported to the Sustainability Committee under the Board of Directors.

Qualitative Results			Quantitative Results
Env./Social Impacts	Financial Risks/ Opportunities	+	Executive Management Interview Results

Identifying IROs

· Combined qualitative and quantitative analyses results to select final material topics[1)]
· 8 material topics selected(3 environmental, 4 social, 1 governance)

1) Information security and protection, product quality and safety, business conducted selected as new material topics compared to previous assessment

Final Material Topics

Environmental	Social	Governance
Climate Change and Energy	Working Conditions - Employees	Business Conduct
Water	Supply Chain	
Resource Circularity and Waste	Information Security and Protection	
	Product Quality and Safety	

Material Topic Management

Samsung Electronics identifies the impacts of selected material topics on the company, and reports on company activities to manage these topics.

2024 Material Topics	UN SDGs	Governance	Strategy	Risk Management (Policy)	Activities (Major Progress)
Climate Change and Energy	13 CLIMATE ACTION	· Sustainability Committee under the Board of Directors oversees sustainability management (including environmental management) strategy and progress · Sustainability Council (chaired by CEO) and Environmental Management Task Force (consisting of relevant departments) and decide on current issues · Invest over KRW 7 trillion in environmental management activities by 2030 (including process gas reduction and water resource preservation)	· DX Division: net zero Scope 1, 2 emission by 2030 · DS Division: net zero Scope 1, 2 emission by 2050	· Board of directors approved New Environmental Strategy · Operate Environmental Management Task Force	· Reduce direct emissions, expand renewable energy, reduce external GHG emissions
Water	6 CLEAN WATER AND SANITATION 15 LIFE ON LAND		· DX Division: replenish 100% of water used globally by 2030 · DS Division: achieve zero increase in water intake relative to 2021 levels by 2030	· Board of directors approved New Environmental Strategy · Operate Environmental Management Task Force and Net Zero Committee · Assess water resources risk assessment and establish response strategy by region	· Expand scope of AWS[1] certification for Korean manufacturing sites 1) Alliance for Water Stewardship
Resource Circularity and Waste	12 RESPONSIBLE CONSUMPTION AND PRODUCTION		· DX Division: apply recycled resin to all plastic parts by 2050 · DS Division: achieve 99.9% waste recycling rate across all Korean manufacturing sites	· Board of directors approved New Environmental Strategy · Operate Environmental Management Task Force and Net Zero Committee	· Set up product waste retrieval system, attain Zero Waste-to-Landfill certifications at business sites
Working Conditions - Employees	10 REDUCED INEQUALITIES 3 GOOD HEALTH AND WELL-BEING	· Sustainability Committee under the Board of Directors, Sustainability Council chaired by the CEO and Labor and Human Rights Council oversees and manages employee and supply chain labor and human rights at various levels	· Respect human rights based on management philosophy of "People First", continue to pursue safe work environment, and create positive workplace culture	· Establish various policies and standards including fundamental principles of human rights, grievance policy, environmental health and safety policy · Operate employee communication and grievance channels and perform human rights due diligence	· Observe freedom of association and right to collective bargaining · Analyze and improve living wage gap · Operate manufacturing site safety management programs and employee health promotion programs · Provide fringe benefits and work policies for work-life balance
Supply Chain	8 DECENT WORK AND ECONOMIC GROWTH		· Secure sustainable supply chain by assisting supplier labor and human rights, occupational health and safety, and talent development as well as business competitiveness	· Establish various policies and standards including supplier Code of Conduct, global purchasing Code of Conduct · Provide supplier employee comm. channels, grievance channels, and operate integrated workplace environment management process	· Perform force labor, child labor special audits · Perform regular ESG audits, consulting and training for suppliers · Operate Partner Collaboration Academy
Information Security and Protection	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	· CPO (Chief Privacy Officer) and Information Protection Center head, acting as CISO (Chief Information Security Officer), perform control tower role and operate Privacy Protection Committee and Security Council	· Provide strategic direction through the Three Privacy Principles and Four Pillars of Cybersecurity	· Establish global privacy protection policy, operate Samsung privacy website	· Operate Privacy Legal Management System (PLMS) and educate employees · Operate security platform Samsung Knox and Samsung Knox Vault · Semiconductor technology security
Product Quality and Safety	17 PARTNERSHIPS FOR THE GOALS	· Global CS Center (Customer Satisfaction Center) and business unit organizations in charge of quality perform operations	· Announce Code of Conduct based on vision of top class pursuit of quality	· Operate quality assurance system and incident response process	· Secure product safety and improve product quality
Business Conduct	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	· Board of directors and affiliated committees provide oversight on compliance, Compliance Committee performs operations	· Establish and specify employee and business guidelines	· CPMS[1] based risk management 1) Compliance Program Management System	· Operate education and reporting programs, evaluate corruption risk

Planet

We dream of a better world, a better planet.

DX Division

12 Governance and Major Progress
13 Climate Change
15 Circular Economy
17 Water & Pollution

DS Division

19 Governance and Major Progress
20 Climate Change
23 Water
26 Waste
28 Pollution

DX Division

Governance and Major Progress

Climate Change
Circular Economy
Water & Pollution

Governance

Samsung Electronics' Sustainability Committee under the Board of Directors, as its highest governance body, recognizes the environmental field (encompassing issues like climate change and resource circularity) as a core management area that directly connects to company business and financial progress. The Sustainability Committee under the Board approves the company's Environmental Strategy and targets, overseeing relevant major activities. In 2022, the Board resolved Samsung Electronics' New Environmental Strategy, which encompasses mid- to long-term climate change response and resource circularity goals. In 2023, 'Major Achievements of the 1st Anniversary of the New Environmental Strategy' was reported to the Board.

In the DX Division, the CEO has responsibility and authority over key issues such as establishing environmental strategies, identifying implementation tasks, and implementing investments. The CEO presides over the company's Sustainability Council with Business Unit heads and operative department heads. In addition, the Environmental Management Task Force, a company-wide council composed of executives from environment-relevant departments, establishes environmental management plans and checks on implementation status. The Corporate Sustainability Center, Global EHS office, regional environmental organizations, and Business Unit sustainability offices are in charge of implementing action items/projects to respond to climate change. The DX Division started GHG emission reduction performance evaluations in its organizational reviews in 2021, and added items such as RE transition, energy-efficient product development, and waste recycling performance to organizational and executives' performance reviews in 2023, expanding the list in 2024 to include water resource management. We will continue to enhance incorporation of sustainability issues in our organizational and executives' performance reviews.

DX Division Governance Bodies

Sustainability Committee
Reports to Board of Directors composed of independent directors, oversees sustainability strategy and progress at least once per quarter

Sustainability Council
Discuss sustainability issues at least once per quarter with executives of all relevant units and chaired by CEO

Environmental Management Task Force
Reviews and updates corporate Environmental Strategy action items, discusses and makes decisions on current issues

Environmental Safety Meetings	Eco-Council	Carbon Disclosure Council
Oversees, manages GHG emission and reduction action items	Reviews progress on environmentally responsible products	Establishes carbon emission calculation standards and system

Environmental Management System Environmental Risk Management

Environmental Targets and Major Progress in 2023

	Environmental Targets	Progress in 2023
Net Zero	**2027** · 100% RE transition for DX business sites · Replace all corporate vehicles in Korea with 100% zero-emission vehicles (EV, hydrogen) **2030** · Achieve net zero Scope 1, 2 emissions for DX Division · Improve power consumption of major models in seven product categories[1] by 30%[2]	· DX Division RE transition at 93.4% · Applied ultra-power-saving technologies to major models in seven product categories[1], improved energy efficiency by 25% compared to 2019
Resource Circularity	**2025** · Obtain Underwriter Laboratories (UL) highest level certification (Platinum) for Zero Waste-to-Landfill at all our manufacturing sites **2030** · Apply recycled resin to 50% of plastic parts used in our products[3] · Expand e-waste recovery to all global sales regions · Cumulatively collect the industry's largest amount of e-waste at 10 million tonnes **2050** · Apply recycled resin to all plastic parts[3] · Cumulatively collect 25 million tonnes of e-waste	· Applied recycled resin to 25% of plastic product parts · Operating e-waste recovery programs in approximately 70 countries globally · Obtained Platinum Zero Waste-to-Landfill certification in 2 Korean, 12 global manufacturing sites world-wide[5]
Water	**2024** · Expand water replenishment program (3 Korean sites, 8 global sites at 4 countries) · Obtain highest level certification (Platinum) from Alliance for Water Stewardship (AWS) for 3 Korean[4] and 3 Vietnamese manufacturing sites **2030** · Replenish 100% of water used globally for DX Division	· Performed water replenishment pilot projects at 3 Korean locations

1) Based on comparable specifications for 7 electronic products: smartphones, TV, refrigerators, washing machines, air conditioners, PCs, monitors
2) Compared to 2019 3) Pure recycled resin ratios differ by part 4) Certified in January 2024 5) As of March 2024

Climate Change

Strategy

The DX Division plans to achieve net zero Scope 1, 2 emissions by 2030 in line with the New Environmental Strategy announced in 2022. To this end, we are minimizing direct emissions through process energy efficiency improvement and expanding our use of renewable energy (RE). We are also pursuing various GHG emission mitigation activities in our business sites and across our entire value chain, including product logistics, sales, and use.

Climate Change Strategy

Risk Management

The DX Division identifies tangible financial or strategic impacts of climate change related risks, develops response strategies based on each issue's importance and impact on our business and incorporates said strategies into our decision making process. Risks include global climate frameworks, increased regional regulations, market change, stakeholder requests, and changes in the physical environment. For example, Korean manufacturing facilities in particular are performing our legal obligations for GHG emission management under the K-ETS (Korean Emission Trading Scheme).

We anticipate that GHG emission reduction targets assigned to companies subject to K-ETS according to the Republic of Korea's Nationally Determined Contribution (NDC) will continue to be strengthened. In the short term, we expect increases in investment due to increasing carbon prices, adopting energy efficient technology, and responding to extreme weather caused damages to be potential risks. We also expect easing of carbon pricing sensitivity due to securing external carbon credits and energy cost reduction due to deploying highly energy efficient technology to be potential opportunities.
We also anticipate change in consumer spending patterns and preference for environmentally responsible products to be potential mid-term opportunities, while expecting physical impacts like temperature rise and water resource depletion to be potential long term risks.

Climate Change Risks·Opportunities

Direct GHG Emission Reduction

- Energy reduction activities including energy efficiency equipment installment and manufacturing process optimization
- GHG reduction project implementation for remaining emission reduction
- Achieve zero net direct emission by 2030

Renewable Energy Expansion

- Joined RE100, a global initiative purusing RE transition, in 2022
- Utilize diverse RE procurement options to economically and sustainably secure RE
- Transition to 100% RE by 2027

Value Chain Carbon Reduction

- Apply power-saving technology to major models for smartphones, TVs, refrigerators, washing machines, air conditioners, PCs, and monitors
- Support supplier GHG emission calculation and reduction target setting (guidance development, training)
- Reduce value chain carbon emission from entire life cycle of a product, including in material procurement, manufacturing, transportation, usage, disposal, and recycling

Activities

Direct GHG Emission Reduction

The DX Division prioritizes minimizing its own emissions through improving the energy efficiency of business sites, reducing energy use, and transitioning energy sources, while identifying and executing GHG reduction projects to offset emissions that cannot be reduced through our own reduction activities. We also continue to reduce energy use at our global manufacturing subsidiaries while setting energy use reduction targets relative to the previous year[1].

In 2023, we secured a total of 250,000 tonnes of carbon credits through agroforestry and mangrove projects in India and Indonesia. We are especially focusing on reduction projects that not only reduce GHG emissions but also improve the quality of life and income levels of the local community such as cookstoves and agroforestry. We also plan to transition to 100% zero-emission vehicles (electric and hydrogen cars) in Korea by 2027. We plan to continue to implement GHG reduction projects to achieve our direct emission reduction and net zero targets.

1) 2024 target: energy use reduction

Direct GHG Emission Reduction Roadmap

2023	· Reduce GHG emissions through means such as retrofitting facilities with high-efficiency equipment, and automation including application of Internet of Things to our systems · Reduce energy use through facility heating and cooling operation optimization · Cooperate with global institutes specializing in emission reduction
2024	· Secure external carbon credits through forestation projects and mangrove projects · Reduce business site energy use through means such as LNG use efficiency improvement
2030	· Achieve net zero Scope 1, 2 emissions

Direct Emission Reduction Activities

Expansion of Renewable Energy Use

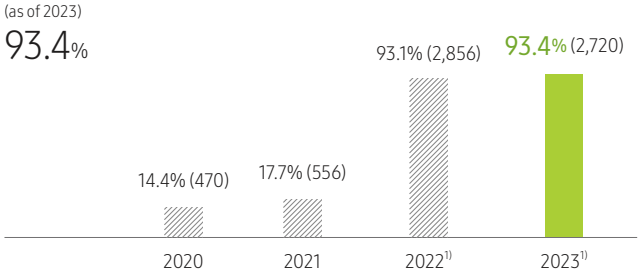
The DX Division has set a target of transitioning to 100% RE at all of our business sites by 2027 and is continuously expanding our RE usage by utilizing procurement means available to the global market. We are also increasing the number of our Power Purchase Agreements (PPAs) in order to secure stable sources of RE and seeking to qualitatively and quantitatively improve our RE supply through such measures as installing solar power generation facilities on spare grounds in our business sites.

Renewable Energy Transition Roadmap

2018	· Declared plan to expand RE use (100% transition by 2020 in U.S., European and Chinese business sites)
2020	· Completed 100% transition in U.S., European and Chinese business sites
2022	· Completed transition to 100% RE at all DX Division business sites in Korea and manufacturing sites in Vietnam, India, and Brazil
2025	· 100% transition in Central and South America
2027	· 100% transition for DX Division

RE Transition Status by Key Regions

DX Division RE Transition Rate (Usage, GWh)



1) 2022 electricity usage: 3,067 GWh, 2023 electricity usage: 2,914 GWh

Renewable Energy Transition Status by Region

U.S. Our U.S. subsidiaries have increased their renewable energy use by means like installing solar power generating facilities in company buildings and purchasing Renewable Energy Certificates (RECs). As a result, our U.S. subsidiaries achieved 100% renewable energy transition in 2020.

Europe Our European manufacturing sites have transitioned 100% of their electricity use to renewable energies by adopting the Green Pricing System and purchasing RECs.

India Our Indian manufacturing sites completed the transition to 100% renewable energy in 2022 by signing PPAs with local solar, wind, and biomass power stations, purchasing RECs, and installing solar power generating facilities.

Vietnam and China Our Vietnamese manufacturing sites transitioned to 100% renewable energy in 2022 by purchasing RECs, while our Chinese manufacturing sites also transitioned to 100% renewable energy by adopting PPAs and purchasing RECs. We plan to expand the number of renewable energy PPAs for both countries.

Central and South America Our Brazilian manufacturing sites completed the transition to 100% renewable energy in 2022. Our Mexican manufacturing site expanded its share of renewable energy to 70% in 2023 from 4% in 2020 through power contracts including REC purchases. We are pursuing additional renewable energy PPAs and plan to achieve our transition target by 2025.

Republic of Korea The DX Division completed the transition to 100% renewable energy in 2022. Our Suwon manufacturing site has installed solar power generation facilities on site while our Gumi and Gwangju manufacturing sites has implemented in-situ renewable energy PPAs to supply themselves with solar powered electricity.

Value Chain Carbon Reduction

The DX Division is striving to reduce value chain carbon emissions from a product life cycle perspective including material procurement, production, transportation, usage, disposal, and recycling as well as pursuing net zero Scope 1, 2 emissions by 2030. In particular, we plan to decrease 2030 power use in major models for smartphones, TVs, refrigerators, washing machines, air conditioners, PCs, and monitors by 30% on average compared to 2019 models with equivalent performance and specifications. In 2023, we decreased the power use in our major models by 25% relative to comparable 2019 models.

Carbon emissions reduction in the product use stage

Energy Efficient Products Roadmap

2023	· Energy efficiency of leading models of 7 major product categories[1)] improved by 25% compared to 2019 using high energy efficiency technologies
2030	· Improve energy efficiency of leading models of seven major product categories[1)] by 30% compared to 2019

1) 7 major models (2023): Refrigerators (RF85C9241AP), air conditioners (AR10DYEAAWK/ST), washing machines (WF25CB8795BK), TVs (KQ75QNC900FXKR), monitors (LS49AG950NKXKR), PCs (NP960XFG), smartphones (SM-S918)

Solving the climate crisis facing the world is a task that requires everyone's participation, and we want to create a journey together with our suppliers. Samsung Electronics joined the CDP[1)] supply chain program in 2019. We established an operational system to promote GHG reduction in 2022 and are implementing substantive reduction activities. We developed a guide to help our suppliers calculate their GHG emissions and set reduction targets, as well as operating a step-by-step support program for reduction activities.

1) CDP: Environmental Disclosure Platform (formerly Carbon Disclosure Project)

Responding to Climate Change with Our Suppliers

Circular Economy

Strategy

The DX Division aims to enhance the resource circularity of our entire product life cycle ranging from raw material procurement to production, disposal, and recycling. We aim to develop the resource circularity process through producing electronics with recycled materials, collecting end-of-life and discarded products, recovering resources, and applying the recovered resources to new products. We work to extend our products' lifecycles and minimize our environmental impact.

We enhance the durability, repairability, and upgradability of select products, support regular software upgrades, and operate the Samsung Care+ program to minimize customers' burdens with maintenance and repair, helping them use our products longer.

Risk Management

The DX Division manages resource circularity risks in 4 stages: risk recognition, assessment, treatment, and progress management. We recognize resource circularity related risks in waste treatment cost increase, treatment facility and technology limits, and lack of consumer awareness, and resource circularity opportunities in waste reduction via recycling, including plastics, and new market opportunities from recycling technology development.

Resource Circularity Risk Management Process

1. Identify potential risks from a life cycle perspective from product design to disposal
2. Prioritize identified risks
3. Develop, implement, and monitor responses to each risk
4. Manage progress on each risk, evaluate management efficiency and continually improve risk management effect

Expand Use of Recycled and Recyclable Materials

- Developing innovative technology for recycling discarded fishing nets to address plastic debris
- Expand recycled and recyclable materials use
- **Apply recycled resin to 50%/100% of DX Division purchased product plastic parts by 2030/2050**

Operate E-waste Collection System

- Operate e-Waste collection and recycling systems in approximately 70 countries to ensure that waste products are recycled into materials for new products
- **Expand e-Waste collection system to approximately 180 countries by 2030**
- **Cumulatively collect 10 million tonnes of e-Waste by 2030 and 25 million tonnes by 2050**

Achieve business site Zero Waste to Landfill Certification

- Set Zero Waste to Landfill policy to promote recycling
- Achieve Zero Waste to Landfill[1] certification from global environment and safety certifier UL for all manufacturing sites
- **Achieve highest level certification (Platinum) for all DX Division manufacturing sites by 2025**

1) UL(Underwriters Laboratories) Zero Waste to Landfill Certification: evaluates a company's resource circularity efforts and assigns four levels of certification based on the percentage of waste generated by a business that is diverted from landfills. Platinum 100%, Gold 95-99%, Silver 90-94%, Certified 80% or higher (decimals are rounded up, 99.5% is rounded up to 100%)

Activities

Expand Recycled and Recyclable Materials Use

The DX Division is striving to apply recycled and recyclable materials. We took note of plastic waste, considered the largest threat to marine environments, and developed innovative technologies to recycle discarded fishing nets. We are also continually expanding our use of recycled and recyclable materials such as recycled aluminum and glass.

Continual Expansion of Recycled Materials

Samsung Electronics reduces environmental impacts by replacing plastics and vinyl used in several products' packaging with recycled materials while reducing GHG emissions in our product transportation through miniaturizing and lightweighting our packaging. The Galaxy S24 series launched in 2024 used 100% recycled paper in package boxes as well as for protection papers attached to product front and rear.

Recycled and Recyclable Packaging Material Use Case by Product Category

Visual Displays / Digital Appliances	Mobile Appliances

Recycled and Recyclable Materials Roadmap

2022	· Ocean-bound plastic recycled and applied to DX Division manufactured products · Circular Economy Lab established
2023	· Applied recycled resin to 25% of plastic parts in products[1]
2030	· Apply recycled resin to 50% of plastic parts in products purchased by DX Division[1] · Establish recycling system for minerals extracted from all waste batteries collected by us
2050	· Apply recycled resin to 100% of plastic parts in products purchased by DX Division[1]

1) Weight based. Recycled resin rates differ by part

E-waste Collection System

The DX Division is operating various recycling programs for waste products regardless of brand in over 70 countries including the Republic of Korea. We consider national traits in operating our e-waste recovery and recycling programs, either directly operating recycling centers or collaborating with recycling associations and companies.

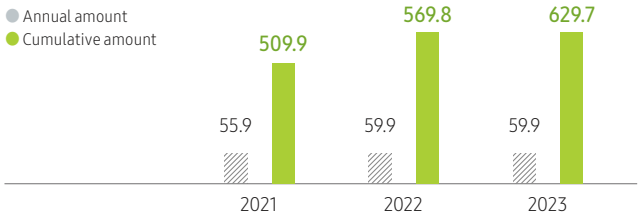
We have recovered a total of 6.297 million tonnes of e-waste from 2009 to 2023. We will expand our waste product recovery system to all countries with product sales, or approximately 180 countries, and plan to recover a total of 10 million tonnes of e-Waste by 2030 and 25 million tonnes by 2050 from 2009.

E-waste Take-Back Operation

Recycling Programs by Country	Waste Product Recovery System by Region	Requirements for Recycling Service Partners

Amount of Collected e-waste

(Base year: 2009, Units: 10,000 tonnes)



E-waste Collection and Recycling Roadmap

2023	· Operate e-waste collection programs in approximately 70 countries
2030	· Operate e-waste collection programs in approximately 180 countries and cumulatively[1] collect 10 million tonnes of e-waste
2050	· Cumulatively[1] collect 25 million tonnes of e-waste

1) base year of 2009

Extend Product Lifecycles

We research and apply ways to extend our product life cycles considering their impacts on the environment, given shorter product life cycles increase resource usage and carbon emissions. In addition to enhancing our products' durability and repairability and upgrading their software, we replace all used parts with 100% authentic Samsung parts through our Certified Re-Newed (CRN) program in the United States, England, and France (as of March 2024). All CRN approved smartphones have new batteries installed. We extend our product lifecycles by collecting used smartphones and selling CRN approved smartphones via such trade-in programs.

Activities to Extend Product Lifecycles

Increase Durability	Consider Reparability
Upgradability	Product Repair Services

Research Recycling Technologies

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.

Obtain Business Site Zero Waste-to-Landfill Certification

DX is targeting Zero Waste-to-Landfill certifications for all of our manufacturing sites to recycle resources and reduce environmental impacts. Our manufacturing sites are recycling manufacturing process waste, previously sent to the landfill or incinerated, into cement raw materials and recycled fuel. We have maximized our recyclable waste sorting capabilities by establishing new waste sorting processes, and are recovering energies via heat and steam where materials that are not recyclable are incinerated. We raised our recycling rate through these means and plan to acquire the highest level of Platinum Zero Waste-to-Landfill certification at all manufacturing sites by 2025.

Zero Waste-to-Landfill Status

Platinum Certification[1]	Gold Certification[1]
Korea: Suwon, Gwangju **Global**[2]: (Chennai, Noida), Brazil (Campinas, Manaus), Poland, Egypt, Vietnam (Hanoi (2)), Mexico (Tijuana), Turkiye	**Korea**: Gumi **Global**[2]: Hungary, Vietnam (Ho Chi Minh), Thailand, Mexico (Queretaro), Indonesia, United States, Malaysia

1) As of March 2024
2) Global refers to all non-Korean regions

Business Site Zero Waste-to-Landfill Roadmap

2021	· DX Division obtained first Platinum Zero-Waste-to-Landfill in our Slovakia site[1] 1) from global safety certifier UL(Underwriters Laboratories)
2023	· DX Division received Platinum certification at 14 manufacturing sites
2025	· Receive Platinum certification at all manufacturing sites

Expanded Business Site Recycled Waste List

Waste Item	Previous	Improved
Glass panel with deposition for refrigerators	Landfill	Reused into glass raw material
Open cell panel for TVs	Landfill	Reused into cement raw material
Waste battery	Landfill	Extracted into valuable metals
Cafeteria waste, landscaping byproduct	Incinerate	Manufactured into fertilizer and feed

Reduce Company Waste

In order to minimize the use of disposables, the DX Division distributed reusable bags to all employees in Korea to minimize the use of single-use plastic bags and are using reusable cups and cutlery in Korean business site cafeterias and cafes. We also have installed approximately 480 food processors at our Suwon and Gwangju business sites to sort food waste from general waste, converting them into fertilizer. We plan to strengthen these types of business site waste reduction activities and expand them to other sites.

Company Waste Reduction

Water & Pollution

Strategy

The DX Division categorizes used water into sewage, wastewater, process water, and ultra-pure water to increase the reutilization rate of water used for manufacturing across approximately 20 global manufacturing sites. We calculate monthly reutilization rates by category to reduce the amount of water withdrawn. Furthermore, water that is ultimately consumed and not returned to the local environment is restored through external water replenishment projects in an effort to preserve water resources.

We also perform Responsible Business Alliance (RBA) assessments of our suppliers, reviews Water, Sanitation and Hygiene (WASH) services, and provides consulting on water resource treatment facilities. Each manufacturing site also formed cooperative systems with local governments, NGOs, and local residents to protect and improve water resources in watersheds near our sites.

Water Resource Management Mission and Vision

We strive to minimize the impact of substances of concern 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) Direct and the Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) Regulation of the EU and the Toxic Substances Control Act (TSCA) of the U.S..

EU REACH Declaration

Systemic Water Resource Management
- Reduce and recycle water used in manufacturing process through detailed water resource management at global manufacturing sites
- Obtain Alliance for Water Stewardship water management certifications

Restore Water Resources
- Preserve water resources through water replenishment projects for all manufacturing sites
- **Restore 100% of globally used water for DX Division by 2030**

Product and Manufacturing Process Substances of Concern (SoC) Management
- Comply with regulations and strengthen management of SoCs in products and business site chemical substance regulation compliance

Risk Management

We perform annual analysis on whether a business site is located in a water stress or water risk region, detailing potential water resource risks. We apply internationally recognized water resource management tools like the World Resource Institute's (WRI) Aqueduct Water Risk Atlas[1] to identify water stress or risk regions, then establish and execute response strategies per water resource risk based on the Carbon Disclosure Project (CDP) Water Guidance.

1) Aqueduct Water Risk Atlas standard: Regions evaluated as High(3) based on metrics including water resource quantitative and qualitative data, regulation and reputation risk

Key water resource risk response strategies include preparing for droughts by installing and operating water storage tanks and reuse facilities to operate manufacturing facilities, preparing for floods through annually renewing disaster insurances, and preparing emergency response systems and performing regular response drills. We also are managing our effluent standards to legal levels as well as rigorous internal levels and performing various activities raise employee awareness of the importance of water, such as partaking in Water Day events.

Water Risk Assessment

Water Resources Risk Analysis and Countermeasure Strategies

DX Division Business Site Water Risk Status (as of 2023)

	Water Unit	Sites	Withdrawal	Release
Total	1,000 Tonnes	25	17,270	13,042
Water Risk Regions	1,000 Tonnes	9[1]	2,450	1,493

1) Number of water risk sites by country: India(2), Mexico(2), Poland(1), Egypt(1), China(1), Thailand(1), United States(1)

The DX Division, based on the Standards for Control of Substances Used in Products, performs risk assessments for all business site work processes and facilities handling substances of concern whenever new facilities are installed, personnel or process deployed, or work order and conditions changed.

We analyze risks upon confirmation based on its occurrence possibility, causal factors, and control measures and predict its potential impacts based on possible accident scenarios

Activities

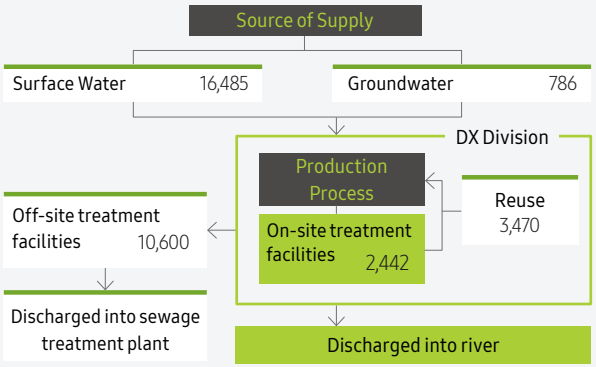
Systemic Water Resource Management

The DX Division seeks to decrease water withdrawal and increase water reuse at all business sites by means like installing water saving facilities, treating wastewater, and expanding graywater reuse. We are also pursuing various water use reduction activities including using groundwater and rainwater for landscaping and everyday purposes.

Water reduction	Water reuse
1,553 thousand tonnes Withdrawal reduced by 8% relative to 2022 levels	3,470 thousand tonnes Reuse rate increased by 3% relative to 2022 levels

Water Resource Management Process

DX Division Water Resource Flow Chart (2023) (unit: 1,000 tonnes)



The DX Division's Suwon, Gumi, and Gwangju business sites obtained the highest level of 'Platinum' certification from the Alliance for Water Stewardship (AWS) in February 2024[1]. We consider this a testament to the superiority of our water resources management system and plan to expand certifications to global locations like Vietnam's in 2024.

AWS Certifications

1) AWS is a global membership collaboration for water management jointly founded by the UNGC (UN Global Compact), CDP (Carbon Disclosure Project), and other international organizations. AWS certifies a company's water resource management system into three levels of 'Platinum', 'Gold', and 'Core' based on a total of 100 evaluative items like the company's ▲water management stability ▲water contaminant management ▲water quality and hygiene ▲impact on aquatic ecosystem in nearby watersheds, and ▲governance structure.

Water Replenishment Projects

Water usage is a necessary part of a product's manufacturing process and while used water is treated and returned to the natural environment, some water is inevitably consumed in the process. The DX Division established a goal to return as much water as is consumed in its '100% water restoration by 2030' target. We minimize our environmental impact by returning utilizable water resources to stakeholders and local communities through such water replenishment projects. For example, we signed a Memorandum of Understanding (MOU) with the Korean Rural Community Corporation to support agricultural water reuse in island communities facing water shortages. In 2024, we will identify and develop replenishment projects not only in Korea but around the world where we have manufacturing sites to contribute to preserving water resources.

Status of Water Restoration in DX Division

Product and Manufacturing Process Hazardous Substance Management

The DX Division encourages our suppliers to actively engage in environmental management activities through Eco-Partner Certifications managing hazardous substances in the supply chain. Suppliers submit product environmental assurance reports that guarantee data and hazardous substance information from their raw material providers. Samsung Electronics evaluates and certifies companies' compliance to Standards for the Control of Substances Used in Products and only works with certified suppliers.

Control of Substances Used in Products

As chemical substance regulations are strengthened world-wide and national regulatory subjects and standards become diversified, more professional chemical substance management is necessary. Samsung Electronics regularly updates chemical substance regulation database for 16 countries with manufacturing sites including China, Vietnam, and India, while minimizing risk by applying our own standards and through integrative management.

We are also enhancing our chemical substances management history process and system to readily identify whether internally regulated substances are contained in any chemical products that our employees intend to use, and testing for such chemicals. To secure chemical substance use safety, we manage all chemicals-related activities from procurement to disposal via our system.

Chemical Substance Management Process
Manufacturing Process Used Regulated Substance

Water Resources Replenishment Roadmap

2023	· Sign MOU with the Korean Rural Community Corporation , run 3 pilot projects for water resources replenishment in Korea
2024	· Expand replenishment projects to 3 Korean sites and across 8 business sites in 4 countries globally* · Develop additional replenishment projects globally*(11 countries, 12 business sites)
2030	· Restore 100% of globally used water for DX Division

Pollutant Discharge Minimization and Incident Preparedness

In order to minimize air and water pollutant discharge that occurs during the product manufacturing process, we are applying both legal and rigorous internal standards for discharge and each manufacturing site analyzes atmospheric discharge outlets and effluent analysis more often than is legally required.

We secure an additional capacity of more than 10% in our air and water pollutant prevention facilities at all times so as to prepare in advance for sudden pollutant inflow increases, and doubly install key preventive facilities so that even in emergency incidents such as facility breakdown preventive facility operations are not hindered.

We are also prepared to immediately lock down pollutant discharge through the installment of blocking facilities such as automated floodgates and valves and surveillance facilities such as meters and CCTVs at rainwater final discharge locations in accordance to the specific traits of treated substances and external watersheds.

Voluntary Local Community Agreements

The DX Division's business sites entered voluntary agreements with local environmental agencies in Korea so as to ensure air quality control and prevent negative air quality impacts on the local population's health, including those of our employees.

The Suwon site entered into a voluntary agreement to reduce seasonal particulate matter with the Korean Ministry of Environment's Metropolitan Air Quality Management Office and is voluntarily reducing key particulate matter substance use by over 10% of legal requirements during high concentration particulate matter seasons (December ~ March).

The Gwangju site signed a voluntary agreement to reduce air pollutants with the Youngsan River Watershed Office of the Environment to reduce annually emitted pollutants to less than 95% of legally allowed limits until 2024.

DS Division

Governance and Major Progress

Climate Change
Water
Waste
Pollution

Governance

The Sustainability Committee under the Board of Directors, as our overarching decision-making body, oversees environmental issues at large including climate change and water resources, which are key areas of management directly connected to our company's business and financial success. The Sustainability Committee approves corporate environmental management strategies/targets, oversees key relevant activities, and makes key decisions. In the DS Division, the ESG Management Council (CEO-presiding) reviews strategies, targets, and progress for our environmental management.

DS Division Sustainability Management Meetings chaired by the Corporate Management Office head makes decisions on detailed strategies, and the Net Zero Committee chaired by the FAB Engineering & Operations Head sustainably pursues its environmental strategy. Working committees in the carbon, pollutants, waste, and water reuse fields develop action items and review progress based on this decision-making process. The DS Division has assigned items such as GHG emission reduction, renewable energy transition, and electricity use reduction as core categories in evaluating the performance of executives and organizations, depending on the responsibilities (including for the Chief Safety Officer as the officer overseeing our manufacturing). We will continue connecting environmental progress results with rewards to reinforce our environmental management system.

DS Division Environmental Management Governance Bodies

Sustainability Committee
Reports to Board of Directors composed of independent directors, oversees sustainability strategy/progress at least once per quarter

ESG Management Council
Discuss sustainability issues at least once per quarter with executives of all relevant units and chaired by head of Division

Net Zero Committee
Engineering & Operations Head presiding, discusses carbon relevant issues every other month

DS Sustainability Management Meetings
Corporate Management Office head presiding , discusses ESG issues at least once per quarter

- Carbon Reduction Committee — Climate Change
- Environmental Preservation Committee — Pollutants, Waste
- Reuse Expansion Committee — Water

Environmental Targets and Major Progress in 2023

	Environmental Targets		Progress in 2023
Net Zero	2030 · Develop innovative technology to improve process gas treatment efficiency · Improve energy efficiency of FAB facilities through cooperation with facility companies	2050 · Achieve Net Zero (Scope 1, 2) for DS Division	· Expanded installment of process gas treatment facilities (RCS) · Reduced fuel usage of boilers through expansion in waste heat recovery · Expand renewable energy such as signing new solar power PPAs
Water Resources	2024 · Expand ecological status map development for areas influenced by DS Division business sites · Expanded sites with AWS[1] Platinum certification(Giheung, Hwaseong, Pyeongtaek, Xi'an) 1) Alliance for Water Stewardship	2030 · Reduce DS Division water withdrawal at Korean business sites to 2021 levels ※ through means such as reuse of effluent water from public wastewater treatment plants	· Developed ecological status maps for areas influenced by DS Division sites (Giheung, Hwaseong) · Obtained first AWS Platinum certification in Korea in March(Hwaseong)
Waste	2025 · Obtain highest grade in Zero-Waste-to-Landfill (Platinum) certification for all manufacturing sites	2030 · Achieve 99.9% waste recycling rate for DS Division Korean manufacturing sites	· Maintained high level Zero-Waste-to-Landfill certifications[1] 1) 7 Platinum, 1 Gold · Achieved Korean manufacturing site waste recycling rate of 98.4%
Pollutants	2030 · Zero detection rate in sections where workers are directly exposed to chemicals	2040 · Treat DS Division manufacturing site air, water pollutants to natural levels ※ Develop new technology to treat pollutants to natural levels	· Developed high efficiency air, water pollutant treatment facilities and processes that don't use pollutants · Managed chemical substances exposure at levels 10% lower than legally required

Climate Change

Strategy

The DS Division announced net zero Scope 1, 2 emissions by 2050 in the New Environmental Strategy in 2022. We are strengthening our carbon reduction activities through various projects including GHG treatment and energy efficiency improvement technology implementation and cooperation with government and industrial bodies.

Risk Management

The DS division identifies regulation risks and opportunities by country related to climate change and integrates them into our company risk management system. Risks and opportunities include global regulations and market trend change by region that can impact our business and reputation. Identified risks and opportunities are reported to management through relevant environmental governing bodies.

Climate Change Risk Management Process

- Integrate climate change related regulation risk by country into company risk management system
- Risks include global regulations and market trend change that can impact company business and reputation

Climate-Related Financial Risks and Opportunities Assessment

We conducted a pilot assessment of future financial impacts using 2021 as a base year to respond to shifts in the industry paradigm due to climate change. Because understanding climate related risks and opportunities is important for creating new businesses and entering future markets, we identified physical and transition risk factors from climate change and analyzed their financial impacts.

The DS Division identified heat waves, storms, and coastal erosion as key physical risks. We installed rain screens at our manufacturing sites, and accounted for the highest level of wind speed recorded-capable of significantly impacting semiconductor production facilities-when establishing wind resistance standards during facility construction. The DS Division will consider such key issues when selecting new business sites and expanding production lines. We identified cost increases due to GHG emission increases to be a key transition risk, thus we are continuously investing in reducing emissions including installing additional RCS[1], or process gas treatment facilities.

1) Regenerative Catalytic System

Climate Change Risk Assessment

Physical Risk: assessed impacts on corporate value due to 3 of 10 identified major climate related disasters (heat wave, storm, coastal erosion) based on RCP[1] 8.5 (greater than 4°C increase)

Transition Risk: estimated impacts on corporate value of GHG emissions (Scope 1, 2, 3) at large focusing on low carbon transition under NGFS[2] scenarios of the REMIND[3] model based on SSP[4]

1) Representative Concentration Pathway
2) Network for Greening the Financial System
3) Regional Model of Investment Shared Socioeconomic Pathways
4) Shared Socioeconomic Pathways

Climate Change Risk

Physical Risk	Transition Risk
· Heat wave, extreme cold, storms, coastal erosions, etc.	· Cost increase due to GHG emission increase (Scope 1, 2, 3)
· Damage-related costs from 10 extreme climate and natural disasters	

Climate Change Risk and Opportunities

Activities

Environmental risks and opportunities affect not only products and services but also manufacturing processes, supply chains, R&D, and other business activities. The DS Division monitors risks from global operations according to risk management processes and manuals in environmental safety, climate change and energy, and compliance. We have established and disclosed our environmental safety policies.

Direct GHG Emission Reduction

The DS Division's direct carbon emissions (Scope 1) are mainly due to the use of process gas during the semiconductor manufacturing process and use of fuels such as LNG. By 2030, the DS Division plans to develop innovative technologies that will significantly improve the efficiency of process gas treatment and expand carbon emission reduction facilities on production lines. In addition, to reduce the use of LNG boilers, we will expand the utilization of waste heat and consider introducing electric heat sources. We also plan to convert 100% of Korean business vehicles to zero-emission vehicles (electric and hydrogen vehicles) by 2027.

GHG Emission Reduction Roadmap

2023	· Operate bimonthly Net Zero Committee and Carbon Reduction Committee to establish and execute DS Division GHG reduction action items · Expand process gas treatment facility (RCS) installation · Reduce LNG boiler usage through expansion of waste heat recovery
2024	· Develop/apply high efficiency RCS catalyst · Expand the utilization of waste heat recovery system
2030	· Develop innovative technologies for improving process gas treatment efficiency · Improve energy efficiency of FAB facilities through cooperation with facility companies
2050	· Achieve net zero Scope 1, 2 emissions for DS Division

Process Gas Emissions Reduction

The DS division is reducing direct GHG emissions by increasing process gas treatment efficiency, reducing gas usage, developing alternative gases, and continuously expanding investment in RCS facilities.

1 Process Gas Treatment
- Expand installations of large-scale process gas treatment systems (RCS)
- Develop and apply new catalysts, increase process gas treatment efficiency (up to 97%)

2 Reduce Process Gas Usage
- Optimize process time, steps, and Clean Recipe to minimize the usage of process gas

3 Develop alternative gases
- Develop alternative process gases with low global warming potential and replace PFCs in some product processes (Developed 'G_1 gas', an alternative to C_4F_8)

Large Scale Integrated Process Gas Treatment Facility (RCS[1]) The DS Division developed and is using the semiconductor industry's first and only large-scale integrated process gas treatment facility, known as RCS. RCS collectively treats process gas at site rooftops using catalysts by leveraging the feature that all facility outlets are connected to rooftops. Compared to existing individual treatment facilities, the DS Division's RCS can treat gas at a lower temperature, reducing fuel use and generating fewer air pollutants such as nitrogen oxides. We continue to reduce our direct emissions by installing new RCS facilities on lines that can be installed, 16 process gas treatment facilities (RCS) were built in 4 production line buildings in 2023.

1) Regenerative Catalytics System

The RCS Treatment Process

1. **Pre-treatment scrubber**: treats high concentration acidic gas
2. **RCS facility**: uses catalysts to decompose PCFs (perfluorocarbons) at low temperatures
3. **Post-treatment scrubber**: HF (hydrogen fluoride) treatment
4. **Primary acid scrubber**: primary treatment of acidic gas using cleaning facilities
5. **Secondary acid scrubber**: secondary treatment of acidic gas to minimize atmospheric pollutants

Fuel Use Reduction

The DS Division recovers and recycles waste heat generated during business operations to reduce the amount of fuel (LNG) used within business sites. We maximized recovery of waste heat generated from facility cooling water/wastewater effluents at our Giheung, Hwaseong, and Pyeongtaek plants to use as a heat source for process water and air conditioning systems. This has the effect of reducing GHG emissions by reducing the amount of LNG used as a conventional heat source. The DS Division plans to develop technologies to improve waste heat recovery rates and introduce/expand facilities that can replace LNG-based heat sources to minimize direct GHG emissions at its sites.

Fuel Use Reduction Activities

LNG Use Reduction
- Maximized waste heat recovery using cooling water/wastewater effluents
- Evaluated facilities that can replace LNG-based heat sources

DS Division GHG Emission Reduction Project Progress in 2023

(Unit: tCO_2e)

Expand Renewable Energy Use

While the DS Division has a large electricity demand due to its industrial nature, Korean renewable energy supply conditions are relatively unfavorable compared to major countries overseas. We nevertheless plan to transition our global power use to renewable energy by 2050. Additionally in the United States and China, where we already achieved our renewable energy targets, we will expand our power purchase agreements (PPAs) focusing on regions with existing renewable energy supplies.

Renewable Energy Status by Key Region

U.S. In November 2019, we signed a PPA for 75MW of wind power with Apple, eBay, and Sprint to source renewable energy for U.S. Austin sites. Based on such efforts, the U.S. subsidiary achieved the transition to 100% renewable energy in 2020. The U.S. subsidiary also received the Green Power Leadership Awards for Excellence in Green Power Use from the U.S. EPA (Environmental Protection Agency) in September 2019.

China Our China operations have converted 100% of their electricity to renewable energy in 2020. We will gradually diversify our portfolio in accordance to local renewable energy-related schemes and market conditions.

Korea The DS Division signed a PPA with SK E&S in Nov. 2023 and with Samsung C&T in Mar. 2024 to supply approximately 76.2 GWh of renewable energy annually from a 60 MW solar power plant for 20 years for a total of 1,466 GWh[1] of renewable energy, starting in 2025. So far, we have installed a total of 2.8 MW of solar power generation facilities and generated 2.8GWh of energy in 2023 for on-site use. We also installed 1,372 RT[2] worth of geothermal heating and cooling facilities at our Korean business sites, including 1.5 MW at the Giheung site and 0.7 MW at the Pyeongtaek site. We will continue to expand both PPAs and facilities utilizing renewable energy.

1) accounting for reduction in guaranteed supply due to solar panel degradation
2) Ton of Refrigeration

Reduce Electricity Use

The DS Division is optimizing our improvements to the semiconductor manufacturing process to minimize the increase in GHG emissions by reducing power use through shortening facility test times, improving operating temperature conditions for auxiliary facilities, and applying high-efficiency equipment. We also aim to increase power efficiency by replacing and supplementing facilities and optimizing operations.

Electricity Use Reduction Activities

Reduce electricity use in semiconductor manufacturing process

- Shorten facility test times
- Improve auxiliary facility operating temperature conditions
- Develop energy saving technologies for facility power
- Apply Sleep Mode to production equipment
- Use energy saving technologies such as energy efficient chillers

Value Chain Carbon Reduction

Since 2009, the DS Division showcased low-power memory solutions every year.

We are also strengthening our technical capabilities to increase product energy efficiency, reducing carbon emissions in product use phase through the development of innovative ultra-low power technologies. We are obtaining various environmental certifications through key product carbon footprint and carbon reduction factor calculations.

In particular, we plan to secure ultra-low-power technologies that will enable us to significantly reduce the power consumption of memory used in data centers and mobile devices in 2025. Scaling down of semiconductors and advances in low-power design technology will not only contribute to reducing GHG emissions by reducing the power used by various IT products and data centers but will also allow us to develop products with the same performance using fewer raw materials.

Memory Semiconductors

Reduce global data center power use

- Develop data center specific high-performance SSDs[1] and improve energy efficiency over previous generation products
  - PM9D3a: approximately 60% more energy efficient than PM9A3

Develop next generation low-power DRAM

- Minimize power consumption and improved performance over the previous generation with such new technologies as EUV[2], HKMG[3], TSV[4], and DVFS[5]
  - LPDDR5X: Achieved 20% reduction in power consumption compared to the LPDDR4X
  - LPCAMM2: Achieved 60% less power consumption compared to the SODIMM

1) Solid State Drives 2) Extreme Ultra Violet 3) High-K Metal Gate
4) Through Silicon Via 5) Dynamic Voltage and Frequency Scaling

System Semiconductors

Reduce power use and develop high-performance semiconductors

- Mobile processor Exynos 2400: Installed deca-core CPU[1] and hexa-core GPU[2] to reduce power usage on mobile devices, improved CPU performance by 70% compared to previous generation products
- Image Sensor: Develop leading micropixel technology to maximize resolution and minimize required energy for HDR[3] movement through design optimization

1) Central Processing Unit 2) Graphics Processing Unit
3) High Dynamic Range

Semiconductor Product Life Cycle Assessment (LCA) Process

The DS Division has established a Life Cycle Assessment (LCA) process to identify environmental impacts and calculate the carbon footprint of semiconductor products throughout their entire life cycle. We also completed third-party verification of the LCA process in accordance with ISO 14040, 14044, and 14067 international standards to ensure the reliability of the data generated through the process.

Based on this experience, the DS division has built its own automated carbon footprint calculation system, which calculates the emissions of final products based on the emissions of each unit of the semiconductor production process to reflect product characteristics such as miniaturization.

In the long term, we will strive to minimize our environmental footprint by establishing a comprehensive management system to evaluate not only carbon emissions but also the overall environmental impact, including on water and other resources.

LCA Third Party Verification Statement

Strengthen Other Indirect Emissions (Scope 3) Management and Identify Reduction Action Items

The DS Division has been operating a company internal committee since 2022 to strengthen our Scope 3 management and reduction. In 2022, we enhanced our Scope 3 calculation methodology by category and completed third party verifications. We will continue to enhance our calculation methodology for more accurate emission calculations. Calculated Scope 3 emissions are disclosed through channels like the Sustainability Report and Carbon Disclosure Project (CDP) reports. Also, we continue to identify various reduction action items in our supply chain, resource circularity, logistics, and other subjects to establish mid- to long-term reduction targets and have implemented pilot projects for hydrogen vehicles in our Pyeongtaek site's employee transit buses.

Water

Strategy

As Samsung Electronics expands semiconductor lines in Korea, the amount of industrial water required for DS Division manufacturing sites in 2030 is expected to continue to grow from 2021 levels. In response, we have set a 2030 water intake reduction target aimed at reducing water consumption to 2021 levels and are striving to achieve this goal through various efforts, such as building wastewater reuse systems and signing agreements to reuse our treated sewage effluents. The DS Division will continue to work on minimizing our water resources impacts of Korean and global manufacturing sites.

Expand Water Reuse

Establish Water Reuse System

- Maximize industrial water reuse rate through wastewater effluent reuse system and invest in new technology development
- Apply technology for wastewater by concentration levels
- Reuse concentrated wastewater generated during ultra-pure water production
- Develop membrane-based water reuse technologies

Utilize External Wastewater

- Expand water supply through agreements to expand wastewater reuse

Reduce Water Use

- Optimize manufacturing process to reduce manufacturing use water
- Stop water supplies to non-active facilities
- Manage facility water use time
- Improve processes for facility operations

Ecological Preservation

- Secure stream flows by release cleanly treated water
- Contribute to improving water quality and enhancing biodiversity

Risk Management

The DS Division has established an ESG risk management system to identify ESG risks including for water resources. Key management risks based on monitoring and risk assessment are reported to executive management and ultimately applied to DS Division sustainability strategies.

Site	Water Stress Level
Korea (Giheung/Hwaseong/Pyeongtaek/Cheonan/Onyang)	Medium-High
China (Xi'an/Suzhou)	Extremely high
China (Tienjin)	Medium-High
United States (Austin/Taylor)	Medium-High

Water Risks and Opportunities and Response Strategies

The DS Division applied the WRI Aqueduct Water Risk Atlas, an internationally recognized water resources management framework and tool, to identify water resource risks[1]. We identified 4 risks factors and 1 opportunity factor and establish response strategies by region accordingly.

1) Aqueduct Water Risk Atlas standard: Regions evaluated as High(3) based on metrics including water resource quantitative and qualitative data, regulation and reputation risk

Water Risks and Response Strategies

Droughts, Water Outage

- Diversify water sources: establishment of emergency supply system capable of providing water from water suppliers; alignment with criteria set by water suppliers when evaluating water risks
- Calculate expected drought damage costs

Increases in South Korean Water Stress Index

- Annually review business site water stress/risk levels, detail risks and prepare response strategies accordingly

Water Resource Depletion, Pollution

- Participate in activities commemorating World Water Day to raise awareness of the importance of water
- Engage with local communities including joint activities for water risk prevention and river and marine ecosystem conservation with public, civic, and academic organizations in proximity to our business sites

Water Regulations

- Observe local environmental policies and regulations
- Maintain management standards at legal levels as well as rigorous internal levels

Water Opportunities and Response Strategies

Secure comparative competitiveness through value chain water resources management support

- Annually monitor water use savings, share water use savings knowhow, and seek partner company cooperation through value chain water footprint management

Water Resource Regulation Risk and Opportunity Management

The DS Division is actively responding to regional regulation changes including such laws like the Water Environment Conservation Act, the Promotion of and Support for Water Reuse Act[1], the Water Supply and Waterworks Installation Act, and the Sewage Act in Korea. According to health and safety protocols we continue to modify our health and safety incident management policies and manage water resource outflow at both legal and rigorous internal standards. We deliver our opinions on policies to regulation agencies via communication channels such as relevant associations and indirectly participate in water related policy and regulation improvement.

Our Giheung, Hwaseong, Pyeongtake, Onyang sites have earned the Green Company status under Article 16-2 of the Environmental Technology and Environmental Industry Support Act, as assigned by the Ministry of Environment to applicable companies in accordance with the Act's Enforcement Decree. Green Company designation is dependent on meeting all qualifications including environmental assessments, pollutant management status, environmental improvement planning, and demonstration of compliance with environmental laws. In addition, the DS Division has also performed environmental management activities in setting management standards at legal and rigorous internal levels and was designated Green Company status in recognition of such activities.

1) Promotion of and Support for Water Reuse Act

Activities

Expand Water Reuse

The DS Division is reducing our newly withdrawn water by maximizing our process water reuse. DS Division required water withdrawals are forecast to continue growing by 2030 relative to 2021 levels, but we will maximize our water reuse to reduce withdrawal to 2021 levels.

Water Reuse (units: thousand tonnes)

Water Resources Management Roadmap

2023	· Develop ecological status map for areas within DS Division site influence (Giheung, Hwaseong) · March – obtain AWS Platinum certification, a Korean first (Hwaseong)
2024	· Expand ecological status map for DS Division (Pyeongtaek, Cheonan, Onyang) · Expand AWS Platinum certified sites (Giheung·Hwaseong, Pyeongtaek, Xi'an)
2030	· Net zero water withdrawal increase for DS Division Korean sites compared to 2021 levels ※ by means such as wastewater treatment plant effluent reuse

Water Use Reduction

The DS Division's manufacturing sites reduced our water use through operation optimization, changing wastewater treatment methods and process control values. We will maximize water reuse through systemic enhancements including for the production process or reuse systems and for our low concentration wastewater reuse. We also plan to reuse public wastewater treatment plants' effluents.

DS Division Annual Reduction of Water Use	Total Water Reuse
12,710[1] thousand tonnes[2]	119,421[1] thousand tonnes
1) approximate 2) Amount relative to water use under business as usual conditions such as not performing water saving projects	1) approximate

Daily reduction activities

- Optimize site operations
- Replace aged facilities
- Improve operation standards

Systemic improvements

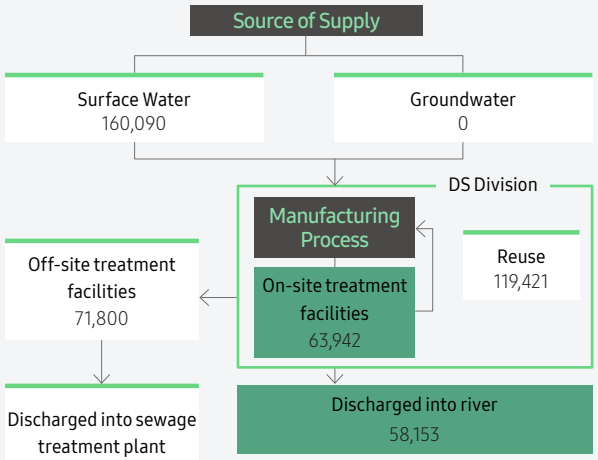
- Enhance manufacturing process
- Process optimization: reduce ultra-pure water usage
- Establish reuse system

Water Resource Management Process

The DS Division, to increase our manufacturing process water reuse rate, classify our water resources into sewage, wastewater, process water, and ultra-pure water and manage them by entering reuse rates per category per site in our environment management system on a monthly basis.

We prevent contamination with site-installed groundwater contamination prevention facilities and safely treat effluents via on- and off-site treatment facilities. We apply legal and rigorous internal management standards when directly releasing effluents to stream via on-site treatment facilities.

DS Division Water Resource Flow Chart[1] (2023) (unit: thousand tonnes)



1) Based on global manufacturing site annual cumulative usage

Acquiring Alliance for Water Stewardship (AWS) Certification

The DS Division's Hwaseong site obtained the highest level of Platinum certification from the Alliance for Water Stewardship in March of 2023. We have since expanded our Platinum certification status to our Giheung·Hwaseong and Pyeongtaek sites in January of 2024 and to our Xi'an, China site in February of 2024. Samsung Electronics plans to expand AWS certifications to our key global sites.

AWS Certification Progress

Ecological conservation

In order to secure the ecological health of discharging rivers and preserve their biodiversity, Samsung Electronics' DS Division has been conducting river monitoring and conservation activities since 2007 at Osan Stream, which activity has now been expanded to all worksites. Furthermore, we are in the process of establishing an ecological status map of areas under DS influence, which analyzes and evaluates the current status and impacts on the natural and ecological systems around the business sites in various ways, starting with the Giheung and Hwaseong sites in 2023.

Stream Ecosystem Management

Korean sites regularly measure water quality indicators such as biological oxygen demand (BOD), total phosphorus (T-P), pH in discharge rivers, and biological indicators such as fishes, benthos, birds, and mammals in order to manage and monitor their impact on the ecosystem. Based on these monitoring results, we carry out activities to improve and preserve the natural environment and biodiversity.

Freshwater Ecosystem Monitoring and Improvement

In order to protect the ecosystem and biodiversity of rivers near our sites, we regularly monitor the status of aquatic ecosystems (fishes, benthos, vegetation, etc.), terrestrial ecosystems (mammals, birds, etc.), water quality, vegetation, and biological habitats to identify impacts on the ecosystem in accordance with the Guidelines of the National Institute of Environmental Research[1].

1) National Institute of Environmental Research Notification 2024-1, enacted on Jan. 1, 2024

Woncheon-ri Stream-Hwangguji Stream, Hwaseong

- 8 families and 21 species of fish (dominated by freshwater minnows, crucian carp, common carp, and goby minnows)
- 37 families and 57 species of benthos (high proportion of aquatic insects)
- 1,369 counts of 34 bird species (Class II endangered wildlife bean goose spotted)
- 9 species of mammals (class I endangered wildlife Eurasian otter and class II endangered wildlife leopard cat spotted in Huangguji Stream)
- Water flea acute toxicity test shows no ecotoxicity impact to streams from effluents

Osan Stream, Giheung

- 12 families and 26 species of fish (dominated by crucian carp, common carp, bass, and freshwater minnows)
- 37 families and 55 species of benthos (high proportion of aquatic insects)
- 8,861 counts of 90 bird species (8 class II endangered wildlife including the common spoonbill, eagle, hawk, bean goose, and long-billed plover spotted)
- 5 species of mammals (class I endangered wildlife Eurasian otter, class II endangered wildlife leopard cat spotted)
- Otter gene survey[1] confirmed existence of at least 4 Eurasian otters (3 male, 1 female)
- Water flea acute toxicity test shows no ecotoxicity impact to streams from effluents

1) Survey process: Collection of otter feces → Amplify mitochondrial DNA → Sequence analysis using genetic markers

Seojeong-ri Stream – Jinwi Stream, Pyeongtaek

- 5 families and 15 species of fish (dominated by freshwater minnows, crucian carp)
- 23 families and 32 species of benthos (high percentage of aquatic insects)
- Water flea acute toxicity test shows no ecotoxicity impact to streams from effluents

Gokgyo Stream, Onyang-Cheonan

- 8 families and 23 species of fish (dominated by freshwater minnows, goby minnows, and stone moroko)
- 34 families and 45 species of benthos (high percentage of aquatic insects)
- 684 counts of 34 bird species (Class II endangered wildlife long-billed plover, kestrels spotted)
- 9 species of mammals (class I endangered wildlife Eurasian otter, class II endangered wildlife leopard cat spotted)

Jiaohe Stream, China

- 8 families and 21 species of fish (common carp, crucian carp, etc.)
- 53 families and 92 species of benthos (high percentage of arthropods)
- Ecotoxic luminescent bacteria composite toxicity test SOS/UMU genotoxicity testing shows no stream impacts from effluents

Biodiversity Recovery and Conservation efforts

Osan stream near the Giheung site is fed with a daily average of 45,000 tonnes of purified effluents from our site, and the stream ecosystem has been restored to the point where otters (Class I endangered wildlife, Korean Natural Monument) now inhibit the area. In 2023, we conducted the first analysis using genes in otter feces and confirmed that at least four otters (three males and one female) live along Osan stream and discovered traces of various mammals such as leopard cats, raccoon dogs, and water deer. We also conducted removal of wildlife that disturbed the ecosystem, and our employees in cooperation with local residents planted native riverside plants and cleaned up the stream.

The Hwaseong site has featured a natural area of approximately 290,000 m^2 including the Donghak Mountain conservation forest (46,000 m^2 of natural forest) within the site. In accordance with the Korean Environmental Impact Assessment Act, the site preserved a percentage of the natural area in consultation with the project approval agency and created ecological ponds, landscape ponds, and recreational forests. In addition, our Onyang and Cheonan site has been working with public-private partnerships since 2006 to install sand collectors, remove ecosystem disturbances, and collect ocean waste at least biannually to preserve the ecology and landscape of the Sohwang Sand Dune[1] in Boryeong, Chungcheongnam-do, South Korea. The entirety of the Dune is well preserved and designated as an ecological and landscape conservation area and a coastal landscape reserve (Ministry of Environment, Ministry of Oceans and Fisheries), and is home to endangered wildlife such as the Mongolia racerunner (Eremias argus) and Swinhoe's egret (Egretta eulophotes).

1) Sohwang-ri Coastal Sand Dune, the only unspoiled coastal dune in Korea (2 km of coastline and an area of about 120,000 m^2), home to 391 species of flora and fauna, including many endangered wildlife.

Wildlife near Osan Stream Wastewater Outlet

Eurasian Otter

Leopard cat

Water deer

Waste

Strategy

The DS Division is actively working towards achieving a recycling rate of 99.9% by 2030 through various activities such as recycling waste, developing recycling technologies, and minimizing the use of disposable products. Collectively, our goal is to attain the Platinum Zero Waste to Landfill Certifications[1] at all manufacturing sites by 2025.

1) Zero Waste to Landfill Certification: Assesses a company's resource diversion initiatives and assigns a four-tier rating according to the percentage of waste produced by the business that is diverted away from landfills.

Develop Waste Recycling Technologies

- Create technologies to recycle different types of waste, including wastewater sludge
- Utilize cleanroom supplies like dust-free suits and wipes constructed from recycled clear PET bottles
- Convert waste wafers into raw materials such as recycled aluminum alloy
- Rematerialize organic waste liquids through purification

Achieve Zero Waste to Landfill Certification

- Obtained Platinum Zero Waste to Landfill Certifications at 7 DS manufacturing sites and Gold Certification at 1 DS manufacturing site

Risk Management

The DS Division has implemented an ESG risk management process to identify significant waste-related risks stemming from our materiality assessment. Adhering to ISO 14001, ISO 50001, and other environmental management system standards, the EHS Center, DS Sustainability Management Office, and other pertinent departments evaluate risks on an ongoing basis. Key environmental concerns are then reported to management and incorporated into the DS Division's sustainability management strategy, inclusive of risk management and identification of opportunities within relevant councils.

Risk Management Process

1 Identify and assess risks

Evaluating risks associated with business operations, product planning, and external trends based on environmental management system standards like ISO 14001 and ISO 50001 by relevant departments such as EHS, marketing, sales, and compliance.

2 Manage risks and opportunities

- Monitoring risks and opportunities pertaining to GHG emissions, waste, renewable energy usage, water resources, pollutants, and more
- Discussing matters at global workplaces during regular meetings like the DS Sustainability Management Meeting, subsequently making decisions in the ESG Management Council.

3 Integrate into enterprise risk management processes

- Designating significant environmental issues as topics for periodic internal reporting; implementing investment, procurement, and operational plans while reporting on critical milestones.

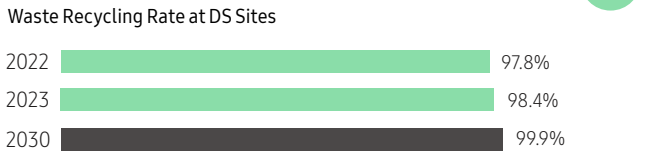
Activities

Developing waste recycling technologies

Wastewater Sludge Recycling

The DS Division routinely analyzes the composition of wastewater sludge, which makes up over 50% of the waste generated at DS manufacturing sites, aiming to utilize sludge as a resource. By leveraging our analysis of wastewater sludge that can be monitored through our in-house system, we have identified and broadened the scope of reclaimed wastewater. We extract copper from wastewater sludge and recycle it. Additionally, we employ various methods to decrease the amount of sludge produced, such as reducing the water content of sludge and modifying the chemicals utilized in wastewater treatment plants.

Korean Waste Recycling Rate Progress and Target



Commitment to Recycling Semiconductor Process Byproducts

Transition to Recycling We have recycled SUS[1] pipes and waste quartz[2] that were initially disposed after verifying that they are non-hazardous general wastes through multi-component analyses: certain pipes and waste quartz wastes are recycled into raw materials for aluminum alloys and glass, respectively.

1) Steel Use Stainless
2) used in chemical or gas processes

Expansion of Reused Materials Absorbents used in the DS Division's air pollutant abatement equipment were previously incinerated, but now are being reused, as an adsorbent producer has developed a technology to produce regenerated adsorbents through a firing and molding process. As a result, we reuse approximately 200 tonnes of waste absorbents annually. In 2019, we developed the world's first regenerated CMP (Chemical Mechanical Polishing) pads, which are made of polyurethane and used in wafer polishing, and registered a joint patent. Currently, we reuse approximately 700 sheets per month, gradually increasing the number since 2021.

Updated Recycling Items for DS Division

Waste Item	Before	After
Wooden parts of composite materials and outdoor air conditioning filters	Incineration	Recycle using material separation technology
Wafer polishing consumables containing hazardous materials	Incineration	Extracting precious metals from consumables for recycling
Pipes	Incineration	Recycle as raw material for aluminum alloys
Waste oil	Incineration	Recycling to renewable fuels
Waste glass	Incineration	Recycled as raw materials for recycled glass

Achieve Zero Waste to Landfill Certification

Eight of DS Division's sites[1] have obtained Zero Waste to Landfill Certification from Underwriters Laboratories (UL), a global environment and safety certifier. We maintained UL's highest endorsement of Zero Waste to Landfill Certification at seven sites, Platinum, in 2023, in recognition of efforts such as minimizing residue in chemical storage drums used in-house, recycling waste wafers, and recycling coffee capsules in offices. Furthermore, we are on track to achieve Platinum certification for all of our operations by 2025.

1) U.S. Austin site maintains Gold status

Platinum Certified[1]
Korea: Giheung, Hwaseong, Pyeongtaek, Onyang, Cheonan
China: Xi'an, Suzhou

Gold Certified[1]
U.S.: Austin
1) As of January 2024

Zero-Waste-to-Landfill Certification Progress and Target

2020	· 8 semiconductor manufacturing sites received Gold Zero-Waste-to-Landfill certifications
2023	· Retained Zero Waste to Landfill certification status[1] 1) 7 Platinum, 1 Gold certified sites
2025	· Plan to achieve highest designation (Platinum) for all locations

Waste Management

Recognition of Circular Resources

The circular resources recognition policy, in effect since 2018, recognizes waste material as resources exempt from waste-related regulations on the condition that said materials meet the standards of the 'Framework Act on Resources Circulation'[1], such as not being hazardous to human health and the environment. In December 2019, waste materials from the DS Division's Onyang site became the first in the industry to be granted the recognition of 'Circular Resources' by the Geumgang River Basin Environmental office. In 2023, we obtained 'Circular Resources' recognitions for 6 additional items from the Onyang site, including solder ball containers. We reduced the amount of waste generated by 2,243 tonnes per year through such recognitions. In October 2020, the DS Division's Onyang site obtained the Quality Mark Certification for Circular Resources for wafer boxes and IC-Trays from the Korea Institute of Environmental Industry and Technology.

1) The Transition to a Circular Economy Promotion Act has replaced the Framework Act on Resources Circulation on December 31st, 2022. The Transition to a Circular Economy Promotion Act has been amended and is in enforcement since 2024.

Waste Reduction through Recognition of Recycled and Recyclable Materials

2022	2023
Release film[1], paper tubes, cover trays, etc. Total 29 items	Solder ball containers, reel tape, etc. Total 34 items

1) Release film: a type of film used for product protection purposes

1) Total recycled amount decreased relative to 2022 due to production reduction

Drive to Zero In-house Disposables

The DS Division is providing reusable bags to all employees in Korea, expanding the use of reusable tableware and reusable beverage cups, and simultaneously replacing plastic beverage bottles with cans, glass bottles, and paper in order to achieve zero disposables by 2023 at company restaurants and cafes at all operation sites in Korea.

Disposable plastic bag | Disposable cups | Dinnerware | Containers

Reduced the use of disposables by 1,007 tonnes per year

Recycled Packaging Materials

In 2020, the DS Division started replacing consumer SSD's[1] plastic trays to paper trays. By 2023, paper trays were applied to portable SSDs and heat sinks. In 2024, we will introduce paper trays for our 2.5" and M.2 products, as we continue our efforts to reduce plastic packaging in our products. We also recycle and apply waste aluminum to the cases of our portable SSD T7 Shield products. The cases are certified as recycled material by, Germany's private certification authority.

1) Solid State Drive

Pollution

Strategy

The DS Division is developing technologies to reduce air and water pollution with the goal of reducing discharged pollutants to natural levels by 2040. We plan to treat water pollutants generated in the semiconductor production process with more advanced technologies and discharge them into clean water upstream of our manufacturing sites and further develop technologies to minimize our water impact.

In addition, to reduce air pollutants, we established the Air Science Research Center responsible for reducing fine dust through research to analyze root cause of air pollution and to develop fundamental technology to reduce air pollution in collaboration with global universities and research institutes.

Minimize Water Pollutant Discharge

- Reduce chemical usage
- Developing substitutes for hazardous materials
- Improving the efficiency of wastewater treatment process
- Developing Chemical Removal Filters
- Seeking alternatives for water treatment chemical and membrane technologies

Develop Technologies to Reduce Air Pollution

- Applying optimal prevention technology to treat air pollutants generated during semiconductor manufacturing
- Advancing existing processing technologies and research and development

Risk Management

The DS Division shares its activities for developing pollutant reduction technology and reducing pollutants through the bimonthly Environmental Conservation Committee. We establish and achieve internal pollutant management standards that are stronger than the current legal standards.

In addition, we strictly comply with international environmental regulations such as RoHS and REACH for responsible chemical management, and will continue to monitor and respond to new regulatory trends such as PFAS[1] systematically.

1) Per- and polyfluoroalkyl substances

Activities

Air and Water Pollution Control Roadmap for Korean Sites

2023	· Development of highly efficient air/water pollutant treatment facilities and of pollutant-free processes
2040	· Treat air and water pollutants at DS manufacturing sites to their natural state prior to discharge ※ Develop new technologies to treat pollutants to their natural state prior to discharge

Minimize Water Pollutant Discharge

The DS Division has established and operates a four-stage wastewater treatment process to minimize the discharge of water pollutants. At the Green Center, an advanced wastewater treatment facility, we purify wastewater and discharge it into local rivers. The Central Control Room (CCR) monitors all treatment processes from wastewater purification to discharge in real time, and automates 97% of related tasks.

When discharging wastewater treated through wastewater treatment facilities directly into the sewer, the DS Division applies both legal and rigorous internal standards in terms of concentration of water pollutants, water temperature, and ecological toxicity. For Korean sites, some pollutants (TOC, SS, T-N, etc.) are monitored in real time in accordance with relevant laws and regulations, while other pollutants such as sulfate, chlorine ions, and fluoride ions are monitored through regular water analysis.

We also monitor upstream and downstream water quality at least six times a year, focusing on outfalls, to monitor the impact of our wastewater on local rivers where DS Division discharges wastewater.

In addition, the DS Division is promoting activities to reduce the amount of sulfuric acid used to reduce water pollutants, conducting tests to convert chlorine-based chemicals for wastewater treatment to non-chlorine-based chemicals, and is developing new treatment technologies such as separation membrane technology and ion separation and concentration technology to treat and discharge water pollutants at natural levels by 2040.

Constructing a Multi-Layer Defense System Against Water Pollution

The DS Division is prepared for possible environmental accidents at wastewater treatment plants. We have installed triple interception facilities across the inlet stage, process stage, and discharge stage of the wastewater treatment plant. Each interlock is activated in real time to initiate an emergency recovery of wastewater when the pollutant concentration is assessed to exceed our standards. This ensures that no untreated wastewater is discharged into the river.

Develop Air Pollutant Reduction Technologies

The DS Division has established a mid to long-term roadmap to reduce air pollution, aiming to discharge air pollutants to a level that does not affect the surrounding environment by 2040.

We ensure that the treated pollutants meet internal standards that are stricter than the legal emission standards by applying BAT (Best Available Technology) to refine the treatment process for pollutants generated in the manufacturing process and applying multi-stage treatment (3~5 stages) per pollutant characteristics. In particular, we are developing new technologies and upgrading existing treatment technologies such as adsorption, combustion, and cleaning scrubbers by installing ozone oxidation facilities (De-NOx) to reduce nitrogen oxides, replacing steam supply facilities for boilers, and introducing ultra-low NOx burners.

In addition, we strive to realize a safe workplace by installing spare treatment facilities for all lines and establishing a monitoring system to prepare for possible environmental accidents.

Research on Particulate Matter Reduction Technologies

In January 2019, the DS Division established the Particulate Matter Research Center (now the Air Science Research Center) to develop new filters and air purification systems to detect, analyze, and remove particulate matter.

We developed the world's first air purification filter technology that removes particulate matter and harmful gases simultaneously with a single filter and can be used for up to 20 years with simple water washing. The DS Division is carrying out the Share the Clean Air (ShareAIR) project to verify original technologies for particulate matter management and to build an eco-conscious workplace. ShareAIR is piloted in air conditioning facilities such as buildings, bus terminals, and underground parking lots at the Hwaseong site, as well as in test rooms and offices of partner companies. We plan to expand ShareAIR applications from 2030.

Voluntary Agreement for Seasonal Control of Fine Particulate Matter

The DS Division participated in the Korean Ministry of Environment's voluntary seasonal particulate matter management (for 2 years between February 2023 to March 2025) to strengthen the target concentration of nitrogen oxide by 10% compared to the legal standard during the control system season (December-March) and agree to operate prevention facilities in optimal conditions.

Manage Workplace Chemicals

All chemicals used in Samsung Electronics' sites world-wide are strictly restricted in line with country-specific laws and regulations and the company's 'Controlled Substance List'. To ensure that employees and suppliers use chemicals in safe working conditions, we support various activities such as on-site inspections and workplace improvements.

Chemical Management Progress and Target

2023	· Manage chemicals by setting chemical exposure rate targets at 10% below legal standards
2030	· Ensure zero incident rates of workers directly exposed to chemicals

Improve Chemical Substance Regulation Response

As global chemical regulations tighten and countries have different regulatory targets and standards, more specialized chemical management is required. The DS Division regularly updates and integrates a database of chemical laws and regulations from 16 agencies to minimize related risks.

In addition, we strengthened the process by improving the system so that employees can easily recognize whether the chemical products they intend to use contain internally regulated substances and conduct a complete inspection.

Chemical Management Process

Pre-inspection

Expert group commissioned for pre-inspection ▶ Expert group gives approval ▶ Chemicals purchased

Tracking the Entire Process

Used chemicals are safely discarded through our preset procedures.

Chemicals brought in ▶ Identify amount used and inventory ▶ Chemicals discarded

3 Steps of Chemical Substitution/Reduction

Develop technologies for alternatives, use reduction ▶ Apply to mass production ▶ Analyze effects

Chemical Substance Safety Management

To minimize damage in the event of a chemical-related incident, we have strengthened chemical management for all buildings in DS Division sites. At DS Division manufacturing sites, we monitor environmental regulations by conducting legal impact assessments and chemical pre-assessments to comply with regulations. We conduct risk assessments prior to work involving hazardous tasks, and then apply different levels of on-site safety management according to the risk level. In particular, we have developed and introduced automation technologies for chemical handling tasks and work at heights to eliminate the risk of accidents. We also strictly comply with international environmental regulations by managing the level of substances of concern in various raw materials for semiconductors such as PCBs, EMCs, and packaging materials used in the wafer and packaging processes.

Furthermore, the DS Division conducts semi-annual drills for employees and monthly drills for related departments such as the fire brigade and ERT[1]. Drill themes include substance leakage (chemicals, etc.) to improve emergency response capabilities in the event of an accident.

1) Emergency Response Team

Reinforce Chemical Control

- Automate chemical injection
- Secure firefighting and disaster prevention equipment
- Install discharge wall
- Facility-specific overhauls
- Establish system for early detection of and response to leakage

Minimizing Leakage Risks

- Establish system to detect and respond to leakage at different points including building interiors and exteriors, rainwater drainage pipes, and outer fences
- Focus on research related to chemical mixing risks to prevent relevant accidents
- Establish chemical mixing prevention system
- Reinforce construction and work standards around chemicals

Chemical Substance Safety Management Activities

- Provide regular training for handling facilities and personnel
- Inspect handling facilities (usage, storage, etc.)
- Establish safety measures for chemical handling facilities with expert diagnostics from specialized organizations

People

We move together into the future while fulfilling our social responsibility.

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Our People

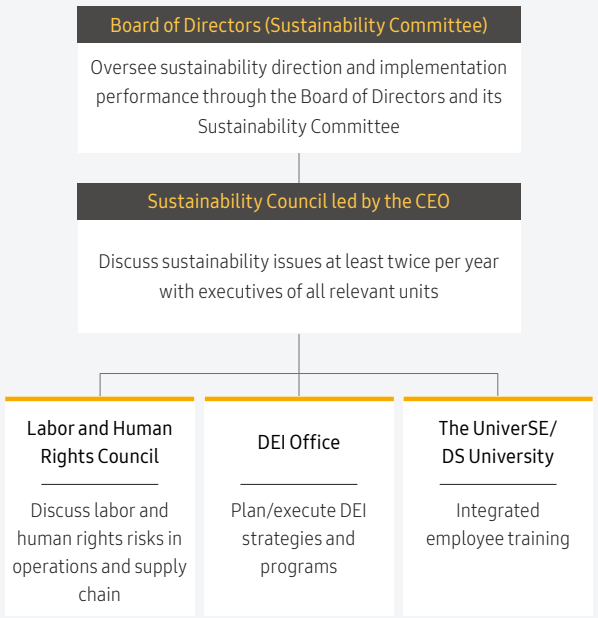
Governance

Samsung Electronics oversees and manages agendas such as labor and human rights, diversity, equity, and inclusion (DEI), and talent development across the business at various levels, led by the Sustainability Management under the Board of Directors, the Sustainability Council chaired by the CEO, and interdepartmental councils.

The Sustainability Committee, reporting to the Board of Directors, provides the Board with more focused oversight of sustainability-related issues. The Committee reviews our sustainability management direction and considers issues on sustainability related to employees, such as labor and human rights, diversity, equity, and inclusion, and human resource development, which we consider an integral part of our business-related decision-making process. In 2023, the Sustainability Committee discussed the progress of The UniverSE (University at Samsung Electronics) and the status of ESG disclosure requirements and responses.

The Sustainability Council, chaired by the CEO, consists of sustainability leaders from each relevant department and business unit to review and manage company-wide issues.

Governance System



Labor and Human Rights Council

The Labor and Human Rights Council is a council of departments that discusses labor and human rights matters. The Council consists of the People Team, Partner Collaboration Center, Vendor Management Improvement Task Force, Global Technology Research, Global EHS Office, Corporate Legal Office, Investor Relations Team, and the Corporate Sustainability Center. The Council acts as an office to review response measures to human rights risks, and discusses and coordinates labor and human rights issues at Samsung Electronics' business sites and across our supply chains. Depending on the saliency and urgency, agenda items discussed at the Labor and Human Rights Council are escalated to the Sustainability Council chaired by the CEO, and the Sustainability Committee.

The People Team develops training programs on respecting human rights and related policies for our employees, and leads due diligence programs, including third-party Responsible Business Alliance (RBA[1]) audits and Human Rights Impact Assessments. A designated staff under the People team manages day to day human rights risks. In 2017, we established the European Employee Relations Office (EEO) and hired an external human rights expert to enhance engagement with external stakeholders. In addition, the Global EHS Office establishes standards related to occupational health, safety and environment in our workplaces and supports its implementations in our workplace and supply chain. The Corporate Legal Office, Investor Relations Team, and the Corporate Sustainability Center communicate global legislative developments and stakeholder expectations, including those of investors, within the organization. The Partner Collaboration Center, Vendor Management Improvement Task Force, and Global Technology Research are responsible for monitoring the implementation of human rights policies in the supply chains.

1) Responsible Business Alliance: an industry coalition dedicated to responsible business conduct in global supply chains.

DEI Office

A dedicated organization within the People Team to promote and enhance diversity, equity, and inclusion, the DEI Office establishes company-wide DEI strategies and implements various programs to improve DEI with business units, regional heads, and corporate representatives. Company-wide issues related to DEI are discussed through the DEI Council with four departments, including the Corporate Sustainability Center, Global Marketing Office, Communication Team, and Design Management Center. Since 2023, the DS Division has been operating a DEI Advisory Group as well. In collaboration with external experts, we conduct leadership seminars for all our leaders, including among executives and staff, to improve DEI awareness. We have also developed DEI training videos to educate all employees.

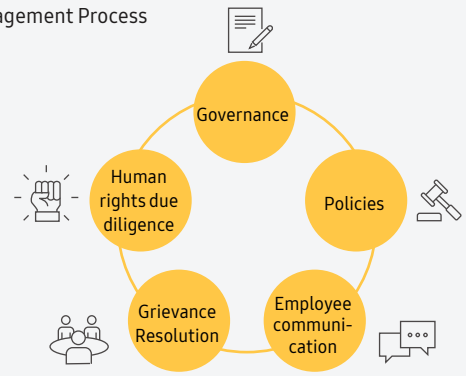
The UniverSE/DS University

The UniverSE is an education governance structure that unifies employee education organizations that were previously scattered by job function into one organization, enabling employees to grow independently. In addition, the DS Division provides job training through DS University.

Strategy

Samsung Electronics respects the values of human rights, diversity, and inclusion based on its 'People First' corporate philosophy and strives to ensure that these values are reflected in our corporate practices. In addition, we continuously promote improvement activities to create a safe work environment and create/foster a corporate culture that is conducive to work by actively supporting their personal growth. We also conduct activities to expand positive impacts on and mitigate negative impacts from sustainability issues related to employees.

Management Process



Key Sustainability Issues for Employees

Working Conditions

- Freedom of association and collective bargaining
- Right to an adequate standard of living
- Health and safety
- Work-life balance and benefits

Equal Treatment and Opportunity

- Non-discrimination
- Empowerment of women in the workforce
- Support for employees with disabilities
- Talent development

Forced Labor

- Prevention of forced labor

Risk Management

Policies

Samsung Electronics maintains and practices a human rights policy built on internationally recognized human rights standards that reflects the executive managements' commitment to respect human rights.

Samsung Electronics Global Human Rights Principles

In February 2023, Samsung Electronics released the Samsung Electronics Global Human Rights Principles (the Policy) which outline our commitment to respect human rights and its basic principles. The Policy is an expression of our intention to respect the human rights of all people in accordance with international human rights standards and principles, our commitment to prevent human rights violations of our stakeholders that may occur during our global business activities, and our promise of providing effective remedies if any harms occur. The Policy also introduces human rights due diligence methods, 11 salient human rights impacts identified as the company's actual and potential human rights risks, and human rights governance addressing how to manage these risks, to fulfill our commitment.

Respect for International Human Rights Standards

As a global company with rights-holders around the world, Samsung Electronics is committed to respecting all human rights - civil, political, economic, social, and cultural. The international human rights standards that Samsung Electronics respects include the following:

- Universal Declaration of Human Rights
- International Covenant on Civil and Political Rights
- International Covenant on Economic, Social and Cultural Rights (ICCPR)
- ILO conventions set out in the ILO Declaration on Fundamental Principles and Rights at Work
- United Nations Guiding Principles on Business and Human Rights
- OECD Guidelines for Multinational Enterprises
- UN Convention on the Rights of the Child (CRC)
- UN Trafficking in Persons Protocol (Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children)

Child Labor Prohibition Policy

Samsung Electronics considers child labor to be a serious criminal act that is unacceptable at any stage of its business activities. We established and apply a zero-tolerance policy against child labor, which is prohibited by international standards and laws.

Migrant Worker Policy

We protect the rights of migrant workers, who may be particularly vulnerable to the risks of human trafficking and forced labor, and maintain a zero-tolerance policy against workers paying recruitment fees.

Anti-Discrimination and Harassment Policy

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, compensation and disciplinary measures. We also recognize and seek to prevent harassment, which includes inappropriate, unwelcome behavior and threats that result in physical, psychological, sexual, or economic harm.

Global Grievance Resolution Policy

In April 2024, Samsung Electronics unveiled its Global Grievance Resolution Policy to handle incoming grievances more fairly and consistently. The policy is the standard for handling all grievances received by Samsung Electronics, and includes a comprehensive list of grievance channels, handling procedures, and principles for handling grievances. To minimize any gaps between the policy and actual operations, we reviewed the status of grievance handling operations at global business sites, subsidiaries, and all departments that handle grievances individually or collaboratively gathered together to discuss integrated standards. We also listened to the voices of various internal and external stakeholders, including employee representative bodies, intergovernmental human rights organizations, and international organizations with expertise on grievance handling.

Environment, Health & Safety Policy

Samsung Electronics strives to realize a safe workplace in accordance with its environmental safety policy. To ensure a safe work environment, we seek to nurture a safety culture in which all employees participate and prevent major disasters and create a workplace without accidents by continuously promoting employee health and improving the identification of safety risk factors.

Samsung Electronics' various human rights policies and standards

Employee Communication

Employee Representative Bodies

Employee representative bodies communicate with the company to improve working conditions and convey workers' opinions on strategic decisions. The company communicates with employee representative bodies through collective bargaining and regular meetings, and collect employee opinions.

Labor Unions We have 33 labor unions representing our employees at our operations around the world. Samsung Electronics negotiates employment terms and conditions and concludes collective bargaining agreements with labor unions in accordance with respective countries' laws. As of the end of 2023, collective bargaining agreements apply to 34.5% of all global employees.

Works Councils We have works councils at 45 sites around the world, depending on the laws of each country and the circumstances of each site. Employees at each work site directly and anonymously elect their representatives and works councils at each site meet regularly to discuss wages, benefits, and other issues to improve employees' working conditions.

Organizational Culture Diagnostics

The Samsung Culture Index (SCI) is an annual organizational culture assessment conducted among Samsung Electronics employees worldwide. The diagnostic areas of the SCI are Work Engagement', 'Team Collaboration', and 'Company Pride', and for each area, we provide 'outcome' questions to identify the current state of organizational culture and 'driver' questions to identify improvement points, making it easy to identify problems and draw improvements.

We perform organizational culture consulting for departments with low SCI. Specialized consultants are engaged as needed to identify organizational culture issues through surveys and interviews with employees, and the department head and department members work together to come up with a plan to address identified issues. We check for actual improvements through pre- and post-consulting Pulse Surveys and provide the results to the department head to help them continue to improve the organizational culture of the department.

Organizational Culture Diagnostic Results

2012	· Initiated SCI diagnostics (focus on job satisfaction)
2022	· Enhanced diagnostics to Organizational Health Assessment (focus on identifying and improving the strengths and weaknesses of organizational culture)
2023	· Expanded participation to 132 locations, 210,000 employees worldwide · Result: 84% overall company satisfaction (up 1%p year-over-year)

Communications with the Executive Management

Town hall meetings are held by the heads of each Division and Business Unit to share management philosophy, business direction, and major management issues, and to answer employees' questions and suggestions. Team and group leaders also build rapport with employees through monthly meetings and organizational activation events, and listen to employees' concerns through one-on-one interviews and occasional meetings.

DX Division Through "DX Connect," a company-wide town hall meeting hosted by the Division head, all employees communicate about business strategies and issues. We are also strengthening communication between management and employees through events like the "CEO One Table (small roundtable meetings)," where employees who wish to talk to executives can apply directly; and the "JH Listens" online program, which collects employees' voice on various topics.

DS Division We strive to share organizational visions and listen to voices from our workplaces through various measures like town hall meetings and discussion hosted by each business manager/organizational leader.

Grievance Resolution

Samsung Electronics is committed to conducting 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. When an individual or group of individuals submits a grievance for experiencing negative impacts from the company's business activities, the company endeavors to provide effective remedies to affected individuals or groups.

Samsung Electronics' grievance channels are open to internal and external stakeholders, including all employees of Samsung and all partners in our value chain, consumers, civil society organizations, and others. Most channels are operated at the company level, but in some countries, we partner with third-party organizations to provide additional channels.

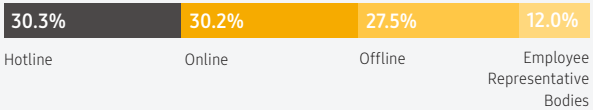
Complainants can report grievances anonymously. The company maintains the confidentiality of received grievances, information provided by the complainant and related parties with respect to privacy and data protection rights. Samsung's grievance mechanism is designed by adopting the effectiveness criteria for 'non-judicial grievance mechanisms' set forth in Article 31 of the 'United Nations Guiding Principles on Business and Human Rights'. Received grievances are handled promptly in accordance with internal procedures and effective remedies are provided to complainants in cases where human rights violations are confirmed. We also investigate root causes and if necessary, change our systems, processes, and work practices to prevent recurrence of grievances. Furthermore, we provide training to our employees and persons in charge of handling grievances on grievance channels and procedures, listening to and reflecting on their opinions.

Grievance Filing Status in 2023

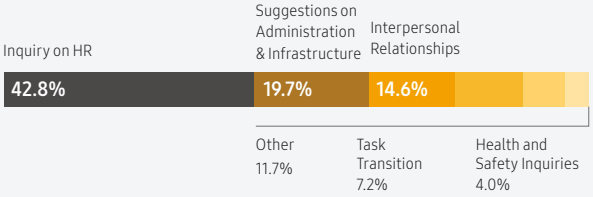
Total 20,577 cases received

99.9% resolved (as of Dec. 2023)

Grievances Reported to Channels



Grievance Resolution by Type



Human Rights Due Diligence

Samsung Electronics is committed to identifying, preventing, mitigating, and remediating actual or potential impacts on human rights across its global operations, supply chains, and other business relationships. We strive to incorporate lessons and implications gained from human rights due diligence activities into our 'Human Rights Respecting Activities Process' to ensure that appropriate policies and management systems are in place. In addition, the company considers expanding the frequency and types of due diligence as deemed necessary based on changing conditions such as entry into new markets, onboarding of new suppliers, or newly identified human rights challenges in certain markets.

Samsung Electronics' Salient Human Rights Impacts

To identify actual or potential human rights risks, Samsung Electronics conducts various assessments, including internal experts' assessments of our worksites, third-party audits based on RBA standards, and human rights impact assessments conducted by external human rights experts. We also analyze reports from civil society organizations, media articles, conversations with various stakeholders such as human rights experts and investors, and grievances and complaints reported by employees to identify human rights risks related to our business activities. As a result, in February 2023, we identified 11 salient human rights impacts of Samsung Electronics and disclosed them through the Samsung Electronics Global Human Rights Principles.

Assessments by Internal Experts

Based on the Labor and Human Rights Risk Management System, Samsung Electronics assesses the level of respect for human rights at each business site and conducts simplified human rights impact assessments and topical assessments.

Labor Rights Risk Management System In 2023, we upgraded the monitoring system, developed in 2013 to support workplace labor rights compliance and legal management, to the 'BHRB (Business & Human Rights Benchmark) System. The BHRB assesses each workplace's compliance with international human rights standards such as the International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work, and the UN Guiding Principles on Business and Human Rights. BHRB consists of 159 detailed indicators of 39 items under four categories: labor and human rights, organizational culture, work environment, and diversity, equity, and inclusion. The company annually assesses each business site's conditions and conducts a simplified human rights impact assessment for workplaces in need of improvement.

Simplified Human Rights Impact Assessment Our internal labor and human rights experts identify business sites that need improvement based on the results of the BHRB, and take an in-depth look at the level of respect for labor and human rights in the country of operation, the organizational culture assessment results, grievances received, workforce changes, potential violations of company policies, and previously identified human rights risks. The Simplified Human Rights Impact Assessment is a streamlined methodology of a human rights impact assessment conducted by external human rights experts. We conduct interviews with vulnerable groups in our operations and stakeholders close to our operations to identify and assess the potential and actual human rights impacts of our operations, execute measures to cease, prevent, and mitigate identified impacts, and track our progress. In 2023, we conducted a Simplified Human Rights Impact Assessment for our U.S. manufacturing site of the DX Division. We engaged with 'The Center', an institute with expertise on children's rights, to understand actual and potential human rights impacts of our operations on employees at the business, our value chain and the community.

Topic-Specific Assessments We created an assessment tool that complies with international standards for vulnerable groups in the company such as migrant workers and female employees, and conduct on-site audits. Based on RBA methodology and key industry references, we conduct migrant worker audits in four subsidiaries that employ foreign migrant workers to ensure compliance with our migrant worker policy and policy implementation guide.

We also use our Gender Equality Self-Assessment Toolkit, developed with reference to UN Women's Women Empowerment Principles, the RBA methodology, and the World Benchmarking Alliance's Gender Benchmark methodology to identify discriminatory practices in the workplace against female employees.

Human Rights Impact Assessment and Saliency Analysis

A Human Rights Impact Assessment (HRIA) reviews impacts of business activities on rights holders such as employees, supply chain workers, community members, and consumers. HRIA typically involves more in-depth consultation with affected stakeholders than other forms of human rights assessments. A human rights saliency analysis is a form of human rights due diligence that focuses on the actual and potential human rights impacts based on the severity of the human rights risk (e.g., the scope, scale, and remediability of the impact) and the likelihood of occurrence. A human rights saliency analysis helps companies focus their resources on managing human rights risks that are likely to have a negative impact, and concludes with the identification of salient human rights risks.

Samsung Electronics conducted its first human rights impact assessment at its subsidiaries in Vietnam in 2018 and a human rights saliency analysis in Türkiye prior to opening a manufacturing site in 2022.

RBA Validated Assessment Program (VAP)

As a member of the Responsible Business Alliance (RBA), Samsung Electronics is committed to implementing the RBA Code of Conduct. We conduct RBA Self-Assessment Questionnaires at our manufacturing sites every year, and conduct on-site audits based on the RBA's third-party verification (VAP) standards[1] at least once every two years at all of our manufacturing sites, including high-risk sites. Manufacturing sites where non-compliances are found are required to develop a corrective plan to address the findings and implement systems to prevent recurrence, which is approved by auditors. The approved corrective plan is completed within the timeframe set by RBA standards.

1) Labor, Health and Safety, Environment, Ethics, Supply Chain Management

RBA VAP Performance in 2023

DX Division	DS Division
12 Business Site Audits	3 Business Site Audits

· 9 of 15 sites earned full marks with no noncompliances, while 6 sites had some findings in labor, health and safety, ethics, and supply chain management

→ Corrective actions were completed during the audit for issues that could be addressed immediately, and countermeasures were developed and implemented in accordance with VAP standards for issues requiring more time.

2023 RBA VAP Summary

Activities

Preventing Forced Labor

While there are many factors that can lead to forced labor, recruitment fees that workers, especially migrant workers, pay to find and keep jobs are one of the most widely recognized factors that can lead to forced labor situations. Samsung Electronics regularly assesses the overall working conditions at its manufacturing sites through assessments by internal experts and third-party audits in accordance with the RBA Code of Conduct, which considers "Prohibition of Forced Labor" as one of the key indicators of working conditions. We pay particular attention to manufacturing sites located in Malaysia, Poland, Hungary, and Slovakia that employ foreign migrant workers. We developed a customized assessment tool for manufacturing sites that employ migrant workers and conduct various activities to prevent forced labor, including on-site audits of manufacturing sites and off-site dormitories, as well as face-to-face interviews with foreign migrant workers to check their working and living conditions. In November 2023, Samsung Electronics Malaysia held a compliance conference, inviting the local government, international organizations specializing in migration, and suppliers to present the results of key supplier audits, including the main issues found in the employment of migrant workers, and the company's activities to protect the rights of migrant workers. In November 2023, our manufacturing site in Poland participated in a conference organized by a local labor rights NGO to showcase the company's efforts to integrate migrant workers in their local communities and learn from other companies' good practices. In addition, our human rights training emphasized respect for all employee's rights and the prevention of forced labor, including content on forced labor indicators and the employee's right to refusal. In 2023, training completion rate for eligible employees was 95.5%.

Preventing Forced Labor

2019	· International Organization for Migration (IOM) workshop to raise awareness on labor rights protection (~2022, targeting manufacturing subsidiaries/suppliers employing migrant workers)
2020	· Revised migrant worker policy and developed policy implementation guidelines
2022	· On-site/dormitory audits of 4 manufacturing subsidiaries employing migrant workers (with interviews to check working conditions of migrant workers)
2023	· USD 136 reimbursement of unpaid transportation expenses for 3 newly hired migrant workers ※ Based on average currency exchange rate in 2023: USD 1.00 = HUF 395.0

Ensuring Freedom of Association and Collective Bargaining

Freedom of association is the right of workers to form and join organizations. Collective bargaining is one of the key vehicles that help employers and legitimate trade unions jointly work toward fair working conditions, equal opportunities, and sound industrial relations.

Samsung Electronics respects labor unions and all other forms of employee representative activities. We ensure that no workers are discriminated against, retaliated against, harassed, or adversely affected by joining or forming a labor union, requesting collective bargaining, participating in collective bargaining, or exercising their right to organize or bargain collectively. Samsung Electronics engages in collective bargaining with an open attitude based on mutual trust between labor and management, and strives to resolve issues in good faith and through constructive discussions, taking into account the labor practices of the respective region.

We have a labor relations advisory group comprising of 4 external experts under the Board of Directors, who review labor relations practices at Samsung Electronics and provide mid- to long-term recommendations on labor relations practices to the executive management and People Team leaders. We also provide annual human rights trainings for employees on their rights to freedom of association and collective bargaining and the do's and don'ts for leaders to ensure employee rights are protected and practiced.

Freedom of Association and Collective Bargaining

2020	· Established the Labor Relations Advisory Group under the Board of Directors
2021	· Negotiated with joint labor union bargaining committee and signed the first collective bargaining agreement (Korea)
2022	· Concluded the first wage agreements covering wages, leaves, and more (Korea)
2023	· Conducted quarterly seminars organized by the Labor Relations Advisory Group to build healthy labor-management relations (Korea)

Protecting the Right to an Adequate Standard of Living

Paying a living wage is essential to guarantee an adequate standard of living, resolve inequality, and ensure decent working conditions such as decent working hours. While there is no universal consensus on what a living wage is and how it should be calculated, it is generally perceived as an employee's received remuneration for a standard workweek which is sufficient for the worker and dependent family members to afford a decent standard of living. Samsung Electronics is committed to providing a decent standard of living for its employees, which means providing compensation at a level that meets the basic needs of workers and their families who depend on them.

Samsung Electronics is collaborating with the Business for Social Responsibility (BSR) to calculate the living wage. To ensure the accuracy of the living wage calculation, we applied the widely accepted Anker Methodology, which uses economic indicators published by authoritative organizations such as the OECD, the United Nations, and Eurostat to identify items such as household food and non-food expenses, and the number of workers and dependents in a household in the regions where manufacturing sites operate. Based on this calculation, we analyzed the living wage gap for manufacturing workers at 20 manufacturing sites around the world, and we are improving wages and benefits at some manufacturing subsidiaries to align them with the living wage estimated by the Anker Methodology.

Living Wage Calculation

2018	· Started to collaborate with BSR to calculate living wages in regions where our manufacturing sites are based
2022	· Analyzed the living wage gap for manufacturing employees in 20 manufacturing subsidiaries
2023	· Recalculated living wage in collaboration with BSR and developed plans to align with updated figures

Health and Safety

Samsung Electronics has a health and safety management system for each business division, and continuously identifies potential risks and assesses risks. The Head of Global EHS for DX Division and the Head of Global Manufacturing & Infrastructure for DS Division serve as the Chief Safety Officers (CSO) to ensure the health and safety of employees.

Workplace Safety Management

Samsung Electronics operates based on a health and safety management system. All manufacturing sites are required to obtain ISO 45001 certification, an international standard for occupational health and safety management. Every year, we conduct specialized environmental safety diagnosis to identify potential risks and inspect the implementation of laws and regulations and facility management sites. A system for major disaster risk diagnosis is also in place in which internal and external professional organizations participate to diagnose the health and safety management system and standard management status of workplaces, and continuously identify and address risk factors on site. In addition, we conduct various training, education, and campaigns to strengthen employees' incident response capabilities and promote safety in their daily lives, including fire evacuation, earthquake response, and emergency first aid skills improvement.

In particular, the DS Division acquired international explosion-proof certifications (IECEx[1] CSF[2]) in 2022 to prepare for explosion accidents that can lead to major disasters. The Giheung and Hwaseong manufacturing sites became the first in Korea to obtain international explosion proof organization certification in February 2022, followed by Pyeongtaek in July and Onyang and Cheonan sites in October so that all Korean sites operate in accordance with international explosion protection standards. In addition, a dedicated risk assessment organization composed of experts with internationally recognized certifications such as Functional Safety Expert (FSE) and National Examination Board in Occupational Safety and Health (NEBOSH) conducts risk assessment expert training courses.

1) International Electrotechnical Commission Certification System for Explosive Atmospheres
2) Certified Service Facility

Incident Prevention Process

1 Identifying risk factors[1]
- Outdated equipment
- Safety regulation compliance failure
- Inadequate on-site management

2 Establishing
- Equipment life span projection
- Safety regulation compliance measures
- On-site management system

3 Taking Remedial Action
- Equipment monitoring
- Safety training
- On-site investigations

4 Monitoring
- Performance management
- Process improvement

1) including risk analyses

Incident Response Process

1 Incident occurrence
- Disseminating information about occurrence
- Identifying incident type and crisis stage

2 Emergency action
- Forming crisis management committee
- Implementing emergency evacuation and first aid

3 Investigation
- Analyzing incident causes
- Taking action to prevent secondary incidents

4 Restoration
- Implementing restoration measures
- Implementing business continuity plan

5 Recurrence Prevention
- Establishing recurrence prevention measures
- Reviewing incident response system effectiveness

Health and Safety 2023 Performance

DX Division		
12,838 cases Identified potential risks	2,175,588 hours Employee safety training	461 Risk assessment experts trained

DS Division		
20,452 cases Identified potential risks	1,562,325 hours Employee safety training	2,238 Risk assessment experts trained

Employee Wellness Promotion

Samsung Electronics strives to manage employee health by focusing on four main health activities: health promotion, disease prevention, business traveler health management, and work environment improvement so that employees can focus on their work in a healthy manner throughout their working hours. In addition to conducting basic employee health checkups, we operate a Musculoskeletal Disorder Prevention Exercise Center and conduct anti-smoking and moderation in drinking campaigns. We also have an in-house health clinic to prevent infectious diseases among employees, and we continue to measure and eliminate harmful factors in the work environment.

Work-life Balance and Benefits

Samsung Electronics operates a flexible and efficient work system that considers each job function's circumstances. Employees flexibly structure working hours according to individual circumstances through the selective working hours system and annual vacation plan, strengthening their autonomy and responsibility and enabling them to establish a work-smart culture.

Samsung Electronics also provides a variety of welfare programs to all employees regardless of contract type to improve their quality of life, enhance job satisfaction, boost morale, and enable work immersion. In Korea, we provide individual pensions to help employees secure their retirement and support their families with education and medical expenses. We also cover employees' medical checkups and group insurance, and provide welfare programs that offer benefits tailored to their individual lifestyles.

Development day for self-improvement (Korea)
If employees meet the monthly required working hours, they can skip work on Friday of the pay week to use as time for self-development and recharging.

Remote working for work-family balance
We are implementing remote working even after the end of the COVID-19 pandemic to maintain a better work-life balance, and increasing collaboration and work efficiency through remote working under a pre-planned schedule.

Pregnancy, childbirth, and parenting support (Korea)
To ensure that employees' careers are not interrupted by pregnancy and childbirth, we expanded the period for female employees to apply for reduced working hours during pregnancy to the entire pregnancy period and operate a spousal maternity leave of 15 days (20 days for multiple births) and infertility leave of 5 days with pay. We also support work-life balance by providing non-statutory programs such as spousal miscarriage and stillbirth leave (3 days with pay). We operate the largest children's center in Korea and have introduced a reboarding program to support employees returning from parental leave with training, mentoring, and telecommuting.

Flexible workspace (Korea)
Samsung Electronics has eight flexible workplaces, including three off-site offices in Seoul (Seocho Office Building), Daegu (ABL Tower), and Bundang (Mirae Asset Place), and five flexible work zones at its business sites, including Digital City (Suwon), Future Technology Campus (Suwon), Seoul R&D Campus (Seoul), Smart City (Gumi), and Green City (Gwangju).

Non-Discrimination

The International Labor Organization (ILO) defines discrimination as any distinction, exclusion, or preference based on race, color, sex, religion, political opinion, national or social origin. Discrimination adversely affects equality of opportunity or treatment in employment or occupation. In the global ICT industry, women make up a large proportion of the labor force and it is necessary to consider their needs in the workplace. As a member of the Responsible Business Alliance (RBA), Samsung Electronics prohibits discrimination on the basis of gender, pregnancy, etc. in our hiring and employment practices, including for workplace health and safety, promotions, rewards, and training opportunities related to the work of pregnant and nursing mothers, in accordance with the RBA Code of Conduct. We also take appropriate measures to eliminate or reduce the risks that pregnant and nursing mothers may face in hazardous work environments and provide them with necessary facilities. We established policies and guidelines to prohibit discrimination and harassment, developed our gender equality self-assessment toolkit for business sites, and continue to train employees to reduce instances of discrimination.

In 2022 and 2023, our Vietnamese manufacturing site, which has many female employees, partnered with the Vietnam office of an international NGO and a local Vietnamese NGO to provide training on gender equality and reproductive health to internal trainers, who then train all employees to raise awareness of gender equality and women's rights.

Progress in Non-Discrimination

2018	· Developed anti-harassment guidelines
2020	· Released Anti-Discrimination and Harassment Policy
2022	· Developed gender equality self-assessment toolkit with 144 indicators and conducted self-assessments at 20 manufacturing sites · Developed and distributed the Essential Guide to Gender Equality
2023	· DEI Hands-on Workshop: A training to make our products and services more diverse and inclusive

Empowering Women in the Workforce

Samsung Electronics is committed to promote the values of diversity and inclusion, including gender equality, to ensure that all employees have the opportunity to demonstrate their potential.

Women Leadership Targets

Samsung Electronics is continuing its efforts to increase the number and quality of female leaders, with a goal of more than doubling our baseline number of women executives in 2022[1] by 2030. We do this by managing the representation of women in hiring, evaluation, and retirement, and by running programs like the Next Generation of Women Leadership workshops and networking among women executives to help high-caliber women develop into leaders.

1) 6.9%

Category		2013	2018	2023
Percentage of Women by Job Type	Development (%)	16.0	17.2	19.2
	Sales and Marketing (%)	31.0	30.8	34.0
Women in Leadership	Executives (%)	3.8	6.3	7.3
	Managers (%)	11.8	14.2	17.6

Managing the Gender Pay Gap

We are committed to a policy of equal pay for all employees with equivalent levels of experience and performance, regardless of gender. The gender pay gap analysis by Career Level (CL) showed that as of 2023, for the CL 1 group, women employees are paid 5% more than male employees. On the other hand, the average wages of male professionals in CL 2, 3, and 4 are 1~2% higher than women. Nevertheless, an analysis of average wages of the workforce in Korea found a notable gender gap of 24.2%, a slight increase from the previous year. Samsung Electronics is making efforts to close the gender pay gap by gradually increasing women's representation in senior positions by operating programs such as the Women Leadership Targets.

We also transparently disclose the gender pay gaps at our U.K. and France subsidiaries.

Supporting Employees with Disabilities

Samsung Electronics strives to create an inclusive work environment where employees with disabilities can demonstrate their potentials and to expand our employment of employees with disabilities.

- Identifying functional roles – such as user experience research and accessibility features enhancement – that can benefit from the experiences and perspectives of employees 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)

In 2023, we reviewed disability-related infrastructure at our overseas subsidiaries and made necessary improvements, including accessible parking lots, restrooms, and elevator Braille signs.

Accessible Parking Spaces at Indian Institute of Technology

Stellar Forest, a Subsidiary of Samsung Electronics

We established Stellar Forest, a subsidiary-type standard workplace for employees with disabilities, in March 2023 through a 100% equity investment as an extension of our efforts to create jobs for persons with developmental disabilities. As of December 2023, 150 employees with disabilities have been baking cookies, muffins, and more that are 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

Talent Development

Talent Pipeline Management

Samsung Electronics has established and continuously develops an internal talent pipeline to secure an overwhelming technological advantage in a rapidly changing business environment. Based on a careful review of the company's business conditions and future core technology fields, we forecast mid- to long-term recruitment needs by field in advance, and secure and manage a pool of talented employees through various channels, including new recruitment and internal training.

The UniverSE

The DX Division launched The University of Samsung Electronics (The UniverSE), which unifies the education organizations that were scattered in each job function, to actively respond to the needs of employees who want to grow professionally and sustainably in their work. The UniverSE provides job and leadership improvement training for all employees, including part-time and contract employees, at 12 schools in three academies, and operates various programs to establish an employee-led growth culture, build practical education closely related to the workplace, and converge between jobs and fields.

Leadership Academy	Advanced Technology Academy	Global CX Academy
Leadership School	S/W School	Sales & Marketing School
Global School Business	R&D School	Procurement School
Support School	Manufacturing & Production Technology School	Design School
Humanitas School		
Onboarding School	CS School	

Samsung Electronics' employees have the opportunity to explore all the courses offered by the company and self-select ones they need twice a year during STaR Week. We provide customized programs for professional growth and leadership capabilities by job function and role, and in particular, employees can apply for courses in other functions as they see fit, rather than being restricted to training specific to their job function.

DS University

Samsung Electronics DS Division operates DS University to foster creative and challenging talents and strengthen their expertise. As an educational program that helps all employees grow into job experts, DS University provides a variety of career development contents that fit their growth paths, including practical training for more than 1,000 jobs and levels, leadership classes, language courses, and more.

Training Programs

Samsung Electronics employees, including contract employees, can also participate in various external training programs. We support academic training, visiting researchers, and MBA / EMBA programs in collaboration with Korean and global universities.

Samsung Institute of Technology (SSIT), which started as an in-house semiconductor technical college in 1989 to enhance technical capabilities in the field, was approved as a regular university in 2002 and became the first in-house university in Korea. It offers regular bachelor's programs in semiconductor and display fields, including process/facility and infrastructure, through a highly qualified faculty comprised of external scholars and our own employees. 1,142 students have graduated from SSIT to date as of February 2024.

We also opened the Department of Semiconductor Display Engineering and Digital Media Communication (DMC) Engineering at Sungkyunkwan University as an in-house graduate school to foster the next generation of technology leaders. By February 2024, 877 master's and 98 doctoral students have graduated from the program. In line with the trend of globalization, we operate the 'Local Expert' system, introduced in 1990. The 'Local Expert' system is a self-managed overseas training program for employees who have been employed for three years or more to learn local language and culture for one year. To date, the program has trained more than 3,600 regional experts in more than 80 countries around the world.

Job Function Switching Opportunities

Job Posting is a system that provides employees with the opportunity to switch jobs through an internal system. Over the past three years, 3,223 employees have switched to their desired jobs, creating a win-win situation for both employees and company. We also provide mindset training for change management, mentoring, and job skill training for job switchers to actively support their transition. We also operate a Free Agent (FA) system and the Samsung Talent Exchange Program (STEP). The FA system officially grants employees working in the same job or department for more than five years the opportunity to switch to their desired job or department and provides them with preliminary competency enhancement opportunities. The STEP program is a new talent development system that allows outstanding employees all subsidiaries to exchange work for up to two years and utilizes Samsung Electronics' global network.

Employee Performance Assessments and Regular Feedback Processes

Samsung Electronics sets individual work goals based on team-specific 'Ground Rules' defined at the beginning of the year, and provides 1:1 performance feedback through department heads at all times throughout the year. Department heads refer to peer reviews to systematically manage individual performance and growth, and conduct performance evaluations for all employees in Korea at the end of the year.

We also provide HR system training to department heads and employees to improve their understanding of the performance management system and distribute performance management guidebooks to department heads. We also have an appeals process in place to ensure fairness in evaluations.

Sustainability in Supply Chain

Governance

Samsung Electronics oversees land manages labor and human rights across its business, including for the supply chain, at various levels, led by the Sustainability Committee under the Board of Directors and the Labor and Human Rights Council, a council of departments in charge of human rights.

At the 2023 Sustainability Committee, supply chain-related agenda included discussions on the EU Supply Chain Due Diligence Directive and ESG disclosure requirements.

The Partner Collaboration Center, Suwon Complex Support Center, Global Technology Research, and each subsidiary's dedicated departments are responsible for ensuring the day-to-day implementation of the human rights policy within our supply chain. The Partner Collaboration Center oversees the establishment of standards for respecting human rights and the implementation of due diligence programs and conducts training and capacity-building activities to ensure responsible purchasing from manufacturing suppliers, while the Suwon Complex Support Center oversees and trains in-house resident suppliers and the Global Technology Research oversees and trains manufacturing suppliers on consignment.

Conducting audits, improvement efforts, and disclosure of information to improve supplier ESG management levels are reflected as KPIs for executives and working-level staff in responsible departments. Target achievement is linked to compensations including salaries and bonuses.

Strategy

Samsung Electronics strives to build a sustainable supply chain by supporting not only the business competitiveness of its suppliers but also labor and human rights, health and safety, and human resource development. To this end, we operate supply chain-related policies, ESG audit procedures, communication processes with suppliers' workers, and grievance channels. We also conduct improvement activities to expand positive impacts and mitigate negative impacts on major sustainability issues in the supply chain.

Management Processes

Key Sustainability Issues in the Supply Chain

Forced Labor
- Preventing forced labor
- Preventing child labor

Working Conditions
- Appropriate working hours
- Health and safety

Equal Treatment and Opportunity
- Talent development
- Partner collaboration

Risk Management

Policies

Supplier Code of Conduct

Samsung Electronics' suppliers reflect the RBA[1] Code of Conduct and global norms along with local laws and regulations regarding human rights, environment, health and safety, and ethics. We require our suppliers to adhere to our Code of Conduct and specify compliance with the Code of Conduct in our contracts, requiring an annual pledge of compliance. We also provide a Code of Conduct guide to help our suppliers voluntarily comply with the Code of Conduct and practice sustainable management.

1) Responsible Business Alliance (RBA), an industry coalition dedicated to social responsibility in the global supply chain.

Global Purchasing Code of Conduct

The Global Purchasing Code of Conduct contains core rules and ethical standards for purchasing managers, superseding any other rules or manuals.

Ethical Procurement Standards of Practice

- When sourcing new suppliers, Samsung Electronics evaluate ESG items in addition to price and technology to register competitive suppliers, and provide all global companies with ample opportunities to do business with us through means such as our Open Sourcing Program.
  * As of 2023, the average transaction period with suppliers is 13 years.
- Purchasing unit price is agreed with the supplier after undergoing steps of market research, cost review, price discussion, and price decision.
- Samsung Electronics may not request supplier technical data for us or any third party unless there is good cause.
- Samsung Electronics provides needs forecasts such as for materials for mass production so suppliers can prepare in advance.
- Samsung Electronics operates a system-based automated ordering system based on order quantities, lead times, etc. agreed with suppliers.
- Samsung Electronics applies the principle of 100% acquisition of the order quantity, and unilateral change or cancellation of the quantity and delivery date is prohibited without consent from the supplier. If changes are required due to discontinuation, specification change, or demand change, the order change process must be agreed upon with the supplier.
- Payment shall be determined in consultation with the supplier and paid in accordance with the terms and conditions set forth in the contract.
  * In 2023, 100% of 574 Korean SME suppliers were paid within 10 days.

Worker Communication

We listen to our suppliers and their workers when selecting new suppliers, conducting ESG audits, and designing grievance procedures.

Communication Step	Content
Selecting new suppliers	Conduct surveys/interviews with vulnerable workers to verify prohibition of forced labor, which is a mandatory assessment item.
On-site audit and third party audit	Interview workers and managers in the square root of the total number of employees at the supplier being audited. ※2,298 interviews at third-party audit in 2023
Designing a grievance procedure	Gather input from workers during on-site audits, compliance workshops, etc. to build a reliable grievance system

Worker Satisfaction Survey

In 2023, Samsung Electronics' DX Division conducted a 'Worker Satisfaction Survey' among employees of its four first-tier suppliers in Vietnam through a global ESG consulting firm (ELEVATE), and collected various opinions on the overall work environment from about 2,700 employees.

The results of the satisfaction survey showed that all four companies had excellent overall work environment management, above the average level in the electronics industry. Employees were able to freely express their opinions by utilizing Samsung Electronics' hotline channel and the grievance suggestion system of the suppliers themselves, and received perfect scores in overall satisfaction, manager competency evaluation, workplace safety, and mutual respect culture.

For some areas that need improvement, we asked suppliers to establish and implement improvement tasks through a briefing session. For example, some of the respondents did not fully understand the salary calculation method, so the company decided to strengthen related education such as salary composition and payment standards, understanding of pay stubs, etc. in future educations.

We plan to further review the effectiveness of the Worker Satisfaction Survey internally before deciding whether to implement the survey in the future.

Grievance System Construction and Operation

Hotline

Samsung Electronics' DX Division operates the Hotline to receive reports of violations of work environment standards or human rights violations at its suppliers through phone calls and emails, and then verifies the facts and takes remedial measures. The identity of the whistleblower is strictly protected throughout the process so that employees can report without fear of retaliation. Posters about the Hotline are posted in local languages in offices, hallways, manufacturing sites, dormitories, restaurants, etc.

Samsung Electronics' organizational unit dedicated to grievance handling verifies the facts of all cases within one week, sends a remedial action plan to the whistleblower, and checks whether the supplier has improved. To finally confirm that the grievance process proceeded without any problems, we conduct a satisfaction survey from the whistleblower.

Hotline History

2013	· Hotline goes live
2020	· Launched a whistleblower satisfaction survey
2023	· 50 total reports received (28 wage-reports) ※10 duplicate grievances from the same supplier

Hotline Reporting Status Grievance Handling Cases

Cyber Sinmungo (Online Whistleblowing Channel)

Since 2010, Samsung Electronics' DX Division has been listening to the concerns and suggestions of various stakeholders, including first-tier suppliers, as well as second-tier and non-manufacturing suppliers, with whom it deals directly or indirectly, and mediating in case of disputes through the online whistleblowing channel Cyber Sinmungo.

The channel is accessed through the homepage, partner collaboration portal, email, etc. and receives various grievances like business relationship improvements, payment, compensation, supplier support programs, humane treatment, excessive working hours, unfair dismissal, restriction of freedom of movement, non-payment of salary, etc.

We are committed to resolving cases as quickly as possible in a responsive, transparent, and fair manner. We strive to provide amicable resolutions to issues requiring legal interpretation or lengthy review, even if it takes time.

All reports subject to verification through means such as inter-departmental committee formations and resolution development. Agreements and feedback are provided.

Cyber Sinmungo 2023 Operational Performance

Submitted	Improvements
Total 79 cases	77 cases resolved[1]

1) Unresolved cases are continuing discussions to derive solutions

Partner Collaboration Portal Grievance Reporting Channel

Samsung Electronics DS Division receives grievances from suppliers through various channels, such as anonymous and authenticated boards on the Partner Collaboration Portal, phone calls, and emails, and continuously promotes grievance channels to improve the work environment of suppliers. In addition, we run 'CEO ON-TALK' for CEOs of suppliers to share grievances in the management of suppliers and seek solutions to grievances. In 2023, we held monthly face-to-face and non-face-to-face meetings with 383 suppliers in the DS Division to share accident analysis and environmental safety policies.

Partner Collaboration Portal Grievance Reporting Operational Performance in 2023

Submitted	Improvements
Total 444 cases	422 cases resolved[1]

1) Unresolved cases are continuing discussions to derive solutions

Responsible Purchasing Policies

Selecting New Suppliers

Samsung Electronics thoroughly selects new suppliers based on six criteria: 1) Purchasing, 2) Quality (including Eco-partners), 3) Environment and Safety, 4) Labor and Human Rights, 5) Anti-corruption, and 6) Finance, with in-house experts in each criteria conducting on-site audits of suppliers. Some labor and human rights items are designated mandatory to protect vulnerable workers with separate surveys and interviews conducted. Through this process, we thoroughly verify our suppliers' labor and human rights situations, including the journey of migrant workers, payment of recruitment fees, dormitory assignments, discriminatory treatment, and working hours, from the new registration stage.

New Supplier Selection Results

2021	· Prohibition of forced labor, inhumane treatment, and discrimination as mandatory assessment items
2022	· Begin conducting surveys and interviews with vulnerable workers
2023	· DX Division: 87 new suppliers registered in total ※ No suppliers were eliminated for failing to comply with required labor rights assessments, but 1 company was not selected due to non-compliance with required evaluation criteria in environmental safety assessments, such as not installing sprinklers. · DS Division: 12 new suppliers registered in total ※ No suppliers failed for registration

Standard Supplier Contract

Samsung Electronics is committed to strengthening its supplier ESG management by including compliance obligations within our Standard Supplier Contracts' Supplier Code of Conduct[1].

Global contracts utilized by overseas subsidiaries are written in various languages, such as English, Chinese, Vietnamese, and Portuguese, in accordance with local legal regulations to make them easier to understand for local workers. We revised the Standard Supplier Contract in 2023 to allow us to terminate contracts in the event of a major disaster for which the supplier is legally responsible.

1) Require prohibition of child labor and forced labor, compliance with legal minimu m wage, etc.

Systems-based Risk Management

Samsung Electronics strives to operate a sustainable supply chain by responding to potential risks within and without the supply chain in a timely manner. We defined various risk items, such as supplier irregularities and natural disasters, and manage them using an integrated Purchasing system.

Supplier Risk Samsung Electronics regularly monitors its suppliers' financial status, labor and human rights, environment, health and safety, and use of responsible minerals and hazardous substances, and proactively manages these issues through our systems.

Corruption risk Samsung Electronics conducts businesses transparently by systematically blocking abnormal business processes related to corruption, and regularly conducts spot checks and monitors compliance with laws and regulations related to fair trade and subcontracting.

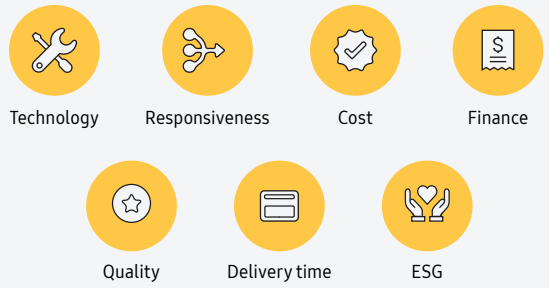
Natural disaster risk Samsung Electronics connects with major global disaster information organization systems[1] to obtain information, and when a disaster occurs, it analyzes the supply chain impact using the location information of suppliers registered in the system and automatically shares it with purchasing managers.

1) GDACS (Global Disaster Alert and Coordination System), USGS (United States Geological Survey)

Comprehensive Supplier Evaluation

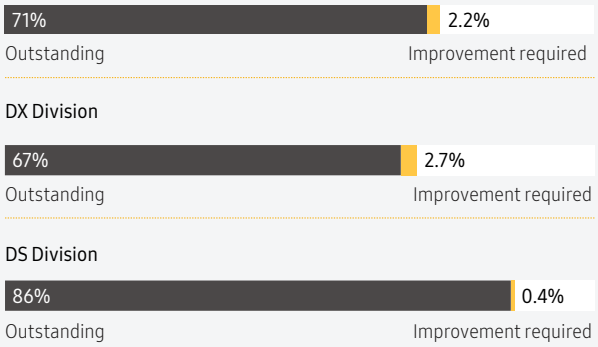
To encourage suppliers to improve their capabilities, Samsung Electronics conducts a comprehensive evaluation of all suppliers every year and reflects the evaluation results in the next year's purchasing policy. The DX Division grants preferential trading incentives to excellent suppliers.

Key Evaluation Metrics



2023 Comprehensive Supplier Evaluation Results

We conducted a comprehensive evaluation of 92% of our suppliers[1] and found that 71% were rated excellent and 2.2% needed improvement.



1) Suppliers registered for less than one year excluded from evaluation

ESG Audit

Samsung Electronics operates an integrated work environment management process consisting of self-assessment, on-site audit, and third-party audit. The main results of the on-site audit and third-party audit are reflected in the comprehensive evaluation and policy improvement for the following year, and incentives such as cash prizes and additional points in the comprehensive evaluation (DX Division) are provided to outstanding suppliers. Through the Supplier ESG Reward Program, which has been in operation since 2023, we provide incentives[1] such as cash prizes to suppliers that have demonstrated excellent performance and considerable efforts to improve in the areas of labor and human rights and the environment.

1) 2 suppliers per ESG area in 2023, 6 suppliers in total

In addition, Samsung Electronics is expanding our scope of management to include not only first-tier suppliers but also second-tier and non-manufacturing suppliers. We have revised the Supplier Code of Conduct to require first-tier suppliers to conduct due diligence on their sub-suppliers and manage their execution improvement by referring to RBA standards or standards provided by Samsung Electronics to the extent that it does not violate the laws of the relevant country. In 2023, we introduced third-party audits for select second-tier suppliers in Asia to more objectively diagnose working conditions. Furthermore, we expanded the scope of the Supplier Code of Conduct from manufacturing suppliers to all suppliers that provide products and services to Samsung Electronics.

Self-assessment	Achievements in 2023
· **Developed a self-assessment tool based on RBA standards and distributed it to all suppliers[1], and suppliers use it to conduct self-assessments once a year.** · To encourage the acquisition of international standards related to corporate social responsibility (e.g., ISO, SA 8000, etc.), self-assessment items are reflected, and important items such as forced labor, child labor, recruitment fees and industrial accidents are weighted to proactively identify potential risks of suppliers. · **Conduct separate annual on-site audits of suppliers found to be in violation of material items** 1) Excludes purchasing agencies, distributors, agents, etc. without manufacturing facilities	2,085[1] suppliers - DX Division: 1,772 suppliers - DS Division: 363 suppliers - Sampling on-site audits: 121 suppliers (DX Division) 1) Excludes duplicates

On-site audit	Achievements in 2023
· **For high-risk suppliers[1], led by an expert from the responsible department who performs an independent verification function (DX is an RBA Auditor qualified)** · Review documents such as worker salary information, contracts, policies, etc. and interview workers and managers of suppliers to identify problems and improvement tasks for the work environment (registered/managed in G-SRM) · Require immediate remediation of serious violations, such as the use of child labor or forced labor or those that can be remedied immediately on site, and verify the completion of corrective action plans within three months of registration of the audit findings, which is typically the case for all others 1) High-risk supplier selection criteria for: Suppliers with geopolitical risks related to ESG or suppliers with significant influence (transaction amount and proportion of transactions exceeding a certain size, suppliers related to labor environment issues raised by NGOs, etc.) 18.9% of all first-tier suppliers with manufacturing facilities (as of 2023)	Audited all 395 high-risk suppliers - DX Division: 367 suppliers - DS Division: 28 suppliers

Third-party audit	Achievements in 2023
· **Third-party audit of the top 90% of first-tier suppliers by annual transaction amounts[1] on a 3-year cycle** · RBA certified third-party audit firms conduct an Initial Audit in the form of Customer-Managed Audits (CMA) based on the RBA Validated Assessment Program (VAP) protocol[2], and immediately corrects any possible improvements on-site after the audit, and verifies the implementation of the improvements through a Closure Audit. · **In 2023, introduced third-party audits for nine second-tier suppliers in Asia including Vietnam, Samsung Electronics' main production base, for the first time.** 1) 4.5% of all first-tier suppliers with manufacturing facilities (in 2023), 15.4% (cumulative 2021-2023) 2) Document review (worker payroll information, contracts, policies, etc.), worker and manager interviews (at least the square root of the total number of employees), on-site audits (initial and closure audit), and improvement Monitoring Progress on Improvement	102 supplier audits - First-tier: 93 (DX Division: 70, DS Division: 23) - Second-tier: 9 (DX Division)

Activities

Preventing Forced Labor

Samsung Electronics has worked diligently to ensure that no forced labor exists in our supply chain based on publicly available information gathered through government, academic and non-profit sources. We take our responsibility for compliance with our human rights policies seriously and have conducted rigorous due diligence as we gathered any potential allegations. Samsung Electronics prohibits forced labor and recruitment fee payments[1] of migrant workers in our suppliers through our Supplier Code of Conduct, and if we find that a migrant worker has paid a recruitment fee the relevant supplier must compensate the worker within 90 days. We conducted rigorous due diligence as we have gathered any potential allegations. We also monitor recruitment fees and costs through interviews with supplier employees and management in all processes, including the selection of new suppliers, self-assessment, on-site audits, third-party audits, and special audits of forced labor. Violations related to recruitment fees for migrant workers are classified as serious forced labor violations. We may lower the comprehensive evaluations rating depending on whether the supplier amends said violations, or suspend transactions if the same violation continues.

In 2023, Samsung Electronics resumed special audits on forced labor for migrant workers, which were temporarily suspended due to COVID-19, for its suppliers in Southeast Asia and Europe, including Malaysia, Hungary, and Slovakia, which utilize a large number of migrant workers. Samsung Electronics also provides training on responsible recruitment procedures to improve under standing of the recruitment process for migrant workers.

1) Based on ILO core conventions, including Convention No. 29 (Forced Labor Convention) and Convention No. 105 (Abolition of Forced Labor Convention)

※ Percentage of migrant workers from high-risk suppliers: 2.1%

Prohibition of forced labor activity performance

2020	· Begin migrant forced labor special audits
2021	· Begin responsible recruitment procedure training
2023	· Resume special audit of forced labor: 3 countries, 21 suppliers · Reimbursed $81,549 in recruitment fees to 247 migrant workers · Training on responsible recruitment procedures: 568 HR staffs from 358 suppliers

Preventing Child Labor

Samsung Electronics has a zero-tolerance policy for suppliers who employ child workers. As part of our efforts to prevent the employment of child workers, we conduct special audits at the recruitment sites of our first-tier and second-tier suppliers every year during the middle and high school vacations, when child workers are likely to be recruited. We verify actual and potential risks by collecting various information through job postings, recruitment policies, identity verification, and employee interviews.

Prohibition of Child Labor Performance

2015	· Begin special audits for child labor
2018	· Expand special audit scope to second-tier suppliers
2023	· DX Division: Audited 50 first-tier suppliers, 32 second-tier suppliers in East Asia · DS Division: Audited 62 first-tier suppliers in East Asia ※ None of the suppliers employed child workers, but three companies were found to have gaps in their recruitment process, such as not having facial recognition to verify identity. Samsung Electronics and suppliers took steps to improve the situation. ※ Winter and summer, twice a year, with overlap

Responsible Minerals

Responsible minerals are minerals that are mined in a socially responsible manner that respects human rights and the environment. Samsung Electronics is committed to eradicating human rights violations such as child labor exploitation and sexual violence that occur during the mineral mining process and protecting the health and safety of mine workers.

Samsung Electronics Responsible Minerals Management Report

Appropriate Working Hours

Samsung Electronics operates a function within its purchasing system to manage the working hours of its suppliers' employees in order to monitor that they are not exposed to excessive overtime and to serve as a basis for active prevention activities. The average working hours and maximum working hours of all employees at each workplace are aggregated on a monthly basis, and the severity of violations is graded to help ensure compliance with the working hours regulations of Samsung Electronics' suppliers.

Based on the results of third-party audit, we also analyze and disclose the compliance rate of individual employees based on three months of working hours, including one month each for peak, off-peak, and routine periods, and weekly day-off data. Samsung Electronics continues to work with its suppliers to improve working hours by providing them with forecasts in advance, practicing responsible purchasing practices such as minimizing contract changes, and providing consulting on their working hour management procedures.

Working Hour Compliance Rate Analysis for 2023

We analyzed working hour compliance rate[1] by first-tier suppliers based on third-party audited results and found that in 2022, the rate was 93%, up from 87% in 2021, but in 2023, the rate dropped to 85% (82% for DX and 99% for DS), showing a return to the previous level. This is understood to be due to the increase in factory utilization rates, which had been reduced due to COVID-19. Results show that the Southeast Asia region, where Samsung Electronics' DX Division's major manufacturing sites are located, is somewhat vulnerable.

1) Employees must adhere to standard 48-hour work week and must not work more than 60 hours per week including overtime, with a guarantee of at least one day off per week.

Health and Safety

Samsung Electronics operates a dedicated organization to support environment and safety issues at its suppliers, with the Global EHS Director for DX Division and the Head of Global Manufacturing & Infrastructure for DS Division serving as Chief Safety Officers (CSOs) to manage environment and safety risks at the same level as employees.

We operate programs such as fostering outstanding suppliers through environment and safety consulting, providing special support to suppliers with dangerous processes, and supporting acquiring ISO international certifications. We also communicate with suppliers employees through the Environment and Safety Portal for Our Suppliers' and implement the Right to Work Suspension to suppliers, train risk assessment experts, and verify supplier risk assessment results to discover and improve risk factors.

The Right to Work Suspension system includes preemptive measures to prevent discovered dangerous situations. Samsung Electronics operates the Right to Stop Work Study Committee to analyze risks in order to operate an effective Right to Stop Work system.

In addition, we conducted verification of the results of the risk assessment of our suppliers' work to help them identify and improve hazardous or dangerous factors in their work to prevent major disasters in advance. We supported them to establish and implement improvement plans for the risk groups and awarded them for their excellent practices.

Health and Safety 2023 Performance

DX Division

498 primary suppliers
Regular health and safety audits

453 supplier employees
Health and Safety Training

46 suppliers ranked vulnerable
Provided environment and safety accident prevention support (consulting)

DS Division

15 courses,
206,780 individuals
Health and Safety Training

61 companies ranked vulnerable
Provided environment and safety accident prevention support (consulting)

3,458 cases
Health and Safety questions submitted by suppliers

7 industries, 54 companies
Subject to stop work order
(Scope expanded to suppliers with regular site entry)

Talent Development

Partner Collaboration Academy

Samsung Electronics established the Samsung Electronics Partner Collaboration Academy in 2014 to practice collaborative growth with its suppliers. The academy is an approximately 9,917 m2 learning center for suppliers near our Suwon business site, and provides free support for various consulting, training, and recruitment programs for suppliers.

The Partner Collaboration Academy is composed of three centers: the Learning Center, which provides training courses in leadership, manufacturing, quality, purchasing, and sales proven through the training of Samsung Electronics employees; the Youth Job Center, which supports employees recruitment for suppliers having difficulty securing talent; and the Consulting Center, which shares and transfers technologies and know-how that developed over 50 years to suppliers.

Learning Center The Learning Center offers more than 350 different training programs for employees of suppliers. Leadership training for various levels from new employees to executives, and job training in manufacturing, quality, purchasing, sales, etc. are developed and operated for each supplier, and we are expanding training not only to first-tier suppliers but also to second- and third-tier suppliers.
In addition to environment and safety and fair trade, we have recently added GHG reduction and target management, supply chain due diligence response, and other ESG management-related courses to strengthen our suppliers' employee capabilities.

Youth Job Center Samsung Electronics operates the Youth Job Center, a dedicated recruitment support organization, to help its suppliers secure talented employees. The center helps recruit job seekers that reflect the needs of our suppliers, holds job fairs for Samsung's suppliers, and operates an online recruitment center exclusively for Samsung's suppliers in connection with online recruitment sites.

Partner Collaboration Academy Achievements in 2023

Learning	Youth Jobs	Consulting
32,566 supplier employees * Includes DX/DS Division overlap	1,051 supplier employees	91 suppliers

Consulting Center Samsung Electronics operates 'Consulting Centers' comprised of experts in areas such as manufacturing, quality, development, and purchasing to support suppliers' innovation activities.

In 2023, the DX Division helped 54 suppliers eliminate inefficiencies, streamline low-value-added costs, increase manufacturing productivity and transform quality as well as improve human resources, finance, systems, environment and safety, training, and sales and marketing operations.

The DS Division consulted for 37 Korean material, parts, and equipment suppliers.

Semiconductor Business Consulting Support

1. Customized consulting to Korean materials, component, and equipment suppliers
   - In-house expert consultants visit 1st and 2nd tier supplier sites to help identify challenges, resolve issues and support innovation activities
   - Training in desired areas of development, manufacturing, quality, environment and safety, purchasing, sales and marketing, and consulting support for 37 projects in 2023
2. Business management advice
   - Transferring field experience and know-how in specialized areas to suppliers' executives
   - Management advisory engagements on 19 assignments for 15 companies in 2023
3. Consulting to strengthen manufacturing
   - Visit secondary suppliers, identify challenges, and support manufacturing- and quality-driven improvements
4. Expert dispatch
   - Dispatching specialized personnel in each field such as technology, manufacturing, and management to the 1st partner company (2 years)
   - Cumulative from 2013 to 2023: 79 companies, 176 people

Semiconductor facilities Technology Academy (SfTA)

The DS Division opened the SfTA in 2018 and is training semiconductor piping construction personnel to provide our suppliers with technical personnel, increase supplier technical capacity, and contribute to youth employment. The academy operates training courses for new piping specialists, blueprints and technologies certifications, and education programs including for demolition. 185 people completed the program in 2023 (766 cumulatively) and we plan to expand the program for new piping specialists in 2024 to 3 sessions.

Empowering Communities

Governance

Samsung manages its community-related agenda through the Board of Directors (BOD), the Sustainability Committee, and the Sustainability Council chaired by the CEO. In 2023, the BOD discussed contributing financial resources to run social contribution programs and continuing the promotion of smart factory support projects. The Corporate Citizenship Office (CCO), ESG & Smart Factory Support Center, and Creative Development Center are responsible for running CSR flagship programs.

Strategy

Under its "Together for Tomorrow! Enabling People" vision, we are implementing programs that focus on providing quality education to all youth, with no student left out of educational opportunities, while also transferring Samsung's management know-how to SMEs and startups.

Vision	Together for Tomorrow! Enabling People	
Themes	Enhancing future capabilities Education for Future Generations	Rising together with local communities & partner companies Mutual Growth

Activities

Education for Future Generations

Samsung strives to empower young minds to drive innovation and positive social change. To this end, we actively support young people by leveraging our expertise, knowledge, experience, and resources to help them develop the multifaceted skills needed for the future, such as creative thinking, curiosity, and empathy, as well as technology. Moreover, we partner with government institutions and organizations to provide education programs around the world.

Samsung Innovation Campus

Since 2013, Samsung has been conducting various job-ready training programs for youth, vulnerable groups, and women to foster digital technology professionals. In 2019, we updated and reconfigured these programs into the 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 provides various soft skills such as creative thinking, communication skills, and empathy. In 2023, we provided a total of KRW 8 billion in funding to Samsung Innovation Campus.

Operational Performance in 2023

Participating countries	Participating students
33	57,812

Samsung Solve for Tomorrow

Samsung Solve for Tomorrow is an idea contest for youth designed to advance their STEM (Science, Technology, Engineering and Mathematics) competencies and creative problem-solving skills required for the future workforce. Teachers and Samsung employees serve as mentors to help students in Samsung Solve for Tomorrow identify the root cause of problems, find viable solutions, and turn these ideas into action. In 2023, we provided a total of KRW 23.4 billion in funding to Samsung Solve for Tomorrow.

Operational Performance in 2023

Participating countries	Participating students
66	222,337

Samsung Youth SW Academy

Samsung Software Academy for Youth (SSAFY) was established in 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. In 2023, we provided a total of KRW 41.7 billion in funding to SSAFY.

Operational Performance in 2023

Training Operations Center	Trainees
5	2,300

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 to deliver software education to elementary and middle school students. In 2021, the program was reorganized with a focus on AI, providing teachers with AI education content developed with education experts, and students with educational programs and hands-on kits. In 2023, we provided a total of KRW 2.5 billion in funding to Samsung Junior SW Academy.

Operational Performance in 2023

Participating students	Participating teachers
53,502	731

Samsung SmartSchool

Samsung Smart School supports schools in rural and remote areas that lack digital educational resources with smart devices, training solutions, learning content, and interior remodeling to narrow the regional education gap and strengthen future skills of youth. We have supported 193 classes in 98 schools in Korea since 2012, and in 2022, we supported ten exemplary schools in Korea selected in 2021. Smart School also provides teachers of beneficiary schools with regular training and access to external support on utilizing smart devices. The smart devices, as well as online counseling services, are offered to the schools for up to two years. We provided a total of KRW 3.75 billion in funding to Samsung Smart School from 2020 to 2023.

Operational Performance in 2023

Domestically (Korean) Operated Schools	International (India) Operated Schools
10	10

Samsung Dream Class

Samsung Dream Class, started in 2012 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 2023, we provided a total of KRW 8.1 billion in funding to Samsung Dream Class.

Operational Performance in 2023

Middle school students	College students
6,905	700

Samsung 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. Stepping Stone of Hope provides independence training and experience to adolescents who are still staying in the facilities. When those adolescents have to leave the facilities, Stepping Stone of Hope offers a residence and integrated management services for up to two years. In 2023, we launched Stepping Stone of Hope 2.0, an employment and career design program supporting individuals' economic independence. We are operating effective independence programs through various job training courses, such as for electronics/IT manufacturing technicians and semiconductor precision piping technicians. In 2023, we provided a total of KRW 3.88 billion in funding to Stepping Stone of Hope.

Operational Performance in 2023

Independent living	Independent living training/support
234	10,071

Blue Elephant

Blue Elephant is a program that provides cyber-violence prevention education to youth and supports the healing of students affected by cyber-violence with the Blue Tree Foundation. In order to solve the problem of cyber-violence among youth, Blue Elephant conducts cyber-violence prevention activities with the goal of reaching 3 million participants nationwide by 2029. The program is centered on five pillars, including preventive education and campaigns, psychotherapy for victims, academic research, and cyber-violence prevention system. Prevention education is a program that conducts professional education activities to induce internal changes of young students rather than conduction guidance through punishment. The program also provides prevention education training to instructors to settle the education culture in the long term. Blue Elephant offers professional psychological counseling and treatment programs to support the recovery of victims, and strives to foster a culture of non-violence through awareness-raising content and campaigns targeting all corners of society. Furthermore, the program suggests various policies to improve laws and systems by participating in policy councils, meeting with government officials, advising major organizations, and holding academic conferences. In 2023, we provided a total of KRW 900 million in funding to Blue Elephant.

Operational Performance in 2023

All participants	Preventive education
277,887	118,197
Spread culture of prevention	**Psychotherapy**
142,140	2,144

Nanum Kiosks

Nanum Kiosk is a fund-raising program designed to support children in need with Samsung employees' voluntary donations. Employees donate a certain amount of money every time they tag their employee ID cards to kiosks installed on site, and when donations reach the targeted amount, they are delivered to children of vulnerable demographic groups. Nanum Kiosk is installed and operated at all business sites in Korea, and are currently operating in five additional countries (Vietnam, India, Mainland China, the United States, and Thailand), starting with Vietnam in 2019.

Operational Performance in 2023

Supported Children	Total amount raised	Participating employees
1,107	KRW 1.56 billion	82,300

SME & Startup Support

Through the Smart Factory Support Initiative, approximately 170 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 know-how in establishing production systems and automation solutions and advancing production innovation through technology. We supported a total of 3,274 SMEs in Korea from 2015 to 2023.

Smart Factory Support Initiative

We operate C-Lab to develop innovative ideas into business opportunities and contribute to bolstering the Korean startup ecosystem. As of March 2024, C-Lab has fostered a total of 912 in-house ventures and startups (406 in-house and 506 external). The cumulative investment amount for startups incubated outside C-Lab has reached KRW 1.9 trillion.

Startup Support: C-Lab (Creative Lab)

Support Basic/Intermediate/Advanced Female Training for Digital I Inclusion

Samsung provides digital skill training to raise digital inclusion of women and vulnerable groups and to help future generations equip with basic, intermediate, and advanced digital skills.

For basic digital education, Blue Elephant provides online safety education for youth to prevent cyber violence. Stepping Stone of Hope offers digital education to adolescents who need to stand on their own feet. In France, E-Junior/My First Telephone program provide education for safe internet use to the youth.

At the intermediate level, Dream Class provides youth with the training they need for future skills and academics, including career exploration activities to help them discover their aptitudes and dreams. In India, the Digital & Offline Skills Training (DOST) program offers employment-related training (e.g., electronics repair) to youth.

For advanced education, Samsung Innovation Campus, Samsung Junior SW Academy, and Samsung Software Academy for Youth provide teens and young adults with a wide range of training in AI, IoT, big data, programming, data analytics, network management, and more to help foster the digital professionals of tomorrow.

In addition, to increase digital inclusion of women, STEM Girls was launched in 2018 in China to support girls in developing digital skills, and Samsung Innovation Campus in Spain, Argentina, the United States, and Chile provides programs for women to enhance digital skills.

Furthermore, we provided IT devices and digital learning content to schools in rural areas or with special needs in India to improve the connectivity and learning capabilities of youth. In Korea, we strived for digital inclusion by supporting the latest educational environments, including IT device support through Smart School.

Operational Performance in 2023

Basic Training

Participants	Amount of support	Labor Input[1)]
288 K	KRW 4.94 billion	9

Intermediate Training

Participants	Amount of support	Labor Input[1)]
13 K	KRW 12.09 billion	6

Advanced Training

Participants	Amount of support	Labor Input[1)]
114 K	KRW 52.15 billion	88

Female Training

Participants	Amount of support	Labor Input[1)]
11 K	KRW 1.31 billion	18

IT support

Participants	Amount of support	Labor Input[1)]
109 K	KRW 0.25 billion	8

1) Labor Input: Total number of social contribution managers within Samsung Electronics per program

Privacy Protection & Security

Governance

Samsung Electronics manages sustainability issues involving privacy and security with the Chief Privacy Officer (CPO) and Chief Information Security Officer (CISO) serving as control towers.

Organizational Units in Charge of Privacy

Global Privacy Team
- Build privacy strategy, policies, and processes
- Privacy legal advice and support
- Employee education and awareness

Privacy Steering Committee
- Company-wide council of executive management
- Deciding on key privacy policies and safeguards
- Share issues and discuss countermeasures by product, service, and business unit

Business Unit Privacy Protection Officers
- Perform privacy audits and training within business units
- Apply and manage privacy technologies

Regional Privacy Protection Officers
- Privacy reviews and training for regional offices
- Respond to issues as needed

In addition, we operate a regular security council with the company-wide CISO serving as the Secretariat to make decisions on major information protection policies, discuss security improvement measures, and respond to security incidents/issues.

Strategy

Samsung Electronics collects and uses personal information minimally, transparently, and securely for the purposes for which it is intended and respects your right to choose. We also stay ahead of risks and utilize robust security technologies.

The Three Privacy Principles

1. **Transparency**
   We transparently share the details on our collection and use of personal information.
2. **Security**
   All our products are designed to provide reliable services and securely protect users' personal information
3. **Choice**
   We enable users to choose the type and extent of personal information to be collected, accessed, and shared.

The Four Pillars of Cybersecurity

1. **Preventing & Hardening: Our security system is built to meet stringent standards**
   - Equip products with hardware chipsets with proprietary technology against physical hacking and provide separate, dedicated security processors
2. **Prediction: We are ready for the future**
   - Validate your solution with regular mock diagnostics
   - Security expertise + big data analytics + AI technology → deliver better security systems
3. **Detection: We remain vigilant at all times**
   - Monitor digital devices and network events and issues
   - Detect malicious intrusions and deploy immediate defenses
   - Detect and proactively block everyday threats like malicious apps and phishing
4. **Response: We respond quickly and accurately**
   - Analyze exactly what issues were found, what environments were vulnerable, and what damage could be expected.
   - Quickly respond to hacking attempts detected by security systems
   - Deliver the best security patches and latest security solutions

Risk Management

Samsung Electronics has established a Global Privacy Policy to protect personal information and operates it for all business divisions. In addition, we provide employees with guidelines related to personal information protection, such as the 'Privacy Protection Guidelines for Employees' and the Guidelines on Third Party Personal Information Processing', and conduct training to improve their understanding.

Samsung operates the Samsung Privacy site to allow users to access, delete, and update personal information associated with their account at one time and to view Samsung's privacy policy, and the Samsung Security Reporting Portal to receive and promptly process vulnerabilities for continuous security enhancement.

Activities

Privacy System Operations and Training

Privacy Legal Management System (PLMS)

We check privacy-related issues at each stage from planning, development, operation, and discontinuation of products and services to prevent risks by linking to the product R&D and PLMS within a system to comply with privacy-related laws and regulations. We also provide privacy protection news and materials to help employees understand the latest trends.

Privacy Protection Training

All employees in Korea, including top management, are required to complete annual privacy protection training. Employees who handle personal information in the course of their work complete annual privacy protection training specific to their job duties.

Starting in 2020, we are providing video guides for each step of the data collection, use, and discard process, based on our global privacy policy.

Data Breach Response Process

Samsung Electronics operates a data breach response process that identifies the current situation and establishes and implements countermeasures as soon as it becomes aware of a data breach incident. In addition, we notify and report the breach to users and relevant authorities without delay in accordance with the Privacy Act, and inform users affected by the breach of the items of personal information breached, the time and circumstances of the breach, how to minimize the damage caused by the breach, countermeasures taken by the company, and the contact information of the department in charge for damage consultation through emails, notices on the website, etc.

Samsung Electronics prevents data breaches in advance through technical, administrative, and physical protection measures. In the event of a breach, we immediately eliminate direct and indirect causes of the leak to prevent further breach and strive to minimize the damage to users by supplementing protection measures and conducting personal information protection training to prevent recurrence.

Privacy Breach Response Process

Efforts to Ensure Responsible Advertising

Samsung has a strict privacy policy for ads served directly through mobile devices and IoT devices.

When we use consumer information to serve personalized ads, we use a separate, randomly generated ID. This ID may be reset on user request, in which case we will stop using any user information collected under the old ID.

On mobile and IoT devices, we give users the option to opt out of receiving targeted ads. If we collect and use personal information for targeted advertising purposes, we will provide users with a clear notice of the purpose and obtain user consent. If users do not want to receive targeted advertising, they can turn it off at any time in their settings, in which case they will not see ads that are not relevant to their interests. We also identify ads that may have a harmful effect on consumers and filter them.

List of Prohibited Content in Advertisements

Security Platform Samsung Knox

Expanding from smartphones, tablets, and smart TVs to smart appliances, IoT, and 5G devices, Samsung Knox protects products and services step-by-step, from the chipset to the operating system (OS) to the application, to prevent hacking and unauthorized access. This ensures that the data customers store on their products is protected at boot-up and in real-time during use.

Samsung Knox Security Principles

Samsung Knox Vault

Starting with the Galaxy S21, Samsung Knox Vault combines a secure processor with a new security memory chip to isolate and secure your most sensitive information, including PINs and passwords, biometrics, digital certificates, and keys for security, in a separate location.
Because Knox Vault provides an Android-independent operating environment, applications running within Knox Vault and user information can be protected from attacks that exploit Android security vulnerabilities.

- Industry-leading security chipset (CC EAL[1] 4-5+ certified)
- Secure Processor to protect against hardware-level attacks
- Add tamper-resistant security memory

1) Accredited for the Common International Security Criteria's Common Criteria Evaluation Assurance Lab

Mobile Security Updates

Samsung is committed to regular and rapid security updates. We work closely with our Android operating system (OS) and chipset partners, as well as more than 200 telecommunications operators around the world, to ensure that billions of Galaxy devices are updated with security patches when security vulnerabilities are discovered. We work with more than 1,000 partners to set security standards for all Android devices, and we collaborate with a diverse security research community to provide users with the most secure mobile experience possible.

Starting in January 2024, we are extending security update support for Galaxy mobile devices up to 7 years to help Galaxy users enjoy the latest user experience more securely.

※ Availability and timing of Android OS upgrades and security updates may vary by product and market.

Semiconductor Technology Security

Semiconductor core technologies are designated as South Korea's National Key Technologies and National High-Tech Strategic Technologies and are protected by the Act on Prevention of Divulgence and Protection of Industrial Technology, and the Act on Special Measures for Strengthening the Competitiveness of, and Protecting National High-Tech Strategic Industries. Samsung Electronics has established the National Core Technology Security Management Guidelines and designated executive-level management officers for each core technology. They review the technical security, finalize the process and protection measures of national core technologies, and sign NDAs (Non-Disclosure Agreements) with corporate customers to strengthen customer information management by limiting access to customer information to a select employees. In addition, we apply a mail filtering service (Compliance Guide Service, CPGS) to block the sending of mail containing customer information to prevent employees from sharing customer information unauthorizedly.

Samsung Electronics Semiconductor National Core Technology and National High-Tech Strategic Technology

International Security Certifications

In addition to protecting our information assets, Samsung Electronics develops and applies secure security features for each product and service to provide customers with a safe environment in using our products, protection from external data breach attempts, and protection from personal information breaches. We verify this by regularly obtaining international security certifications for our management system, major products and infrastructure solutions.

- Korea Internet & Security Agency (KISA) Information Security Management System (ISMS) certification
- ISO27001 (International Standard for Information Security Management System) Certification - DS Division (Memory business unit, Foundry business unit, TSP General Manager), DX Division (Network business unit, Mobile eXperience business unit, Video Display business unit)
- Common Criteria (CC) Certification - DS Division (S.LSI business unit, Foundry business unit, TSP Head), DX Division (Visual Display business unit, Samsung Research)
- Payment Card Industry Data Security Standard (PCI DSS) Certification - DX Division (Mobile eXperience business unit, Video Display business unit)
- Service Organization Control (SOC)2 Certification - DX (Mobile eXperience business unit)
- Security Accreditation Scheme for UICC Production (SAS-UP) Certification - DS Division (S.LSI business unit)

Customer Safety & Quality

Governance

Samsung Electronics prioritizes product quality and customer safety from the product planning and development stage. We provide prompt and convenient services should issues arise during product use.

The Global CS Center and business division quality management organizations conduct real-time monitoring to prevent product quality and customer safety in advance and operate a quality response process that immediately reports any issues to management and ensures prompt cause analysis and measures to prevent recurrence.

Strategy

Samsung Electronics has declared a code of conduct based on its vision for quality of "Perfection in Quality and Service for the Best Customer Experience" and quality ownership and responsibility practices.

Quality Management Code of Conduct

Customer-centric
We add value to our customers by listening to their real and potential needs and incorporating them into our products.

Fidelity to the Basics
Quality is our conscience and is never compromised, so we strictly adhere to our rules and processes.

Professional mindset
With a zero-defect quality mindset, we practice accountability: quality is in my hands.

Creating luxury goods
We embody luxury quality with our commitment to use the Samsung logo only on products of attractive quality.

Customer creation
We resolve customer VOCs quickly, accurately, and compassionately to create lifelong customers based on trust and confidence.

Risk Management

Samsung Electronics operates a quality assurance system that manages quality throughout all stages of product planning, development, production, and sales. It also monitors risks to ensure product quality and prevent customer safety accidents and operates an accident response process to immediately report any accidents to management. We also monitor risks to ensure product quality and prevent customer safety accidents and operates an accident response process to immediately report any accidents to management.

Quality Assurance

1. **Development**: Quality assessment by stage (CS Certification System)
2. **Parts Purchasing**: Supplier Quality Control for Components (SQCI[1] system)
3. **Production**: Manufacturing site process and delivery quality innovation (SQA[2])
4. **Sales**: Obtain market defect data → Analyze and improve (Quality Information System - Market Quality)

1) Supplier Quality Control Innovation
2) Samsung Electronics Quality Awards

Activities

Ensure Product Safety

Samsung Electronics operates internationally accredited testing laboratories qualified to test various standards around the world to evaluate and certify product safety, communication standards, and electromagnetic compatibility (EMC). We also respond to newly regulated standards in a timely manner by continuously securing technology and investing in facilities. We have introduced a double safety design for products and components to prevent accidents from escalating in the event of an accident, such as product burnout, and conduct safety verification in consideration of customers' unusual methods and use in harsh environments. In addition, major components (batteries, power supplies, chargers, etc.) that are highly related to safety accidents are subjected to intensive safety audits in multiple stages.

Improve Product Quality

Samsung Electronics operates a smart quality management system that collects, analyzes, processes, and manages all quality data from around the world in a database. We analyze quality data and Customer Service (CS) information to take urgent improvement measures such as early warning and stopping production if there is a problem with product quality.

To ensure the highest level of quality, we have documented standards for all tasks and processes, and we are constantly checking and improving our compliance with rules and processes.

We manage parts quality and processes when developing new products and operate the Customer Satisfaction (CS) certification system in stages to proactively secure product quality that satisfies customer expectations. For new technologies and functions, we conduct durability, reliability, and practical use tests with new verification techniques to achieve the quality required by customers before production through the SQCI system, and apply penalties such as the three-strikes out system (volume adjustment to suspension of transactions) if there are problems with parts quality. For Korean and global manufacturing sites, the SQA (Samsung Quality Award) system evaluates their quality level and guarantee system to ensure that the highest quality products that satisfy customers are produced uniformly no matter where they are produced.

Customer Service

Samsung Electronics' service aims to increase customer value by recognizing customer needs and emotions and providing quick and accurate actions. We are innovating our service operation system to improve the speed and accuracy of repairs, pursue customer emotional care, and manage service status in real time by linking all processes of product service with the system. Samsung Electronics provides global common service channels and service channels optimized for country-specific characteristics to help global customers receive quick and convenient after-sales service. Local subsidiaries are receiving good responses from providing services tailored to various customer groups, such as people with disabilities. In addition, to maintain the quality of various services operated around the world at a certain level, we conduct activities such as on-site audits for compliance with service standards and workforce training.

We operated 13,784 service centers in 216 countries at the end of 2023 to help consumers repair their products. Service center managers and repairers follow service process guides to provide the best possible service to our customers. Along with product repairs, we also operate training programs such as product usage guides and new product feature introductions. Galaxy Consultants perform simple product actions such as OS upgrades, account settings, and data migration, as well as application installation and utilization consultations, demonstrations, and product usage training for customers. We are also expanding our smartphone consultant services to include simple repairs at retail stores. The Samsung Members application provides FAQs, inquiries, and self-help functions to help customers resolve issues they encounter while using our products.

Samsung Electronics Service Channels

Service Intake and Product Inquiries	Product Repair
· Contact center: phone/chat/email/ remote consultation · Webpage Support Menu: Self-Diagnostics, Instructions · In-Store: Galaxy Consultant · Samsung Members application	· Visit a customer service center · Door-to-door repairs, drop-off repairs, and more

Improve Service Quality

Samsung Electronics provides standardized services by creating guides on the standards and processes of service centers and call centers and sharing them with all Korean and global subsidiaries through the company-wide work standard system. Based on the global guide, each local subsidiary conducts training with manuals localized to market characteristics and shares the manuals through the Knowledge Portal, an internal system.

Service Standard	Details
Standard operating manual for services	· Operations manuals by service process: Contact center, service intake, technical training, troubleshooting, results reporting, Happy Call, billing, claims handling, etc.
In-store service guide	· Guide to adding in-store services features: In-store service definitions, service features, layout, etc.
Technical guides	· Technical guide for product repair

We also regularly evaluate our service centers for compliance with service standards, technical skills, repair equipment, infrastructure, materials management, and financial health. We set improvement targets for each size of service center and provide incentives such as fee increases and center of excellence awards depending on the level of achievement.

We provide training programs for service center managers and repairers on new product repair techniques and customer service. Remote video training or group training is conducted depending on the characteristics of each country and product, and training videos and technical materials can be viewed and acquired at any time through the in-house system.

Customer Communications

Samsung Electronics collects customer VOCs such as product purchase, repair, and usage inquiries through its call center and website through the Global VOC Integrated Management System to resolve customer complaints. Through the system, we analyze customer needs and share them with each department to improve products and services. We also conduct regular customer satisfaction surveys for experienced customers through the Service Customer Satisfaction Survey Service and share the results with relevant departments to improve items that are not satisfactory or lack competitiveness.

Principle

We practice responsible management for a sustainable future.

53 Compliance & Ethics

Compliance & Ethics

Governance

Samsung Electronics' Board of Directors and its affiliated committees (Management Committee, Sustainability Committee, Audit Committee, Related Party Transactions Committee, etc.) provide direction, management, and oversight of compliance and ethical management.

The corporate compliance team operates compliance and ethical management programs with the corporate auditing team. The compliance team head (Chief Compliance Officer) attends all Board and Management Committee meetings to support their decision making and reports major issues to the Board.

The Samsung Compliance Committee was also launched in February of 2020 as a separate, independent external organization under the aim of practicing integrity-based management, one of Samsung's key values. Since its launch the Committee continues to offer various recommendations and opinions to improve compliance monitoring policies and strengthen compliance monitoring and control over seven major member companies[1] of the Samsung group.

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

Strategy

Samsung Electronics conducts its business in a legal and ethical manner for a fair and transparent management, based on compliance with law and ethics as our top priority business principle, in order to fulfill our social responsibility and create a clean organizational culture.

We are also trying our best to fulfill our corporate role and social responsibilities by observing laws and ethics in cooperation with our employees, business partners, and external stakeholders. To this end, we established and specified management principles and guidelines based on compliance and ethics.

Business Conduct Guidelines for Employees

- Translated into 15 languages, including Korean, and published on our intranet
- Details shared with all our global employees(including contract employees) at least once a year through offline, online trainings and visual education session

Business Guideline for Partner Companies

- We strive to establish a transparent culture in our transactions by providing guidelines to our partner companies

Risk Management

Samsung Electronics operates the Compliance Program Management System (CPMS), an IT system for compliance management, and manages risks with departments in charge of key areas such as anti-corruption, fair trade, intellectual property rights, privacy protection, labor and human rights, and environment and safety, and manages risks in the stages of prevention, monitoring, and response.

In the prevention stage, we publish compliance policies and guides on our CPMS, stay on top of regulatory trends to reduce the risk of non-compliance, operate training programs, and provide 1:1 consultation on compliance.

In the monitoring phase, inspections are conducted annually by a dedicated organization or dedicated personnel and the main results are reported to the Board of Directors at least once a year. We also receive reports of legal or regulatory violations or corruption charges by the company or our employees through a dedicated whistleblowing channel. In the response phase, we assess the company's legal risks, evaluate the effectiveness of the compliance control system, and analyze the results of audits, whistleblower reports, and responses to issues to establish recurrence preventive measures such as process improvements. We also implement improvement measures such as disciplinary actions or training in accordance with internal standards, taking into account the severity of the issue.

Activities

Compliance and Ethics Audits

Compliance and ethics audits are conducted at all our business sites and reported to the Board of Directors at least once a year. Based on audit results, issues requiring improvement are reflected in our management activities. In 2023, we began to divide the quarterly audit areas, such as conducting external sponsorship risk checks to comply with anti-corruption and anti-bribery laws, policies, and guidelines. Overall, this approach generated satisfactory results.

Major Audit Activities in 2023

Period	Topic Description	Areas
Q1	Compliance of South Korean quality organizations	Trade secrets, technology misuse
	Compliance of third-party production partners in South Korea and overseas	Technology leakage, product liability
Q2	Voluntary compliance of overseas subsidiaries	Compliance program operation status
	Risks related to infringement of customer trade secrets	Trade secrets
Q3	Compliance of subsidiaries	Trade secrets, privacy
	Compliance of online sales sites	Consumer protection, dark patterns
Q4	Risks related to external sponsorships and internal transactions	Anti-corruption, fair trade
	Compliance of patent application process	Technology misuse, trade secrets

Operate Training Programs

Samsung Electronics conducts compliance training and fraud prevention training, including on anti-corruption and fair trade, once a year for all employees (including contract and part-time employees), and additional training on Korea's Improper Solicitation and Graft Act is provided to contractual administrative function employees who are dispatched by partner companies in order to emphasize the importance of compliance and ethical management. We also provide customized training for job functions and top management training to foster leadership.

Compliance and Ethics Whistleblowing

We receive reports through various whistleblowing systems such as internal and external whistleblowing channels, email, telephone, and fax. Whistleblowing channels provide information on whistleblower protection. In addition, we operate in accordance with the principle of not providing disadvantages to protect the identity of whistleblowers by stipulating in the internal regulations of 'confidentiality of whistleblowers and report content', 'prevention and suspension of any unfavorable dispositions against whistleblowers and investigation supporters, remedial actions for damage, and sanctions on those who incur unfavorable dispositions.' Upon receiving a report, we conduct an investigation to confirm the relevant facts, take action in accordance with internal standards, and take disciplinary action against the perpetrators and responsible persons for cases of violation of company processes. In addition, for fraudulent reports that are confirmed to be true, disciplinary action is taken depending on the severity of the case, and the results are reported to the Audit Committee twice a year.

Assess Legal Risks, Compliance Control System Effectiveness

We categorize major violations of laws and regulations in areas such as fair trade and anti-corruption, analyze the likelihood and impact of such violations, select key risks, and reflect the results of the risk assessment into compliance programs such as employee training.

We also evaluate whether the Company's compliance controls have operated in accordance with applicable regulations and report findings to the Board of Directors.

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.

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 include 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.

Samsung Compliance Committee

The Samsung Compliance Committee holds monthly regular meetings and special meetings to review various issues including external sponsorship and internal transactions. It also operates a separate whistleblowing channel to receive reports on violations of compliance obligations. In addition, the Committee conducted various activities, including visits to Samsung Electronics' Pyeongtaek semiconductor site, visits to Samsung SDI's Cheonan campus, and Samsung Member Companies Compliance Workshops.

The Compliance Committee of Samsung Electronics continuously provides various recommendations and opinions to improve the compliance monitoring system of Samsung member companies, and Samsung Electronics has prepared and executed implementation plans in response to these recommendations and opinions.

Facts & Figures

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Economic Performances

Key Financial Performance[1]		2021	2022	2023
Sales	KRW 1 trillion	279.6	302.2	258.9
Operating profit	KRW 1 trillion	51.6	43.4	6.6
Net income	KRW 1 trillion	39.9	55.7	15.5

1) Based on consolidated financial statements

Sales by Division[1]		2021	2022	2023
Sales by division (absolute value)				
DX	KRW 1 trillion	166.3	182.5	170.0
DS	KRW 1 trillion	95.4	98.5	66.6
SDC	KRW 1 trillion	31.7	34.4	31
Harman	KRW 1 trillion	10.0	13.2	14.4
Sales by division (percentage)				
DX	%	55	56	60
DS	%	31	30	24
SDC	%	11	10	11
Harman	%	3	4	5

1) Based on net sales

Sales by Region[1]		2021	2022	2023
Sales by region (absolute value)				
Americas	KRW 1 trillion	97.9	119.0	92.1
Europe	KRW 1 trillion	50.3	50.3	48.1
Korea	KRW 1 trillion	44.0	48.7	45.6
Asia and Africa[2]	KRW 1 trillion	87.4	84.3	73.1
Sales by region (percentage)				
Americas	%	35	39	35
Europe	%	18	17	19
Korea	%	16	16	18
Asia and Africa[2]	%	31	28	28

1) Based on net sales
2) Starting in 2023, Asia and Africa data includes China data

Economic Value Distribution		2021	2022	2023
[Suppliers] Purchasing costs	KRW 1 trillion	192.0	219.8	212.8
[Local communities] CSR costs	KRW 1 trillion	0.4	0.4	0.4
[Shareholders and investors] Dividends	KRW 1 trillion	9.8	9.8	9.8
[Shareholders and investors] Dividend payout ratio	%	25	18	68
[Creditors] Interest costs	KRW 1 trillion	0.4	0.8	0.9
[Employees] Personnel expenses	KRW 1 trillion	34.6	37.6	38.0
[Government] Taxes and public duties by region				
[Government] Taxes and public duties by region	KRW 1 trillion	10.2	13.0	8.2
Asia	%	14.0	11.0	19.1
Korea	%	67.0	74.0	58.1
Americas and Europe	%	16.0	14.0	21.5
Others	%	3.0	1.0	1.3
Percentage of distributed economic value				
Suppliers[1]	%	77.0	79.3	78.8
Local communities[2]	%	0.1	0.1	0.2
Shareholders and investors[3]	%	3.9	3.5	3.6
Creditors[4]	%	0.2	0.3	0.3
Employees[5]	%	13.9	13.6	14.1
Government[6]	%	4.9	3.2	3.0

1) Suppliers: Costs related to all materials, products, equipment, and services purchased for businesses
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& expenses, and R&D expenses
6) Government: Sum of corporate taxes (based on cash flow statement) and other taxes and public duties

Social Performance

Compliance and Ethics		2021	2022	2023
Compliance training				
Compliance training[1]	Individuals	141,723	126,867	138,742
Anti-corruption training				
Anti-corruption training[2]	Individuals	198,592	254,045	254,511
Compliance whistleblowing				
Compliance whistleblowing[3]	Cases	911	1,098	1,400
Corruption whistleblowing				
Corruption whistleblowing[4]	Cases	929	999	892
Corruption whistleblowing rate	%	12	13	16
Consumer complaint rate	%	30	34	36
Others	%	58	54	49

1) Scope of data collection for compliance training: Employees at our business sites in Korea (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 from our compliance microsite https://sec-compliance.net
4) Corruption whistleblowing data: Based on statistics from our ethics microsite https://sec-audit.com

Status of Sanctions

The Republic of Korea Personal Information Protection Commission issued a corrective order and imposed on Samsung Electronics a penalty surcharge of KRW 875.6 million and a fine of KRW 2.4 million for violation of Enforcement Decree 48-2(1)2 of Article 29 (Obligations to Take Safety Measure) of the Privacy Act on August 18th, 2023, which was paid in full. Samsung Electronics is striving to comply with relevant laws through training our system operation partners and strengthening security-related contracts. For the status of other sanctions imposed on the company, please refer to Samsung Electronics' Semi-Annual Business Report.

Corporate Citizenship		2021[3]	2022	2023
Employee volunteer hours				
Total employee volunteer hours[1]	Hours	824,329	1,068,867	652,677
Volunteer hours per employee	Hours	3.04	3.95	2.44
Cumulative number of beneficiaries[2]				
Samsung SW Academy for Youth	Individuals	3,950	6,250	8,550
Samsung Dream Class	Individuals	112,602	116,999	124,604
Samsung Smart School[3]	Individuals	5,917	5,917	5,917
Samsung Junior SW Academy	Individuals	112,341	156,061	210,294
Samsung Stone of Hope	Individuals	10,476	16,760	27,065
Samsung Blue Elephant	Individuals	353,201	662,142	940,029
Samsung Solve for Tomorrow	Individuals	2,146,951	2,397,255	2,619,592
Samsung Innovation Campus	Individuals	74,984	119,807	177,619

1) Total employee volunteer hours: Including employees at all of our business sites in Korea and other regions
2) Korean youth education programs jointly operated by all Samsung Member companies
3) Samsung Smart School: 2021 beneficiaries maintained until 2023

SME Support		2021	2022	2023
Beneficiaries of smart factory support				
Beneficiaries of smart factory support[1]	Companies	284	268	196
Partner companies in our supply chains	Companies	24	35	26
Non-partner companies	Companies	260	233	170

1) Beneficiaries of smart factory support: 2022 figures corrected after publication of 2023 Sustainability Report due to business discontinuation of nine beneficiary companies

Privacy Protection		2021	2022	2023
In-house consulting	Cases	6,273	5,858	8,302
Response to government request for information[1]				
Requests	Cases	179	187	594
Responses	Cases	122	126	456
Response rate	%	68	67	77

1) Response to government requests for information: Compiled statistical data with regards to warrants issued by Korean courts in accordance with applicable Korean laws

Employee Status		2021	2022	2023
Number of employees				
Total number of employees[1]	Individuals	266,644	270,278	267,860
Korea	Individuals	111,126	117,927	120,756
Global*	Individuals	155,518	152,351	147,104
Number of employees by employment type				
Non-fixed-term employees	Individuals	262,415	266,233	264,131
Fixed-term employees[2]	Individuals	4,229	4,045	3,729
Number of employees by age group				
Under 30	Individuals	89,897	83,155	72,525
30s	Individuals	108,459	111,607	113,874
40 and above	Individuals	68,288	75,516	81,461
Number of employees by job type				
Development	Individuals	75,218	80,423	83,729
Manufacturing	Individuals	122,811	117,190	109,722
Quality assurance and EHS	Individuals	19,457	19,763	21,386
Sales and marketing	Individuals	23,257	24,703	25,136
Others	Individuals	25,901	28,199	27,887
Number of employees by rank				
Working level[3]	Individuals	184,718	182,323	174,060
Manager level	Individuals	80,532	86,498	92,315
Executive level[4]	Individuals	1,394	1,457	1,485
Number of employees by region[5]				
Korea	Individuals	111,126	117,927	120,756
Asia	Individuals	112,376	106,790	100,938
North America and Central and South America	Individuals	25,694	27,166	27,882
Europe	Individuals	10,424	11,709	12,001
CIS (Commonwealth of Independent States)	Individuals	2,279	1,756	1,611
Middle East and Africa	Individuals	4,745	4,930	4,672

		2021	2022	2023
Number of non-Samsung Electronics Employees[6]				
Men	Individuals	31,951	32,883	36,734
Women	Individuals	13,270	16,786	20,383
Others**	Individuals	4,888	4,917	5,133
Number of non-Samsung Electronics employees by region				
Korea	Individuals	34,428	38,492	43,902
Asia	Individuals	4,859	5,153	7,669
North America and Central and South America	Individuals	4,007	3,654	3,711
Europe	Individuals	5,004	5,847	5,479
CIS	Individuals	1,108	579	504
Middle East and Africa	Individuals	703	861	985
Welfare benefit expenses in Korea and abroad				
Welfare benefit expenses in Korea and abroad	KRW 1 billion	5,073	6,092	6,473

1) Number of employees: As of year end (excluding those dispatched by partner companies, on leave, interns, and full-time students) 2021 and 2022 figures updated due to changes in calculation standard

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

3) Working-level employees: Encompassing those opting for flexible work arrangements and those not categorized under the manager and executive levels

4) Executive-level employees: Including those at the vice president level or higher (excluding Masters, Fellows, and advisors) at our Korean business sites and at the vice president level and higher at our global business sites (excluding global advisors since 2023)

5) Number of employees by region: Starting in 2023, Southeast Asia, Southwest Asia, Japan, and China figures combined and Middle East and Africa values combined

6) Number of non-Samsung Electronics employees: including those dispatched by partner companies, interns (including those experiencing work for educational or training purposes) at global sites. 2021, 2022 data updated due to changes in calculation standard.

* "Global" refers to countries excluding Korea

** Those who chose not to indicate their gender

Percentage of New Female Hires and Retirement Rate		2021	2022	2023
Percentage of new female hires				
Korea	%	27.5	27.9	28.1
Global	%	33.0	29.4	28.4
Retirement rate[1]				
Total retirement rate	%	13.9	12.9	10.6
Retirement rate of men[2]	%	7.6	7.0	5.9
Retirement rate of women[2]	%	6.3	5.9	4.6

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, Equity, and Inclusion		2021	2022	2023
Percentage of female employees				
Percentage of female employees[1]	%	36.3	35.1	33.7
Percentage of female employees by job type				
Development	%	18.8	19.2	19.2
Manufacturing	%	46.8	45.1	43.0
Quality assurance and EHS	%	42.3	40.8	38.6
Sales and marketing	%	32.3	33.6	34.0
Others	%	36.0	35.9	36.8
Percentage of female employees by region				
Korea	%	25.1	25.2	25.3
Asia	%	48.6	47.0	44.2
North America and Central and South America	%	34.9	34.4	33.6
Europe	%	33.8	34.0	34.0
CIS	%	35.0	40.8	41.8
Middle East and Africa	%	17.9	19.1	20.4
Percentage of female employees by rank				
Working Level	%	45.3	43.9	42.5
Manager Level	%	16	16.9	17.6
Executive Level	%	6.8	6.9	7.3
Number of employees on parental leave[2]				
Men	Individuals	999	1,310	1,304
Women	Individuals	2,936	3,054	3,173
Rate of return to work after parental leave[3]				
Men	%	96.3	96.5	97.7
Women	%	98.9	98.9	99.0

		2021	2022	2023
In-house daycare centers maximum capacity				
In-house daycare centers maximum capacity[4]	Individuals	2,608	2,628	2,642
Number of in-house daycare centers				
Number of in-house daycare centers[4]	Centers	11	11	11
Number of employees with disabilities				
Number of employees with disabilities[5]	Individuals	1,632	1,732	1,931
Percentage of employees with disabilities				
Percentage of employees with disabilities[6]	%	1.6	1.6	1.8

1) Percentage of female employees: Based on the total number of employees
2) Number of employees on parental leave: Based on the number of employees at business sites in Korea
3) Rate of return to work after parental leave: Based on the number of employees at business sites in Korea
4) In-house daycare centers maximum capacity and number of in-house daycare centers: Based on Samsung Electronics operated daycare centers (2021, 2022 data updated due to exclusion of Samsung Display operated daycare centers)
5) Number of employees with disabilities: Based on the number of employees with disabilities at our business sites in Korea as reported to the Korea Employment Agency for Persons with Disabilities (including those hired by our subsidiary standard workplace for people with disabilities since 2023); 2021, 2022 data updated due to changes in figure calculation standards
6) Percentage of employees with disabilities: Based on the percentage of employees with disabilities at our business sites in Korea as reported to the Korea Employment Agency for Persons with Disabilities (including those hired by our subsidiary standard workplace for people with disabilities); 2021, 2022 data updated due to changes in figure calculation standards

Safety and Health		2021	2022	2023
Incident frequency rate[1]	%	0.106	0.155	0.103
Injury rate[2]	%	0.022	0.031	0.025
Injury rate of suppliers[3]	%	0.076	0.094	0.065

1) Incident frequency rate: (Number of incidents / Total working hours) x 1,000,000; based on employees in Korea and at our global manufacturing sites
2) Injury rate: (Number of incidents / Number of on-site employees) x 100; based on employees in Korea and at our global manufacturing sites
3) Injury rate of suppliers: Based on suppliers stationed at our sites

Career Development		2021	2022	2023
Number of training sessions				
Total	10,000 cases	818	914	950
Korea	10,000 cases	452	508	463
Global	10,000 cases	366	407	487
Hours of training per employee				
Hours of training per employee[1]	hours	54.9	60.1	66.9
Korea	hours	67.7	70.5	77.5
Global	hours	45.7	52.1	58.2
Average hours of training by gender				
Men	hours	58.2	61.1	66.0
Women	hours	48.2	58.3	68.6
Average hours of training by employment type				
Regular employees	hours	54.8	60.5	67.3
Non-regular employees[2]	hours	43.8	40.3	42.4
Training expenses				
Total training expenses[3]	KRW 100 million	1,321	1,853	2,090
Training expenses per employee[4]	KRW 1,000	1,188	1,571	1,731
Ratio of training expenses to sales[5]	%	0.05	0.07	0.08
Ratio of training expenses to personnel expenses[6]	%	0.8	0.5	0.5
Re-employment through the Career Consulting Center[7]				
Re-employment applicants	Individuals	7,940	8,246	8,838
Re-employed	Cases	6,982	7,286	7,653
Rate of Re-employment	%	87.9	88.4	86.6

1) Average training hours per employee: Online training + offline training
2) Non-regular employees: subcontractors + 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

Sustainable Supply Chain		2021	2022	2023
Global network				
Global number of suppliers[1]	Companies	2,129	2,131	2,515
Comprehensive supplier evaluations				
Percentage of evaluated suppliers[2]	%	93	89	92
Percentage of suppliers rated outstanding	%	68	62	71
Percentage of suppliers with environmental management system (ISO 14001, etc.) certification[3]	%	88	90	87
Percentage of suppliers with health and safety system (ISO 45001, etc.) certification[4]	%	47	50	51
Global Purchasing Code of Conduct compliance				
Korean SME suppliers paid 100% within 10 days	Companies	576	589	574
Partner Collaboration Fund support				
Partner Collaboration Fund Support	KRW 100 million	9,734	9,942	10,359
First-tier suppliers	KRW 100 million	6,590	6,997	6,953
Second-tier and third-tier suppliers	KRW 100 million	3,144	2,945	3,406
Supplier incentives				
Supplier incentives	KRW 100 million	893	931	650
Companies participating in supplier training				
Companies participating in supplier training[5]	Companies	911	1,381	1,739
First-tier suppliers	Companies	520	865	1,114
Second-tier and third-tier suppliers	Companies	391	516	625
Employees participating in supplier training				
Employees participating in supplier training[6]	Individuals	18,725	22,924	32,566
First-tier suppliers	Individuals	17,423	20,722	30,417
Second-tier and third-tier suppliers	Individuals	1,302	2,202	2,149

1) Global number of suppliers: Sum of suppliers by country since 2023
2) Percentage of evaluated suppliers: Annual comprehensive supplier evaluation - in 7 areas - applies to all suppliers, except for those registered for less than a year
3) Percentage of suppliers with environmental management system (ISO 14001, etc.) certification: Fulfillment of ISO 14001 or equivalent is required as part of the Standard Supplier Contract
4) Percentage of suppliers with health and safety system (ISO45001, etc.) certification: Includes 23 suppliers with SA8000 certification
5) Companies participating in supplier training: Sum of Partner Collaboration Academy training cases between DX and DS Divisions, including overlap, updated since 2022 to account for DS Division Partner Collaboration Academy training progress

Transparency in Responsible Minerals Sourcing Management		2021	2022	2023
On-site audits of suppliers[1]	Companies	493	438	315

1) On-site audits of suppliers aimed at eradicating the use of conflict minerals

Innovation Support for First-tier Suppliers		2021	2022	2023
Innovation support for first-tier suppliers[1]	Companies	30	66	91
Korea	Companies	30	61	88
Global	Companies	0	5	3
Supply-chain work environment management				
First-tier suppliers performing third-party audits	Companies	108	121	93

1) Innovation support for first-tier suppliers: Sum of consulted DX Division suppliers and component equipment consulting supported DS Division suppliers

Supplier Third-Party Audit Compliance Rate by Area[1]		2021	2022	2023	
				First-tier	Second-tier
Labor and human rights					
Freely chosen employment[2]	%	98	98	99	100
Guarantee of freedom of movement	%	99	100	99	100
Prohibition of child labor	%	100	100	100	100
Protection of underage workers	%	100	100	99	100
Working hours	%	87	93	85	78
Guarantee of at least one day off per week	%	97	97	96	95
Wages and benefits[3]	%	91	96	95	92
Humane treatment	%	100	100	99	100
Non-discrimination[4]	%	100	100	100	100
Freedom of association[5]	%	99	98	99	100
Safety and Health					
Occupational safety	%	96	95	96	100
Emergency preparedness	%	95	94	98	96
Occupational injury and illness	%	99	98	99	100
Physically demanding work	%	99	97	99	100
Machine safeguarding	%	99	98	96	100
Sanitation, food, and housing	%	99	99	99	100
Environment					
Pollution prevention	%	98	99	98	100
Hazardous substances	%	99	96	98	100
Wastewater and solid waste	%	100	98	99	100
Air emissions	%	100	99	99	94
Materials restrictions	%	100	100	100	100

Supplier Third-Party Audit Compliance Rate by Area[1]		2021	2022	2023	
				First-tier	Second-tier
Ethics					
Corporate ethics	%	98	100	98	100
Prohibition of ill-gotten gains	%	98	100	100	100
Information disclosure	%	100	100	100	100
Intellectual property	%	100	99	100	100
Confidentiality and prohibition of retaliation	%	100	100	100	100
Privacy protection	%	99	100	100	100
Management System					
Will of compliance	%	100	98	100	100
Management responsibility	%	100	95	99	100
Risk assessment	%	97	92	100	100
Training	%	100	98	99	100
Communication	%	99	97	100	100
Employee feedback	%	99	100	99	100
Remedial action	%	98	95	97	92
Management of business improvement targets	%	98	93	97	100

1) Figures include improvement implementation results based on each year's third-party audit, performed on 102 suppliers in 2023 (93 1st-tier, 9 2nd-tier suppliers)

2) Freely chosen employment: 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

Environmental Performance

GHG Emission Management (Scope 1, 2)		2021	2022	2023
(Market based) GHG emissions[1]	1,000 tonnes CO_2e	17,400	15,053	13,291
Direct emissions (Scope 1)	1,000 tonnes CO_2e	7,604	5,972	3,733
Indirect emissions (Scope 2)	1,000 tonnes CO_2e	9,796	9,081	9,558
(Region based) GHG emission	1,000 tonnes CO_2e	20,170	19,892	18,303
Direct emissions (Scope 1)	1,000 tonnes CO_2e	7,604	5,972	3,733
Indirect emissions (Scope 2)	1,000 tonnes CO_2e	12,566	13,920	14,570
GHG emissions intensity[2, 3]	Tonne CO_2e/KRW 100 million	6	5	6
GHG emissions[3, 4]				
CO_2	1,000 tonnes CO_2e	11,005	10,336	10,778
CH_4	1,000 tonnes CO_2e	3	3	3
N_2O	1,000 tonnes CO_2e	489	530	540
HFCs	1,000 tonnes CO_2e	902	679	314
PFCs	1,000 tonnes CO_2e	4,787	3,333	1,533
SF_6	1,000 tonnes CO_2e	214	173	124

1) GHG emissions from business sites:
Calculated based on country-specific GHG management guidelines, the IPCC Guidelines, and ISO 14064
2) GHG emissions intensity: GHG emissions from business sites (Scope 1, 2) / Sales (sales of DX division (absolute value) + sales of DS division (absolute value), KRW 100 million)
3) Market-based GHG emission
4) NF_3 emission calculation methodology is under developed and planned to be released in our 2025 Sustainability Report

GHG Emissions Management (Scope 3)[1]		2021[2]	2022	2023
Other indirect emissions (Scope 3)	1,000 tonnes CO_2e	Scope 3 emissions calculated with new standards since 2022	124,715	119,730
Purchased products and services	1,000 tonnes CO_2e		14,596	12,880
Capital goods	1,000 tonnes CO_2e		1,508	2,663
Fuel- and energy-related activities	1,000 tonnes CO_2e		900	3,058
Upstream transportation and distribution	1,000 tonnes CO_2e		3,965	4,098
Waste generation and treatment	1,000 tonnes CO_2e		246	156
Business trips of employees	1,000 tonnes CO_2e		87	108
Commuting of employees	1,000 tonnes CO_2e		303	300
Rented assets	1,000 tonnes CO_2e		107	9
Downstream transportation and distribution	1,000 tonnes CO_2e		366	40
Processing of sold products	1,000 tonnes CO_2e		142	131

GHG Emissions Management (Scope 3)[1]		2021[2]	2022	2023
Use of sold products	1,000 tonnes CO_2e	Scope 3 emissions calculated with new standards since 2022	101,236	94,776
Disposal of sold products	1,000 tonnes CO_2e		1,206	1,339
Leased assets	1,000 tonnes CO_2e		1	3
Investments	1,000 tonnes CO_2e		52	169

1) Internal calculation standard of 14 categories has been set in 2022 and all the categories have been assured by an independent 3rd party. Data used for calculating some Scope 3 emissions (Purchased goods & services, Capital goods, and Processing of sold products) are calculated based on previous year's data when suppliers' emissions data was available.
2) Scope 3 emissions and assured categories in 2021: 123,235,000 tonnes CO_2e, sum of 12 categories (NOT including capital goods, processing of sold products, and franchises)

Energy Management		2021	2022	2023
Energy consumption at business sites				
Energy consumption at business sites	GWh	32,322	35,177	36,399
Electricity	GWh	25,767	28,316	29,956
Korea	GWh	19,132	21,360	23,217
China	GWh	3,161	3,409	3,304
India	GWh	132	148	161
Southeast Asia	GWh	1,655	1,581	1,522
North America	GWh	1,516	1,635	1,579
Europe	GWh	137	135	126
Africa and Middle East	GWh	34	48	47
Others[1]	GWh	6,555	6,861	6,443
Energy intensity[2]	MWh/ KRW 100 million	12.4	12.5	15.4
Renewable energy consumption	GWh	5,278	8,704	9,289
Renewable energy transition rate	%	20.5	30.7	31.0

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)

Collection and Recycling of E-waste		2021	2022[2]	2023
Cumulative amount of e-waste collected[1]	Tonnes	5,099,436	5,698,008	6,297,161
Amount of e-waste collected				
Amount of e-waste collected	Tonnes	559,281	598,572	599,153
Asia and Oceania	Tonnes	311,687	220,357	235,197
Americas	Tonnes	46,584	45,842	54,014
Europe	Tonnes	201,010	332,374	309,942

1) Cumulative amount of e-waste collected from 2009

2) 2022 figures updated (due to delay in data collection in some countries)

Amount of E-waste Collected by Year and Product Type[1]		2021	2022	2023
Amount of e-waste collected by year and product type	Tonnes	120,718	132,681	140,162
Heat exchanger	Tonnes	75,463	75,879	89,754
Display	Tonnes	9,249	10,644	12,840
Telecommunications service equipment	Tonnes	3,292	1,930	2,155
Other electric and electronics equipment	Tonnes	32,715	44,228	35,414
Amount of materials recovered for recycling[2]				
Amount of materials recovered for recycling	Tonnes	103,716	111,406	117,025
Scrap metals	Tonnes	55,843	57,763	61,422
Nonferrous metal	Tonnes	12,489	11,996	12,356
Synthetic resin	Tonnes	28,354	33,157	35,752
Glass	Tonnes	3,057	4,068	3,183
Others	Tonnes	3,973	4,422	4,312

1) Amount of e-waste collected by year and product type: Based on data collected in Korea
* 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

Energy Efficiency of Products[1]		2021	2022	2023
Energy efficiency improvement rate				
Product energy consumption reduction rate	%	13.3	16.4	25.1

1) Product energy consumption reduction rate for each year relative to 2019 identical performance/specification models for 7 major product categories
*Data for amount of GHG emissions reduced in the product use phase by year is being reviewed to refine its consistency with the GHG protocol

Resource Efficiency of Products		2021	2022	2023
Plastic with recycled resin				
Cumulative use[1]	Tonnes	310,291	409,117	567,056
Amount used by year	Tonnes	33,319	98,826	157,939
Percentage of Plastic with recycled resin used[2]	%	4.4	13.9	25
Recycled packaging				
Recycled packaging[3]	Tonnes	13,788	13,011	15,273

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

Waste Management		2021	2022	2023
Amount of waste generated				
Amount of waste generated	Tonnes	1,324,972	1,413,365	1,314,923
General waste	Tonnes	903,753	931,929	881,175
Hazardous waste[1]	Tonnes	421,219	481,436	433,748
Amount of waste treated				
Amount of waste treated	Tonnes	1,324,972	1,413,365	1,314,923
Amount of waste recovered for recycling	Tonnes	1,268,985	1,364,367	1,276,662
Incineration (off-site)	Tonnes	26,078	25,479	31,007
Landfill (off-site)	Tonnes	19,480	14,927	4,622
Others	Tonnes	10	8,593	2,632
Percentage of waste recovered for recycling				
Percentage of waste recovered for recycling	%	96	97	97

1) Hazardous waste: Based on monitoring standards of individual countries where our business sites are located

Water Management		2021	2022	2023
Water intake				
Water intake	1,000 tonnes	163,660[1]	172,811	177,361
Municipal water (surface water)	1,000 tonnes	163,102	172,112	176,575
Groundwater	1,000 tonnes	558[2]	698	786
Wastewater discharge				
Wastewater discharge	1,000 tonnes	130,955	136,118	142,995
Water reused				
Water reused	1,000 tonnes	93,949	116,590	122,891
Ultra-pure water reused				
Supply	1,000 tonnes	61,986	70,989	71,487
Recovery	1,000 tonnes	22,543	24,731	22,004
Supplier's water consumption[3]				
Supplier's water consumption	1,000 tonnes	84,737	94,814	97,482

1), 2) 2021 data updated for error correction

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

Workplace Environment Management		2021	2022	2023
Investment in EHS	KRW 100 million	13,997	21,836	20,284
Violations of environment-related laws and regulations	Cases	-	2	1[1]

1) For details please refer to pg.68 of the Sustainability Report

Pollutant Management[1]		2021	2022	2023
Air pollutant emissions				
NOx	Tonnes	717	785	720
SOx	Tonnes	19	35	43
NH_3	Tonnes	68	95	125
HF	Tonnes	22	19	16
PM[2]	Tonnes	163	207	142
Volatile organic compound emissions				
Volatile organic compound emissions	Tonnes	314	394	398
Water pollutant discharge				
TOC (Korea)[3]	Tonnes	-	-	294[3]
COD (Global)	Tonnes	906	846	534[3]
BOD	Tonnes	266	313	412
SS	Tonnes	393	411	931
F	Tonnes	520	576	626
Heavy metals	Tonnes	13	16	17
Consumption of ozone depleting substances (CFC-eq)[4]				
Consumption of ozone depleting substances (CFC-eq)	Tonnes	1	2	1

1) 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.

2) Previous dust emissions disclosure standards changed

3) Apply data separately into TOC (Korea) and COD (Global) starting from 2023

4) Scope of data collection: Korea

Chemical Substance Management[1]		2021	2022	2023
Chemical substance management[2]	1,000 tonnes	520	578	518
Major hazardous substances leakages	Cases	-	-	-

1) Scope of data collection: Korea

2) Chemicals consumption: Based on European Pollutant Release and Transfer Register (E-PRTR) from 2018

Available Water Resources by Region

Region		Water intake										Water discharge										Basins
		Total intake		Water intake from third-party sources (local governments, water utility companies, etc.)				Direct Intake				Total discharge		Direct discharge into freshwater ecosystems		Treatment and discharge by third-party agencies		Amount of water used		Amount of water reused		
				Surface water		Groundwater		Surface water		Groundwater[1]												
		2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	
Korea	1,000 tonnes	130,958	139,527	130,664	139,210	-	-	-	-	295	317	103,786	113,198	63,633	60,225	40,153	52,973	27,171	26,318	86,331	94,231	4 including the Han River
China	1,000 tonnes	18,733	16,386	18,733	16,386	-	-	-	-	-	-	15,324	13,309	-	-	15,324	13,309	3,409	3,076	22,917	21,537	3 including the Huang He River
Europe	1,000 tonnes	365	256	329	243	-	-	-	-	36	13	224	171	-	-	224	171	142	85	-	-	2 including the Danube River
Russia	1,000 tonnes	56	19	56	17	-	-	-	-	-	2	30	17	-	-	30	17	26	2	23	18	Volga River
Southeast Asia	1,000 tonnes	10,901	10,470	10,901	10,470	-	-	-	-	-	-	8,541	8,448	213	230	8,328	8,218	2,361	2,022	2,555	2,763	4 including the Hong River
Southwest Asia	1,000 tonnes	493	489	493	384	-	-	-	-	-	106	35	178	-	-	35	178	458	311	199	243	2 including the Ganges River
North America	1,000 tonnes	10,734	9,675	10,734	9,675	-	-	-	-	-	-	7,894	7,364	-	-	7,894	7,364	2,840	2,312	4,557	4,093	4 including the Lower Colorado River
Central and South America	1,000 tonnes	381	360	14	11	-	-	-	-	367	349	115	158	96	140	19	18	267	202	8	7	2 including the Amazon River
Africa	1,000 tonnes	188	179	188	179	-	-	-	-	-	-	169	152	-	-	169	152	19	27	-	-	2 including the Nile River
Total	**1,000 tonnes**	**172,811**	**177,361**	**172,113**	**176,575**	**-**	**-**	**-**	**-**	**698**	**786**	**136,118**	**142,995**	**63,942**	**60,595**	**72,176**	**82,400**	**36,691**	**34,356**	**116,590**	**122,891**	

1) Groundwater values includes rainwater

Performance by Division

GHG Emissions Management (Scope 1, 2)		2021		2022		2023	
		DX Division	DS Division	DX Division	DS Division	DX Division	DS Division
(Market Based) GHG emissions[1]	1,000 tonnes CO_2e	1,790	15,610	366	14,687	313	12,978
Direct emissions (Scope 1)	1,000 tonnes CO_2e	263	7,341	254	5,718	211	3,522
Indirect emissions (Scope 2)	1,000 tonnes CO_2e	1,527	8,269	112	8,969	102	9,456
GHG emissions[2]							
CO_2	1,000 tonnes CO_2e	1,781	9,224	364	9,971	311	10,467
CH_4	1,000 tonnes CO_2e	-	3	1	2	0.5	2
N_2O	1,000 tonnes CO_2e	8	481	1	529	1	539
HFCs	1,000 tonnes CO_2e	1	901	-	679	-	314
PFCs	1,000 tonnes CO_2e	-	4,787	-	3,333	0.2	1,532
SF_6	1,000 tonnes CO_2e	-	214	-	173	-	124

1) GHG emissions from business sites: Calculated based on country-specific GHG management guidelines, the IPCC Guidelines, and ISO 14064
2) We are developing calculation methodology for NF_3 emissions and plan to release emission figures in the 2025 Sustainability Report

GHG Emissions Management (Scope 3)[1]		2021[2]		2022		2023	
		DX Division	DS Division	DX Division	DS Division	DX Division	DS Division
Other indirect emissions (Scope 3)	1,000 tonnes CO_2e	Scope 3 emissions calculated with new standards since 2022		109,951	14,764	101,639	18,091
Purchased products and services	1,000 tonnes CO_2e			11,735	2,861	9,383	3,497
Capital goods	1,000 tonnes CO_2e			-	1,508	-	2,663
Fuel- and energy-related activities	1,000 tonnes CO_2e			163	737	433	2,625
Upstream transportation and distribution	1,000 tonnes CO_2e			3,727	238	3,925	173
Waste generation and treatment	1,000 tonnes CO_2e			27	219	42	114
Business trips of employees	1,000 tonnes CO_2e			69	19	79	29
Commuting of employees	1,000 tonnes CO_2e			229	74	218	82
Rented assets	1,000 tonnes CO_2e			53	53	6	3
Downstream transportation and distribution	1,000 tonnes CO_2e			357	9	34	6

GHG Emissions Management (Scope 3)[1]		2021[2]		2022		2023	
		DX Division	DS Division	DX Division	DS Division	DX Division	DS Division
Processing of sold products	1,000 tonnes CO_2e	Scope 3 emissions calculated with new standards since 2022		-	142	-	131
Use of sold products	1,000 tonnes CO_2e			92,365	8,871	86,023	8,753
Disposal of sold products	1,000 tonnes CO_2e			1,200	7	1,338	1
Leased assets	1,000 tonnes CO_2e			1	-	2	1
Investments	1,000 tonnes CO_2e			26	26	156	13

1) Internal calculation standard of 14 categories has been set in 2022 and all the categories have been assured by an independent 3rd party. Data used for calculating some Scope 3 emissions (Purchased goods & services, Capital goods, and Processing of sold products) are calculated based on the previous year's data when suppliers' emissions data was available.
2) Sum of Scope 3 emissions and assured categories in 2021: 123,235,000 tonnes CO_2e, sum of 12 categories (NOT including capital goods, processing of sold products, and franchises)

Energy Management		2021		2022		2023	
		DX Division	DS Division	DX Division	DS Division	DX Division	DS Division
Energy consumption at business sites							
Energy consumption at business sites	GWh	4,396	27,926	4,324	30,850	4,015	32,384
Electricity	GWh	3,143	22,624	3,067	25,249	2,914	27,042
Others[1]	GWh	1,253	5,302	1,257	5,601	1,101	5,342
Renewable energy consumption							
Renewable energy consumption	GWh	556	4,722	2,856	5,849	2,720	6,569
Renewable energy transition rate	%	17.7	20.9	93.1	23.2	93.4	24.3

1) Others (Energy consumption at business sites): LNG

Energy Efficiency of Products[1]		2021		2022		2023	
		DX Division	DS Division	DX Division	DS Division	DX Division	DS Division
Energy efficiency improvement rate							
Product energy consumption reduction rate	%	13.3	N/A	16.4	N/A	25.1	N/A

1) Product energy consumption reduction rate for each year relative to 2019 identical performance/specification models for 7 major product categories
*Data for amount of GHG emissions reduced in the product use phase by year is being reviewed to refine its consistency with the GHG protocol

Collection and Recycling of E-waste		2021		2022		2023	
		DX Division	DS Division	DX Division	DS Division	DX Division	DS Division
Cumulative amount of e-waste collected[1]	T**	5,099,436	N/A	5,698,008[2]	N/A	6,297,161	N/A
Amount of e-waste collected							
Amount of e-waste collected	T**	559,281	N/A	598,572[2]	N/A	599,153	N/A
Asia and Oceania	T**	311,687	N/A	220,357[2]	N/A	235,197	N/A
Americas	T**	46,584	N/A	45,842[2]	N/A	54,014	N/A
Europe	T**	201,010	N/A	332,374[2]	N/A	309,942	N/A
Amount of e-waste collected by year and product type[3]							
Amount of e-waste collected by year and product type	T**	120,718	N/A	132,681	N/A	140,162	N/A
Heat Exchanger	T**	75,463	N/A	75,879	N/A	89,754	N/A
Telecommunications service equipment	T**	9,249	N/A	10,644	N/A	12,840	N/A
Display	T**	3,292	N/A	1,930	N/A	2,155	N/A
Other electric and electronics equipment	T**	32,715	N/A	44,228	N/A	35,414	N/A
Amount of materials recovered for recycling[4]							
Amount of materials recovered for recycling	T**	103,716	N/A	111,406	N/A	117,025	N/A
Scrap metal	T**	55,843	N/A	57,763	N/A	61,422	N/A
Nonferrous metal	T**	12,489	N/A	11,996	N/A	12,356	N/A
Synthetic resin	T**	28,354	N/A	33,157	N/A	35,752	N/A

Collection and Recycling of E-waste		2021[2]		2022		2023	
		DX Division	DS Division	DX Division	DS Division	DX Division	DS Division
Glass	T**	3,057	N/A	4,068	N/A	3,183	N/A
Other	T**	3,973	N/A	4,422	N/A	4,312	N/A

1) Cumulative amount of e-waste collected: from 2009
2) 2022: Figures updated (due to the delay in data collection in some countries)
3) Amount of e-waste collected by year and product type: from 2009
*e-waste classification changed in 2021 from the existing system of "large-sized equipment, telecommunications service equipment, medium-sized equipment, and small-sized equipment"
4) Amount of materials recovered for recycling: based on data collected in Korea
** T = Tonnes

Resource Efficiency of Products		2021		2022		2023	
		DX Division	DS Division	DX Division	DS Division	DX Division	DS Division
Plastic with recycled resin							
Cumulative use[1]	T*	310,291	N/A	409,117	N/A	567,056	N/A
Amount used by year	T*	33,319	N/A	98,826	N/A	157,939	N/A
Percentage of Plastic with recycled resin used[2]	%	4.4	N/A	14	N/A	25	N/A
Recycled packaging							
Recycled packaging[3]	T*	13,788	N/A	13,011	N/A	15,273	N/A

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
* T = Tonnes

Waste Management		2021		2022		2023	
		DX Division	DS Division	DX Division	DS Division	DX Division	DS Division
Amount of waste generated							
Amount of waste generated	T*	348,459	976,513	329,861	1,083,504	307,325	1,007,598
General waste	T*	290,841	612,912	274,126	657,803	254,748	626,427
Hazardous waste[1]	T*	57,618	363,601	55,735	425,701	52,577	381,171
Amount of waste treated							
Amount of waste treated	T*	348,459	976,513	329,861	1,083,504	307,325	1,007,598
Amount of waste recovered for recycling	T*	321,520	947,465	308,670	1,055,697	284,484	992,177
Incineration (off-site)	T*	8,444	17,634	7,069	18,410	18,509	12,499
Landfill (off-site)	T*	18,135	1,345	13,809	1,118	3,920	702
Others	T*	361	10,069	314	8,279	412	2,220
Percentage of waste recovered for recycling							
Percentage of waste recovered for recycling	%	92	97	94	97	93	98

1) Hazardous waste: Based on monitoring standards of individual countries where our business sites are located
* T = Tonnes

Water Management		2021[1), 2)]		2022		2023	
		DX Division	DS Division	DX Division	DS Division	DX Division	DS Division
Water intake							
Water intake	1,000t[4)]	19,391	144,269	18,823	153,988	17,270	160,090
Municipal water (surface water)	1,000t[4)]	18,833	144,269	18,124	153,988	16,485	160,090
Groundwater	1,000t[4)]	558	-	698	-	786	-
Wastewater discharge							
Wastewater discharge	1,000t[4)]	13,576	117,379	12,682	123,436	13,042	129,953
Water reused							
Water reused	1,000t[4)]	3,972	89,977	3,483	113,108	3,470	119,421
Ultra-pure water reused							
Supply	1,000t[4)]	2,131	59,855	2,219	68,770	2,098	69,389
Recovery	1,000t[4)]	412	22,131	-	24,731	-	22,004
Suppliers' water consumption[3)]							
Suppliers' water consumption	1,000t[4)]	57,002	27,735	63,236	31,578	65,783	31,699

1), 2) 2021 data updated for error correction

3) Suppliers' water consumption: based on water consumption for Samsung Electronics product manufacturing by the top 90% of suppliers in terms of transaction scale

4) 1,000t = 1,000 tonnes

Workplace Environment Management		2021		2022		2023	
		DX Division	DS Division	DX Division	DS Division	DX Division	DS Division
Investment in EHS	KRW 100 million	2,170	11,827	1,248	20,588	1,117	19,167
Violations of environment-related laws and regulations	Cases	-	-	2	-	1[1)]	-

1) On 23 August 2023, the Gwangju City Hall issued an administrative action (warning notice) to and imposed a fine of KRW 2 million on Samsung Electronics for violating Article 31 (Operation of Emission Facilities and Prevention Facilities), Paragraph 2 of the Clean Air Conservation Act. Samsung Electronics has paid the fine and is striving to comply with relevant laws and regulations by strengthening the computerized input management process for the operation of emission facilities and prevention facilities.

For the status of sanctions related to environmental regulation violations by the company, please refer to the Business (Semi-Annual) Report.

※ On 18 June 2021, the Texas Commission on Environmental Quality (TCEQ) issued a Notice of Corrective Action regarding a failure to report on wafer shredding equipment at the Samsung Austin Semiconductor LLC. (SAS) subsidiary of Samsung Electronics' DS Division. On 10 June 2022, the TCEQ issued a Notice of Corrective Action regarding the wastewater spill at SAS. TCEQ issued a fine of 93K USD to SAS on 8 March 2024, taking into account that SAS independently obtained environmental certification and performed internal management actions for the wafer shredding equipment while actively carrying out remediation activities to address the wastewater spillage as soon as SAS became aware of the incident. SAS developed and deployed preventive measures (pre-evaluation systems, development of monitoring, control systems).

Pollutant Management[1)]		2021		2022		2023	
		DX Division	DS Division	DX Division	DS Division	DX Division	DS Division
Air pollutant emissions							
Total pollutant emissions							
NOx	Tonnes	32	685	33	752	46	674
SOx	Tonnes	-	19	1	34	2	41
NH_3	Tonnes	3	65	2	93	0.5	125
HF	Tonnes	-	22	-	19	0.03	16
PM[2)]	Tonnes	94	69	143	64	72	69
Volatile organic compound emissions							
Volatile organic compound emissions	Tonnes	314	-	10	384	7	391
Water pollutant discharge							
TOC (Korea)[3)]	Tonnes	-	-	-	-	2	292
COD (Global)	Tonnes	244	662	286	560	433	101
BOD	Tonnes	59	207	85	228	161	251
SS	Tonnes	143	250	154	257	206	725
F	Tonnes	1	519	2	574	1	625
Heavy metals	Tonnes	2	11	1	15	2	15
Consumption of ozone depleting substances (CFC-11 eq)[4)]							
Consumption of ozone depleting substances (CFC-11 eq)	Tonnes	1	0.3	2	0.2	1	-

1) 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.

2) Previous dust emissions disclosure standards changed

3) Apply data separately into TOC (Korea) and COD (Global) starting from 2023

4) Scope of data collection: Korea

Chemical Substance Management[1)]		2021		2022		2023	
		DX Division	DS Division	DX Division	DS Division	DX Division	DS Division
Chemical substance use[2)]	1,000t[3)]	6	514	6	572	6	512
Discharge of major hazardous substances	Cases	-	-	-	-	-	-

1) Scope of data collection: Korea

2) Chemicals consumption: Based on the European Pollutant Release and Transfer Register (E-PRTR) from 2018

3) 1,000t = 1,000 tonnes

Appendix

70 Independent Assurance Report

71 Verification Statement on Scope 1, 2 Greenhouse Gas Emission

72 Verification Statement on Scope 3 Greenhouse Gas Emission

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Independent Assurance Report

Deloitte.

To the Management of Samsung Electronics Co., Ltd.,
We have undertaken a limited assurance engagement on the Sustainability Report (the "Report") of Samsung Electronics Co., Ltd. (the "Company") for the year ended 31 December 2023.

Identified Sustainability Information
The Sustainability Information included in the Report and subject to our assurance engagement consists of the following, with the exclusion of greenhouse gas emissions (Scope 1, 2, 3) and related information:
- 'Global Reporting Initiative (GRI) Standard Index' stated on pages 74-76
- 'Sustainability Accounting Standards Board (SASB) Standard Index' stated on pages 79-80
- 'ESG Data' stated on pages 56-68

Our assurance engagement is for the fiscal year ended December 31, 2023, and we have not performed assurance procedures on prior periods or on other information included in the Report, and accordingly, we do not express any conclusion on such information.

Criteria Used by the Company
The criteria used by the Company to prepare the Sustainability Information (the "Criteria") are the GRI Standards and SASB (Hardware, Semiconductors) Standards. As there is no generally accepted framework or established practices for evaluating and measuring sustainability information, various measurement techniques can be acceptable, which may affect comparability between companies and across periods.

Assurance Conclusion – Limited Assurance
Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the Sustainability Information in the Report for the year ended 31 December 2023, has not been prepared, in all material respects, in accordance with the Criteria.

Inherent Limitations in Preparing Sustainability Information
The Sustainability Information includes inherent uncertainties based on climate-related scenarios and forward-looking statements. These uncertainties arise from the incomplete nature of scientific and economic knowledge regarding the potential physical and transitional impacts of climate change, their likelihood, timing, and effects.

Responsibilities of the Company
The Company is responsible for selecting and establishing appropriate Criteria for preparing the Sustainability Information, considering relevant laws and regulations, and for the preparation of the Sustainability Information in accordance with these Criteria. This responsibility includes designing, implementing, and maintaining internal controls relevant to the preparation of the Sustainability Information that is free from material misstatement, whether due to fraud or error.

Our Responsibility
We plan and perform our work to obtain limited assurance about whether the Sustainability Information is free from material misstatement, whether due to fraud or error, and to form an independent conclusion based on the evidence obtained, which we then report to the Company's management. As our role involves forming an independent conclusion on the Sustainability Information prepared by management, our involvement in the preparation of the Sustainability Information would impair our independence and is not permitted.

Standards for Performing Assurance Engagements
We performed our limited assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 "Assurance Engagements Other than Audits or Reviews of Historical Financial Information," issued by the International Auditing and Assurance Standards Board (IAASB).

Our Independence and Quality Control
We comply with the independence and other ethical requirements of the Code of Ethics for Professional Accountants. This code is based on principles of integrity, objectivity, professional competence and due care, confidentiality, and professional behavior. We apply International Standard on Quality Control 1, which includes documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements, to maintain a comprehensive quality control system.

Summary of Procedures Performed as the Basis for Our Conclusion
To identify areas where material misstatements in the Sustainability Information might arise, we planned and performed our work based on professional judgment. Our procedures for the limited assurance engagement included:

- Performing limited verification of the assured Sustainability Information through inquiries and analytical reviews
- Interviewing personnel responsible for aggregating and preparing the Sustainability Information at the corporate level
- Inquiring about the Company's materiality assessment procedures considering key stakeholders
- Visiting the Company to understand the processes and systems used to manage and report the Sustainability Information
- Verifying that the financial information included in the Report is appropriately derived from the audited financial statements of the Company

The procedures performed in a limited assurance engagement vary in nature and timing and are less extensive than those for a reasonable assurance engagement. Therefore, the level of assurance obtained in a limited assurance engagement is substantially lower than that which would have been obtained if a reasonable assurance engagement had been performed.

Restricted Use
This report is prepared solely for the management of the Company to assist in understanding the Company's sustainability performance and activities. Accordingly, we do not accept or assume any responsibility to any other party.

Seoul, Republic of Korea
Deloitte Anjin LLC
27 June 2024

Deloitte Anjin LLC

This assurance report is valid as of the date of the report (June 27, 2024). Therefore, events or circumstances occurring between the date of this report and the time it is read could significantly impact the information presented and may require revisions to this report.

Verification Statement on Scope 1, 2 Greenhouse Gas Emission

GI-24253

Verification Opinion Statement

GHG Emissions | **Samsung Electronics Co.,Ltd**

Verification Target

Korean Foundation for Quality (hereinafter 'KFQ') has conducted a verification of Scope 1, 2 Greenhouse Gas Emissions (hereinafter 'GHG emissions') of Samsung Electronics Co.,Ltd (hereinafter 'Company') for 2023.

Verification Scope

KFQ's verification scope covered on domestic corporations and 25 overseas subsidiaries under the operational control and organizational boundary of Samsung Electronics Co.,Ltd during 2023.

Verification Criteria

The verification process was based on [Rule for emission reporting and certification of greenhouse gas emission trading Scheme[1)]], [2006 IPCC Guidelines for National Greenhouse Gas Inventories] and [ISO14064-1] for every applicable part.

1) Notification No. 2023-221 of Ministry of Environment

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 was confirmed through an internal review whether the process before the verification was conducted effectively.

Verification Limitation

The verification shall contain the potential inherent limitation in the process of application of the verification criteria and methodology.

Verification Opinions

Regarding to the data of the Greenhouse Gas Emission Consumption from the report through the verification, KFQ provides our verification opinions as below;

1) GHG emissions for 2023 of Company were properly calculated according to the verification standards.
2) The data and information used in calculating the GHG emissions were appropriate, reasonable, and no significant errors or omissions could affect verification statement were not found. The materiality assessment result on GHG emissions of domestic corporations and 25 overseas subsidiaries has met the agreed-upon criterion of less than 2%.
3) For the overseas subsidiaries, each national net caloric value and electricity emission factor were preferentially used and if there were no published values, net caloric value and electricity emission factor were adopted from 2006 IPCC Guidelines or Korean Energy Law Enforcement Regulation. 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.
4) For the domestic corporations, The calculation methodology and parameters of the 'Rule for emission reporting and certification of greenhouse gas emission trading Scheme[1)]' were preferentially used, but the default emission factor '(1-Ui)' for GHG emissions from semiconductor manufacturing was used based on the 2006 IPCC Guidelines.
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 2023 Samsung Electronics Co.,Ltd., Greenhouse Gas Emission Report.
6) Thus, KFQ concludes that the GHG emissions of Company in 2023 is correctly calculated and stated in accordance with 'Rule for emission reporting and certification of greenhouse gas emission trading Scheme'.

Appendix A. Summary of GHG Emission Results

May 24th, 2024

Ji Young Song

CEO Ji-Young Song
Korean Foundation for Quality

National Institute of Environmental Research

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Appendix A. Summary of GHG Emission Results

Oraganizaition

Samsung Electronics Co.,Ltd

Emission calculation period

The emission caculation period is from January 1 to December 31, 2023.

GHG Emission verification results

Unit: $ktCO_2eq$

Division	Total		Domestic		Overseas	
	Location based	Market based	Location based	Market based	Location based	Market based
Scope 1	3,733	3,733	2,679	2,679	1,054	1,054
Scope 2	14,570	9,558	10,682	9,424	3,889	134
Total	**18,303**	**13,291**	**13,361**	**12,103**	**4,942**	**1,188**

* The totals in this verification statement do not match the totals in emission trading scheme because the total emissions of each facility are calculated by truncating to integer units

DX GHG Emission verification results

Unit: $ktCO_2eq$

Division	Location based	Market based
Scope 1	211	211
Scope 2	1,532	102
Total	**1,742**	**313**

DS GHG Emission verification results

Unit: $ktCO_2eq$

Division	Location based	Market based
Scope 1	3,522	3,522
Scope 2	13,039	9,456
Total	**16,561**	**12,978**

Verification Statement on Scope 3 Greenhouse Gas Emission

GI-24263

Verification Opinion Statement

GHG Emissions | **Samsung Electronics**

Verification Target
Korean Foundation for Quality (hereinafter 'KFQ') has conducted a verification of Scope 3 Greenhouse Gas Emissions (hereinafter 'GHG emissions') Samsung Electronics(hereinafter 'Company') for 2023.

Verification Scope
The verification Scope covered the emission categories selected by the company and the emissions between January 1st, 2023 to December 31st, 2023.

Verification Criteria
The following criteria and coefficients used by the company were applied.

- Criteria
  - Corporate Value Chain (Scope 3) Accounting and Reporting Standard
  - GHG Protocol Corporate Standard
  - ISO 14064-3:2019
- Coefficient
  - Environmental Product Declaration evaluation coefficient (2021)
  - Ecoinvent database 3.9
  - EPA
  - UK Defra WTT
  - IEA
  - LCA S/W(Simapro)

Level of Assurance
The verification was performed in accordance with the procedures specified in ISO14064-3 and the assurance level of the verification was performed to satisfy the limited assurance level.

Verification Limitation
GHG emissions verification involves inherent limitations that may arise depending on the organization's data characteristics, calculations and estimates, sampling method, and limited assurance level. Additionally, this verification does not include responsibility for the accuracy of the original data provided by the company.

Verification Opinions
Through the verification process according to the 'ISO14064-3:2006' KFQ could obtain reasonable basis to express following conclusion on the Greenhouse Gas Emission Report.

1) GHG emissions for 2023 of Company were properly calculated according to the verification standards.
2) For GHG emissions, no material errors or omissions were found, except for emissions information not considered within the selected category range.
3) The criteria and process established or estimated/assumed by the company to calculate GHG emissions were transparently reflected in the internal calculation process.

Appendix A. Summary of Scope3 GHG Emission Results

June 14th, 2024

Ji Young Song

CEO Ji-Young Song
Korean Foundation for Quality

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GI-24263

Appendix A. Summary of Scope 3 GHG Emission Results

Organization
Samsung Electronics

Emission calculation period
The emission calculation period is from January 1st to December 31st, 2023.

Company Scope 3 Emissions verification Results(Total)

Unit : $ktCO_2eq$

	Category	Scope 3 Emissions
1	Purchased goods & services	12,880
2	Capital goods	2,663
3	Fuel- and Energy-Related Activities Not Included in Scope 1 or Scope 2	3,058
4	Upstream Transportation and Distribution	4,098
5	Waste Generated in Operations	156
6	Business Travel	108
7	Employee Commuting	300
8	Upstream Leased Assets	9
9	Downstream Transportation and Distribution	40
10	Processing of Sold Products	131
11	Use of Sold Products	94,776
12	End of Life Treatment of Sold Products	1,339
13	Downstream Leased Assets	3
14	Franchises	N/A
15	Investments	169
	Total	119,730

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Appendix A. Summary of Scope 3 GHG Emission Results

· Company Scope 3 Emissions verification Results(DX)

Unit : $ktCO_2eq$

	Category	Scope 3 Emissions
1	Purchased goods & services	9,383
2	Capital goods	0
3	Fuel- and Energy-Related Activities Not Included in Scope 1 or Scope 2	433
4	Upstream Transportation and Distribution	3,925
5	Waste Generated in Operations	42
6	Business Travel	79
7	Employee Commuting	218
8	Upstream Leased Assets	6
9	Downstream Transportation and Distribution	34
10	Processing of Sold Products	0
11	Use of Sold Products	86,023
12	End of Life Treatment of Sold Products	1,338
13	Downstream Leased Assets	2
14	Franchises	N/A
15	Investments	156
	Total	101,639

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Appendix A. Summary of Scope 3 GHG Emission Results

· Company Scope 3 Emissions verification Results(DS)

Unit : $ktCO_2eq$

	Category	Scope 3 Emissions
1	Purchased goods & services	3,497
2	Capital goods	2,663
3	Fuel- and Energy-Related Activities Not Included in Scope 1 or Scope 2	2,625
4	Upstream Transportation and Distribution	173
5	Waste Generated in Operations	114
6	Business Travel	29
7	Employee Commuting	82
8	Upstream Leased Assets	3
9	Downstream Transportation and Distribution	6
10	Processing of Sold Products	131
11	Use of Sold Products	8,753
12	End of Life Treatment of Sold Products	1
13	Downstream Leased Assets	1
14	Franchises	N/A
15	Investments	13
	Total	18,091

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GRI Index

GRI Standards	No.	Disclosures	Status	Page	Notes
GRI 2 Universal Standards					
The organization and its reporting practices	2-1	Organizational details	●	5	
	2-2	Entities included in the organization's sustainability reporting	●	82	
	2-3	Reporting period, frequency and contact point	●	82	
	2-4	Restatements of information	●	-	Disclose the changes to the report
	2-5	External assurance	●	70	
Activities and workers	2-6	Activities, value chain and other business relationships	●	5-6, 8 39-44	Refer to the Annual Business Report
	2-7	Employees	●	58-59	
	2-8	Workers who are not employees	●	58	
Governance	2-9	Governance structure and composition	●	-	Refer to the IR website
	2-10	Nomination and selection of the highest governance body	●	-	
	2-11	Chair of the highest governance body	●	-	
	2-12	Role of the highest governance body in overseeing the management of impacts	●	-	
	2-13	Delegation of responsibility for managing impacts	●	-	
	2-14	Role of the highest governance body in sustainability reporting	●	-	
	2-15	Conflicts of interest	●	53-54	
	2-16	Communication of critical concerns	●	8-10	
	2-17	Collective knowledge of the highest governance body	●	-	Refer to the Corporate Governance Report 56p
	2-18	Evaluation of the performance of the highest governance body	●	-	Refer to the Corporate Governance Report 57~59p, 78p
	2-19	Remuneration policies	●	-	
	2-20	Process to determine remuneration	●	-	
	2-21	Annual total compensation ratio	○	-	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	●	53-54	
Strategy, Policies, and Practices	2-24	Embedding policy commitments	●	16, 23, 32, 34-35, 37, 39, 42, 49	Published on the Sustainability Website
	2-25	Processes to remediate negative impacts	●	33, 40	
	2-26	Mechanisms for seeking advice and raising concerns	●	53-54	
	2-27	Compliance with laws and regulations	●	57, 68	Refer to the Annual Business Report 460~468p
	2-28	Membership associations	●	6, 81	
Stakeholder Engagement	2-29	Approach to stakeholder engagement	●	6	
	2-30	Collective bargaining agreements	●	33, 35	
GRI 3: Universal Standards					
Disclosures on Material Topics	3-1	Processes to determine material topics	●	8-10	
	3-2	List of material topics	●	9	
	3-3	Management of material topics	●	10	
GRI 200: Economy					
Economic Performance	201-1	Direct economic value generated and distributed	●	56	
	201-2	Financial implications and other risks and opportunities due to climate change	●	77	
	201-3	Define benefit plan obligations and other retirement plans	●	-	Refer to the Annual Business Report 92, 97p
Market Presence	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	●	35, 37	
Indirect Economic Impacts	203-1	Infrastructure investments and services supported	●	45-47	
	203-2	Significant indirect economic impacts	●	45-47	
Anti-corruption	205-1	Operations assessed for risks related to corruption	●	53-54	
	205-2	Communication and training about anti-corruption policies and procedures	●	53-54	
	205-3	Confirmed incidents of corruption and actions taken	●	-	Refer to the Annual Business Report 460~468p
Anti-competitive Behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	●	-	Refer to the Annual Business Report 460~468p
Tax	207-2	Tax governance, control, and risk management	●	-	Refer to the Sustainability Website
	207-3	Stakeholder engagement and management of concerns related to tax	●	-	Refer to the Sustainability Website
	207-4	Country-by-country reporting	●	56	

GRI Index

GRI Standards	No.	Disclosures	Status	Page	Notes
GRI 300: Environment					
Materials	301-1	Materials used by weight or volume	○	-	We made the decision to keep this information private based on the necessities of our company.
	301-2	Recycled input materials used	●	63, 67	
Energy	302-1	Energy consumption within the organization	●	62, 66	
	302-2	Energy consumption outside of the organization	○	-	We made the decision to keep this information private based on the necessities of our company.
	302-3	Energy intensity	●	62	
	302-4	Reduction of energy consumption	●	13-14, 20-22	
	302-5	Reductions in energy requirements of products and services	●	14, 22, 63, 67	
Water and Effluents	303-1	Interactions with water as a shared resource	●	17-18, 23-25, 64-65, 68	
	303-2	Management of water discharge-related impacts	●	17-18, 23-25, 64-65, 68	
	303-3	Water withdrawal	●	23-25, 64-65, 68	
	303-4	Water discharge	●	17-18, 23-25, 64-65, 68	
	303-5	Water consumption	●	17-18, 23-25, 64-65, 68	

GRI Standards	No.	Disclosures	Status	Page	Notes
Biodiversity	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	●	25	
	304-2	Significant impacts of activities, products, and services on biodiversity	●	25	
	304-3	Habitats protected or restored	●	25	
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	●	25	
Emissions	305-1	Direct (Scope 1) GHG emissions	●	62, 66	
	305-2	Energy indirect (Scope 2) GHG emissions	●	62, 66	
	305-3	Other indirect (Scope 3) GHG emissions	●	62, 66	
	305-4	GHG emissions intensity	●	62	
	305-5	Reduction of GHG emissions	●	13-14, 20-22	
	305-6	Emissions of ozone-depleting substances (ODS)	●	64, 68	
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	●	64, 68	
Waste	306-1	Waste generation and significant waste-related impacts	●	15-16, 26-27, 63-64	
	306-2	Management of significant waste-related impacts	●	15-16, 26-27, 63, 67	
	306-3	Waste generated	●	15-16, 26-27, 63, 67	
	306-4	Waste diverted from disposal	●	15-16, 26-27, 63, 67	
	306-5	Waste directed to disposal	●	15-16, 26-27, 63, 67	
Supplier Environmental Assessment	308-1	New suppliers that were screened using environmental criteria	●	41-42, 60	
	308-2	Negative environmental impacts in the supply chain and actions	●	41-42	

GRI Index

GRI Standards	No.	Disclosures	Status	Page	Notes
GRI 400: Society					
Employment	401-1	New employee hires and employee turnover	●	58	
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-term employees	●	36	
	401-3	Parental leave	●	59	
Occupational Health and Safety	403-1	Occupational health and safety management system	●	36	
	403-2	Hazard identification, risk assessment, and incident investigation	●	36	
	403-3	Occupational health services	●	36	
	403-4	Worker participation, consultation, and communication on occupational health and safety	●	6, 36	
	403-5	Worker training on occupational health and safety	●	36	
	403-6	Promotion of worker health	●	36	
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	●	36	
	403-8	Workers covered by an occupational health and safety management system	●	36	
	403-9	Work-related injuries	●	59	
Training and Education	404-1	Average hours of training per year per employee	●	60	
	404-2	Programs for upgrading employee skills and transition assistance programs	●	38	
	404-3	Percentage of employees receiving regular performance and career development reviews	●	38	
Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	●	58	Refer to the Corporate Governance Report 26-27p
	405-2	Ratio of basic salary and remuneration of women to men	●	37	
Non-discrimination	406-1	Incidents of discrimination and corrective actions taken	●	37, 40	
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	●	42, 61	
Child Labor	408-1	Operations and suppliers at significant risk for incidents of child	●	43, 61	
Forced or Compulsory Labor	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	●	43, 61	
Security Practices	411-1	Security personnel trained in human rights policies or procedures	●	-	No applicable cases occurred
Local Communities	413-1	Operations with local community engagement, impact assessments, and development programs	●	18,24, 45-47	
Supplier Social Assessment	414-1	New suppliers that were screed using social criteria	●	41, 60	
	414-2	Negative social impacts in the supply chain and actions taken	●	41-43	
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 460~468p
Marketing and Labeling	417-1	Requirements for product and service information and labeling	●	-	Refer to company Website
	417-3	Incidents of non-compliance concerning marketing communications	●	-	Refer to the Annual Business Report 460~468p

· Statement of Use: Samsung Electronics has reported in accordance with the GRI standards for the covered period (from January 1st to December 31st, 2023).

· GRI 1 used: GRI 1: Foundation 2021

TCFD Index

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.	P.12, P.19, P.77 CDP: C1
	b) Describe management's role in assessing and managing climate-related risks and opportunities.	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.12, P.19, P.77 CDP: C1
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.13, P.20, P.77 CDP: C2

	Climate Change Risks and Opportunities		Financial Impacts of Climate Change Risks	Financial Impacts of Climate Change Opportunities
Transition Risk and Opportunity	① GHG emissions trading scheme	Short-Term	· Emission allowance prices falling due to the post-pandemic economic slowdown * Refer to Annual Business Report ** Dropped to KRW 7,200 on the same day (August 28th, 2023)	· Minimize purchases with greenhouse gas reduction activities · Mitigate carbon price sensitivity by securing external carbon credits
Transition Risk and Opportunity	② High-efficiency technology development	Short-Term	· Increased investment in high-efficiency facilities, greenhouse gas reduction facilities, and water recycling facilities · Expand R&D investments to secure new carbon reduction technologies	· Reduce workplace GHG emissions and reduce energy costs · Create business opportunities such as energy management systems
Transition Risk and Opportunity	③ Customer consumption pattern changes	Mid-Term	· 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	· Increase sales of launching high-efficiency, environmentally responsible products · Consumers' awareness raised
Transition Risk and Opportunity	④ Expansion of renewable energy consumption	Mid-Term	· Production costs increased due to a short-term electricity price spike · Customers' demand for renewable energy	· Electricity expenses reduced through renewable energy supply contracts and participation in power generation projects
Physical Risk and Opportunity	⑤ Natural disasters (e.g., storms, floods)	Short-Term	· Investment in environmental/safety/disaster prevention equipment increased · Costs related to restoration and business opportunity loss in the event of natural disasters increased	· 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
Physical Risk and Opportunity	⑥ Temperature rise and yellow sand dust pollution	Long-Term	· Increased costs of operational costs such as cooling and heating facilities · Increased investment in air-pollution prevention facilities	· Business expanded and sales increased (e.g., high-efficiency air conditioners, air purifiers, dryers)

TCFD Index

Category		Our Performance	Page
Strategy	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	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. 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.13, P.20, P.77 CDP: C3.3, C3.4
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	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. 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.13, P.20, P.77 CDP: C3.2a, C3.2b
Risk Management	a) Describe the organization's processes for identifying and assessing climate-related risks.	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.13, P.20 CDP: C2.1b, C2.2
	b) Describe the organization's processes for managing climate-related risks.	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. 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.13, P.20 CDP: 2.2, 2.2a
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	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.13, P.20, P.77 CDP: 2.2
Metrics and Targets	a) Disclose the metrics used by the organization to assess climate related risks and opportunities in line with its strategy and risk management process.	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.12, P.19, P.62-68, P.82 CDP: C6, C7, C8
	b) Disclose Scope 1 (direct emissions), Scope 2 (indirect emissions), and Scope 3 (miscellaneous indirect scope) greenhouse gas (GHG) emissions, and the related risks.	We disclose our Scope 1, 2, 3 emissions via the Sustainability Report and CDP Report.	P.62, P.66 CDP: C6, C7, C8
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Please refer to the targets of the New Environmental Strategy and relevant progress specified in the 2023 Sustainability Report.	P.12, P.19 CDP: C4

SASB Index

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.48~49
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.59
Product Lifecyle 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 Korean 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.19, p.29-30 herein and the Standards for the Control of Substances Used in Products in the Sustainability Website 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]	· Computers: 63.1% · Mobile phones: 95.7% · Displays: 24.9%
	TC-HW-410a.3	Percentage of eligible products that meet the ENERGY STAR® criteria[1]	· Audio devices: 60.7% · Computers: 100%
	TC-HW-410a.4	Weight of end-of-life products and e-waste recovered, percentage recycled	P.16, P.63, P.67
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.41~42, P.61
	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.41~42, P.61
Materials Sourcing	TC-HW-440a.1	Description of risk management associated with the use of critical materials	P.60, Samsung Electronics Responsible Minerals Report

1) 2023 data based on sales in North America (U.S. and Canada)

Activity Metrics

Code	Topic	Page and Comment
TC-HW-000.A	Number of units produced by product category	P.27-34, 2023 Annual Business Report (II. Business Overview)
TC-HW-000.B	Area of manufacturing facilities	2023 Annual Business Report (II. Business Overview)
TC-HW-000.C	Percentage of production from owned facilities	P.27-34, 2023 Annual Business Report (II. Business Overview)

SASB Index

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.62, P.66
	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.12, P.19, P.62, P.66
Energy Management in Manufacturing	TC-SC-130a.1	(1) Total energy consumption, (2) percentage of electricity delivered from grids, and (3) percentage renewable	P.62, P.66
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.64~65
Waste Management	TC-SC-150a.1	Amount of hazardous waste from manufacturing, percentage recycled	P.63, P.67
Employee Health and Safety	TC-SC-320a.1	Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards	P.36
	TC-SC-320a.2	Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations	2023 Annual Business Report (XI. Other Information) P.460~468
Recruiting & Managing a Global & Skilled Workforce	TC-SC-330a.1	Percentage of employees that are (1) foreign nationals and (2) located offshore	P.58~59
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 Korean 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.19, p.29-30 herein and the Standards for the Control of Substances Used in Products in the Sustainability Website for our efforts to manage potentially hazardous substances.
	TC-SC-410a.2	Processor energy efficiency at a system-level: (1) servers, (2) desktops, and (3) laptops	N/A
Materials Sourcing	TC-SC-440a.1	Description of risk management associated with the use of critical materials	P.60, Samsung Electronics Responsible Minerals Report
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.462-463, 2023 Annual Business Report (XI. Other Information)

Activity Metrics

Code	Topic	Page and Comment
TC-SC-000.A	Total production	P.27-34, 2023 Annual Business Report (II. Business Overview)
TC-SC-000.B	Percentage of production from owned facilities	P.27-34, 2023 Annual Business Report (II. Business Overview)

Initiative

Samsung Electronics seeks to contribute to climate change responses through cooperation with various stakeholders by working with initiatives world-wide, carrying out industry-wide collaborations and external communications.

RE100 Initiative

Samsung Electronics joined RE100, a global initiative that promotes renewable energy transition, and strives to expand renewable energy use. As a member of RE100's Advisory Committee, we join discussions on items such as the Initiative's strategy and policy recommendations.

Asia Clean Energy Coalition (ACEC)

Samsung Electronics joined ACEC, jointly established during UNFCCC Conference of the Parties 27 (COP27) in 2022 by RE100 host organization the Climate Group, global environmental think tank World Resources Institute (WRI), and others. Samsung Electronics is participating in ACEC's Steering Committee and is pursuing renewable energy supply expansion in the Asian region. As a collective initiative between global corporations, renewable energy developers, and investors, ACEC seeks to contribute to the formation of a renewable energy ecosystem in Asian nations, a global manufacturing production hub.

Decarbonizing the Use phase of Connected Devices (DUCD)

Led by the Carbon Trust, DUCD is an initiative aimed at providing guidance and establishing standards for connected devices' use-phase carbon emission and reduction methodologies. Samsung Electronics participates in this initiative with Amazon, Meta, Microsoft, and Sky (Comcast).

Carbon-Free Alliance (CFA)

Samsung Electronics is a member of the Carbon-Free Alliance, serving on its Board of Directors and engaging in various working groups. This public-private partnership has a mission to expand global Carbon-Free Energy (CFE). Through the CFA, Samsung Electronics seeks to participate in facilitating diverse CFE solutions and cooperates with various innovative companies working on CFE technologies.

Semiconductor Climate Consortium (SCC)

Samsung Electronics serves on the Governing Council and in working groups of the SCC Initiative to establish industry-specific Scope 1, 2, 3 calculation methodologies and decarbonization roadmaps, among other action items. We are also making efforts to help renewable energy expansion in 5 countries of the Asia Pacific region through the Energy Collaborative (EC), led by SCC.

Sustainable Semiconductor Technologies and Systems (SSTS)

Samsung Electronics is participating in the SSTS program run by the Interuniversity Microelectronics Centre (IMEC), Europe's largest integrated semiconductor research institute. The SSTS is a program intended to derive sustainable solutions throughout the semiconductor industry's value chain, and IMEC uses feedback from partner companies to create a simulation that calculates carbon emissions and then develops technologies and systems to reduce environmental impacts.

Partnership

Samsung Electronics is actively participating in government conferences led by institutes including the National Assembly of Korea, Ministry of Trade, Industry, and Energy, and the Korea Energy Corporation to expand the Korean renewable energy base. We also cooperate with various developers and researchers to improve energy efficiency, expand PPAs, develop energy mix technologies, and implement a comprehensive solution for renewable energies. The DX Division has signed a renewable energy supply contract with Gyeonggi-do, the Korean Midlands Power Company, and Enel X Korea, and an MOU with the Korean Institute of Energy Research to develop integrated solutions for renewable energy. The DS Division signed an MOU with the Korea District Heating Corporation to utilize semiconductor industrial waste heat, increase energy efficiency between the semiconductor and energy industries, and reduce GHG emissions.

We are also regularly corresponding with Samsung member companies such as SCD, SDI, Samsung Electro-Mechanics, and Samsung Biologics about environment-relevant activities through venues like the Environment and Safety Innovation Day on issues regarding net zero, pollution reduction, resource circularity, and water resources.

Samsung Electronics is plans to continue our cooperation in order to further encourage climate change response activities including expansion of the renewable energy market in Asia through external communication and initiative participation.

About This Report

The 2024 Sustainability Report – the 17th 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 manufacturing sites in Korea and other regions. Samsung Electronics headquarters is located at 129 Samsung-ro, Yeongton-gu, Suwon-si, Gyeonggi-do, Republic of Korea.

Covered Period

This report illustrates our economic, social, and environmental performance and activities from January 1st to December 31st, 2023. Performance as of May 2024 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 Jun 2023.

Third-Party Assurance

Anjin Deloitte, 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/sec/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 Samsung-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.

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