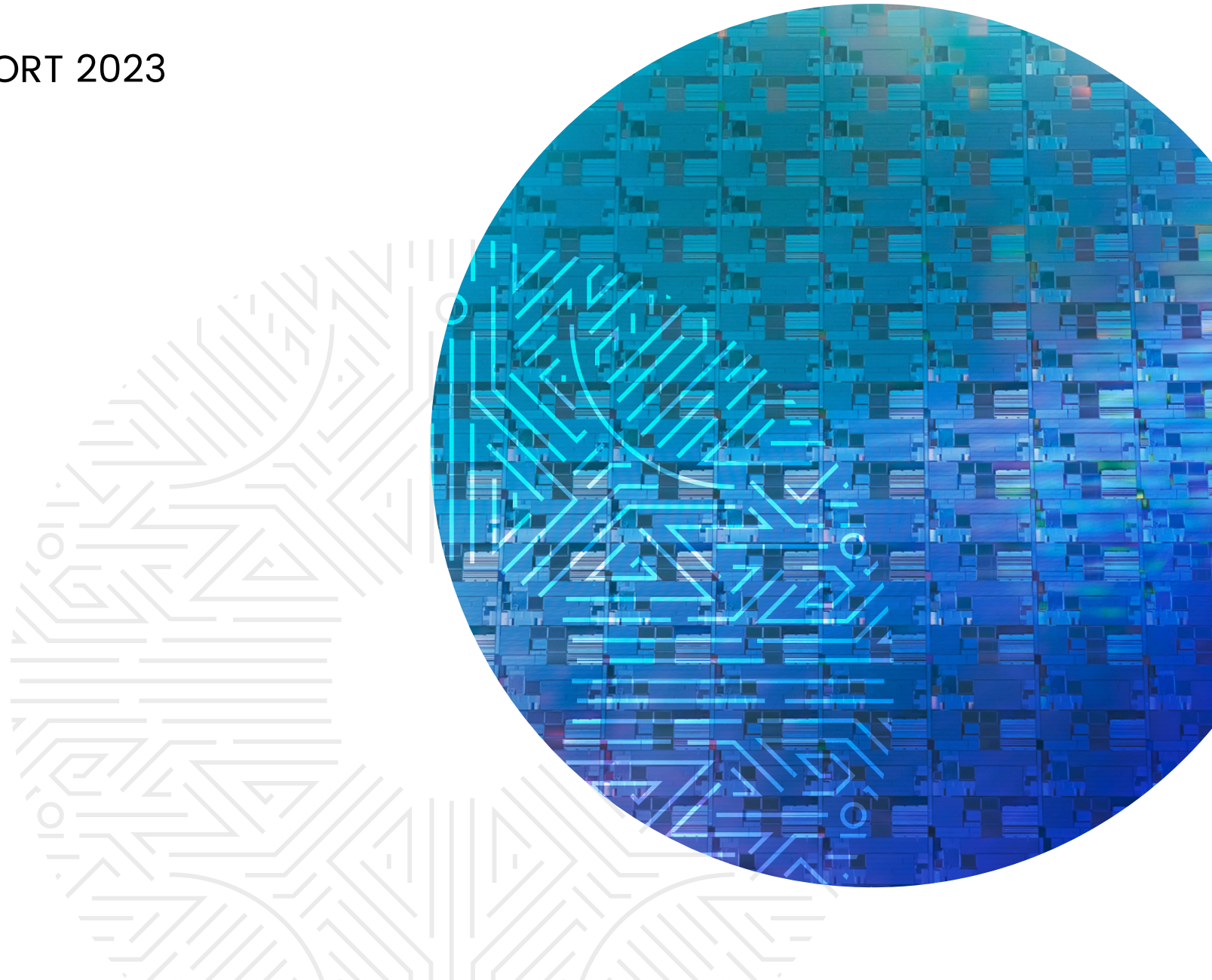


HANA MICRON

SUSTAINABILITY REPORT 2023



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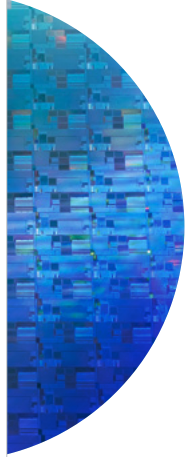
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ABOUT THIS REPORT

Homepage www.hanamicron.com
Address 77, Yeonamyulgeum-ro, Eumbong-myeon,
Asan, Chungcheongnam-do
Department ESG Group
E-mail sbim@hanamicron.co.kr
Tel 041-423-7080

Report Overview

HANA Micron published its first sustainability report to communicate its sustainability management performance transparently with internal and external stakeholders. Through this report, the Company intends to shed light on its achievements over the past 20 years and suggest a direction to lay the groundwork for corporate sustainability management.

Criteria for the Report

This report complies with the Global Reporting Initiative (GRI) Standards 2021, an international reporting guideline for sustainability management, and reflects the UN Sustainable Development Goals. In addition, the financial information included in this report complies with K-IFRS (Korean International Financial Reporting Standards).

Reporting Period

This report contains sustainability management activities and achievements from January to December 2022 and includes data for three years from 2020 to 2022 for significant activities to enhance comparability. The Company plans to publish an annual report for regular performance reporting and stakeholder communication.

Reporting Scope

The financial performance of this report includes the consolidated financial information of HANA Micron and its affiliates. Regarding non-financial performance, the report focuses on HANA Micron's headquarters and Pangyo plant.

Report Assurance

This report received a third-party assurance from an independent external organization to ensure the suitability of the reporting process and the reliability of the content. In the case of greenhouse gas emissions and energy consumption, the Company performed third-party assurance to secure the accuracy and reliability of the data. The detailed assurance statement is attached in the Appendix of this report.

Additional Information

This report has been published in Korean and English and can be viewed or downloaded from the website. Please contact us at the bottom left corner with any questions or comments.

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CEO Message



Dear respected stakeholders,

It is a great pleasure to greet you through HANA Micron's first sustainability report. Since its inception in 2001, the Company has expanded its business to various areas related to semiconductors, such as semiconductor testing and engineering, based on its experience in semiconductor packaging, and has become a leader in the semiconductor back-end process.

The world is changing rapidly after 21 years of establishment, with business environments becoming more challenging than ever. The COVID-19 pandemic, which threatens the safety of humankind, has occurred and has just subsided. Climate change is no longer recognized as a phenomenon but as a crisis. In addition, the instability of the global supply chain continues amid intensified conflicts between countries.

We need different management strategies from the past to break through such arduous environments. While financial performance has been focused on until now, social and environmental performance will become more critical in the future. HANA Micron intends to enhance its efforts to grow and develop together with society by utilizing its experience and capabilities. We will strive to grow into a company trusted and loved by stakeholders by fulfilling our social and environmental responsibilities for sustainable growth as well as creating financial results.

We continue to ask for your attention and support for HANA Micron.
Thank you.

HANA Micron Inc.
CEO

A handwritten signature in black ink, appearing to read 'Dongcheol Lee', written in a cursive style.

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About the Company

Since its inception in 2001 as a semiconductor packaging and testing specialist, HANA Micron has grown rapidly based on strategic partnerships with top semiconductor players at home and abroad. Based on superior technology and human resources, the Company will pursue constant change and innovation, secure ground for global expansion by augmenting production bases in Vietnam and Brazil, and grow into a total solution company for the semiconductor back-end process that fulfills the needs of various clients worldwide.



Company	HANA Micron Inc.
CEO	Dong-cheol Lee
Establishment	August 23, 2001
Paid-in Capital	KRW 24 billion
Sales	KRW 894.4 billion (based on consolidated financial statements as of December 31, 2022)
No. of Employees	825
Business Area	Semiconductor packaging and testing
Address in Korea	Head Office (Manufacturing) : 77 Yeonamyulgeum-ro, Eumbong-myeon, Asan-si, Chungcheongnam-do
	Pangyo (R&D) : 9FL, 35, Pangyo-ro 255beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do

(As of December 2022)

Footprints of the Company



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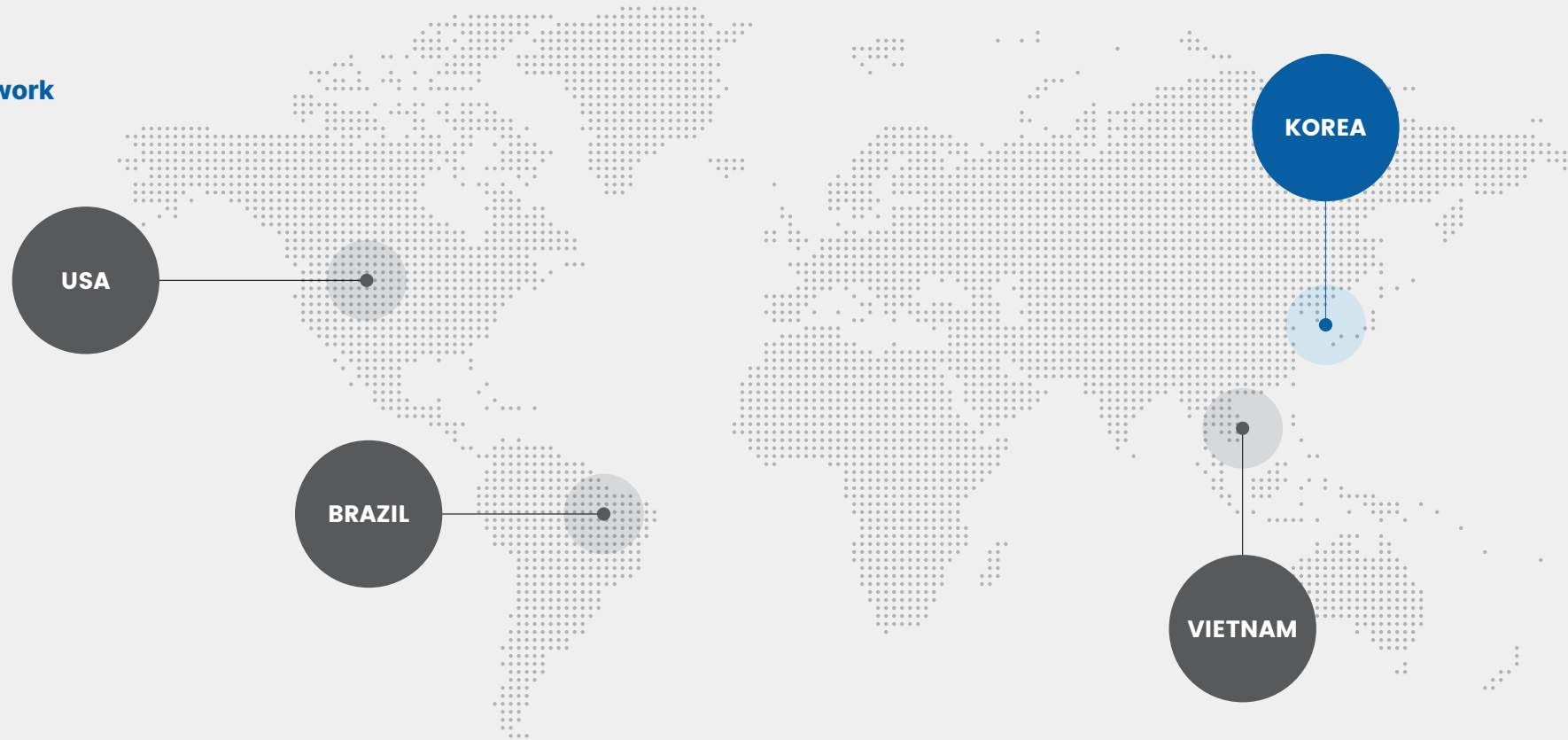
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Global Network



HANA Micron
2001.08
(HQ) Asan, Chungcheongnam-do / Korea
Semiconductor packaging & testing
(Pangyo) Seongnam, Gyeonggi / Korea
R&D and sales office

HANA Materials, Inc.
2007.01
Cheonan, Chungcheongnam-do / Korea
Semiconductor parts
(Sil.Cathode/Ring/Ingot)

HANA Micron Vietnam Co.,Ltd.
2016.06
Bac Ninh / Vietnam
Semiconductor packaging & testing

HT Micron
2009.12
Porto Alegre / Brazil
Semiconductor packaging & testing

HANA Micron America, Inc.
2006.01
Santa Clara / USA
Marketing & Sales

HANA WLS
2021.01
Asan, Chungcheongnam-do / Korea
Bump & Test

HANA Micron Vina Co.,Ltd.
2019.07
Bac Giang / Vietnam
Semiconductor packaging & testing /
Module assembly & testing

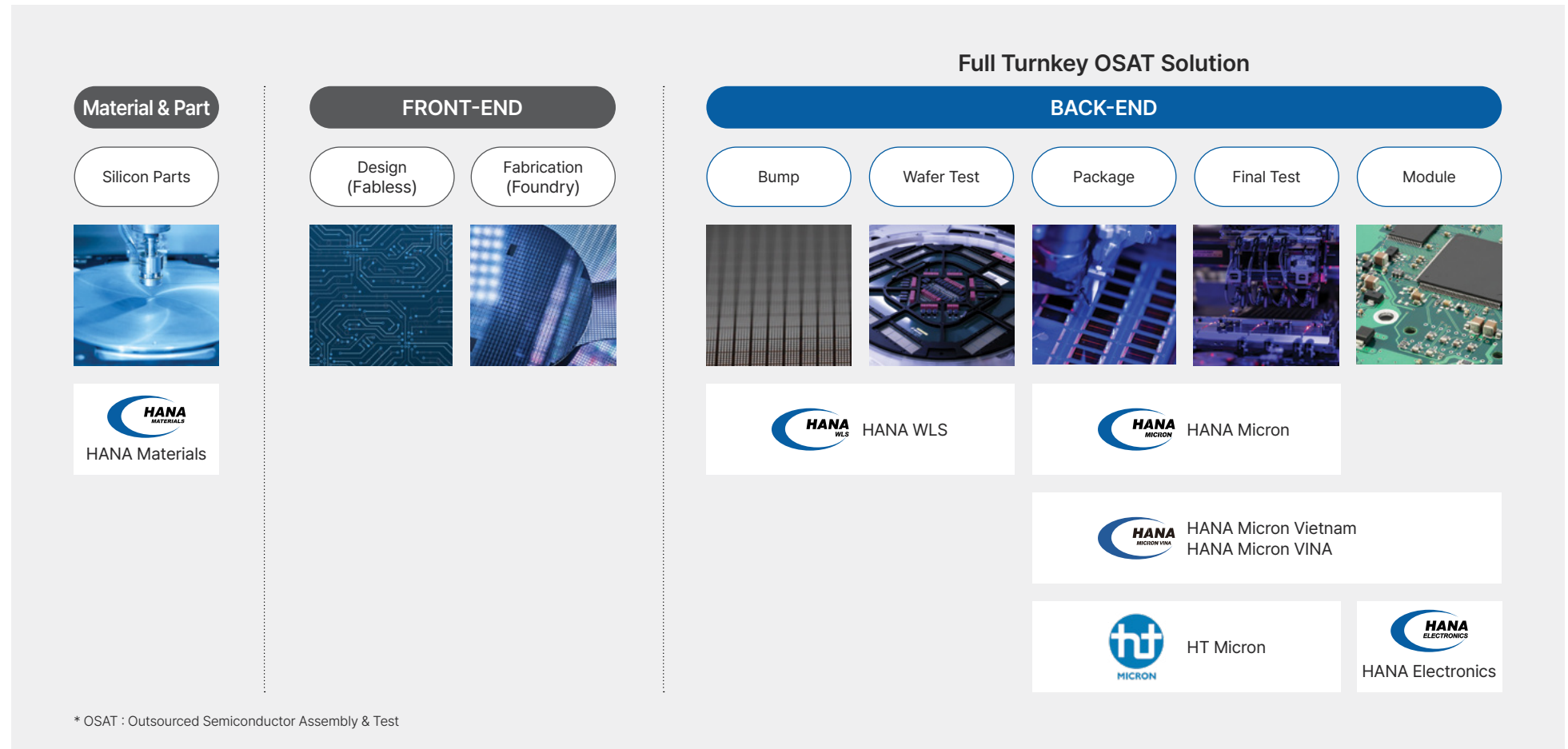
HANA Electronics
2021.07
Manaus / Brazil
Module assembly, testing &
sales of finished products



Business Areas

BETTER SOLUTION FOR A BETTER TOMMOROW

HANA Micron creates new value in semiconductors through ceaseless technological innovation. The Company provides optimal solutions and services to meet the diverse needs of its clients with post-process turnkey solutions for bumps, wafer tests, packages, final tests, and modules.



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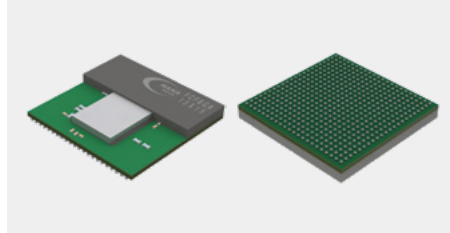
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Business Areas

Package

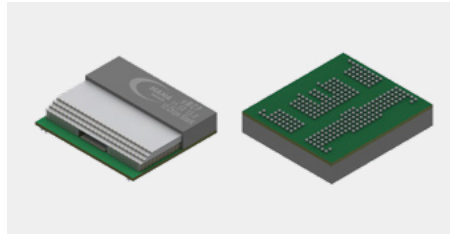
Flip Chip

As various flip chip packages that can respond to the smartphone, 5G communication, and AI big data markets, FCBGAs that combine advanced substrate technology and flip chip technology are smaller and faster with the best electrical performance.



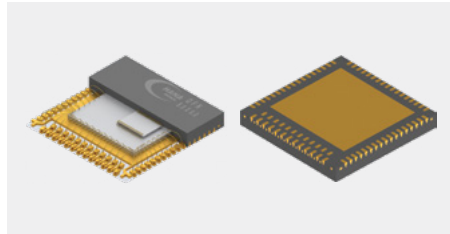
Laminate

Laminate packages serve high-power and high-speed ICs requiring electrical and thermal performance.



Lead Frame

It is a cost-effective solution in a small, lightweight, electrically superior QFN package.



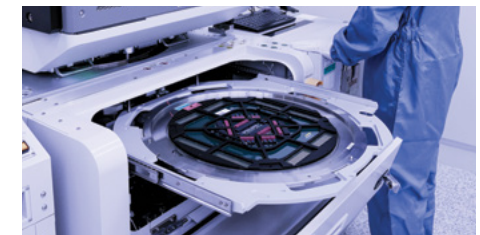
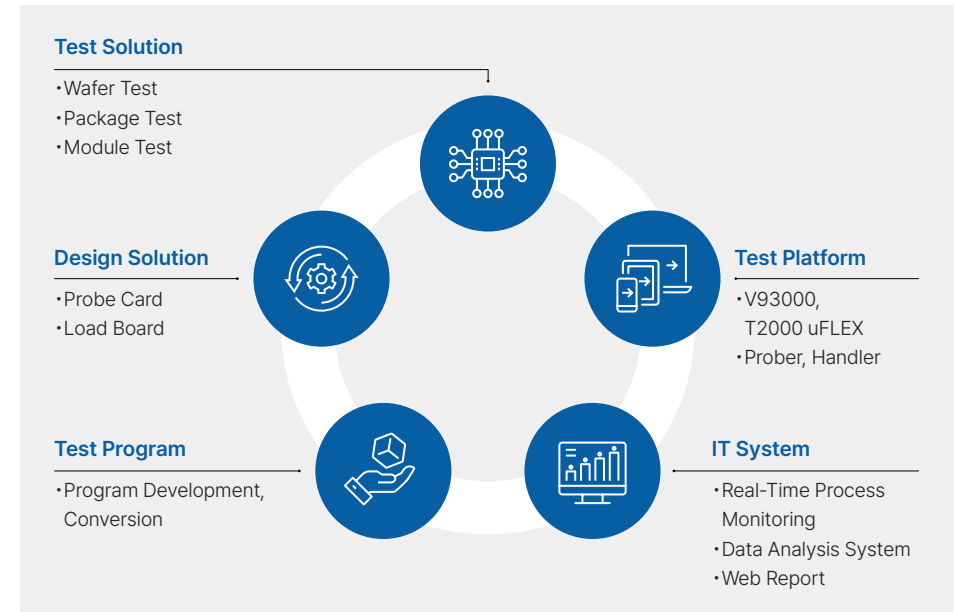
Wafer Level

It is a wafer-level package that satisfies high-performance requirements with the smallest form factor and is an economical solution optimized for the needs of the mobile market.



Test

The Company offers the best solution with an optimal platform that meets the client's requirements. It has test solutions ranging from wafer tests to package and module tests and reduces the development period by supporting test program development and design solutions.

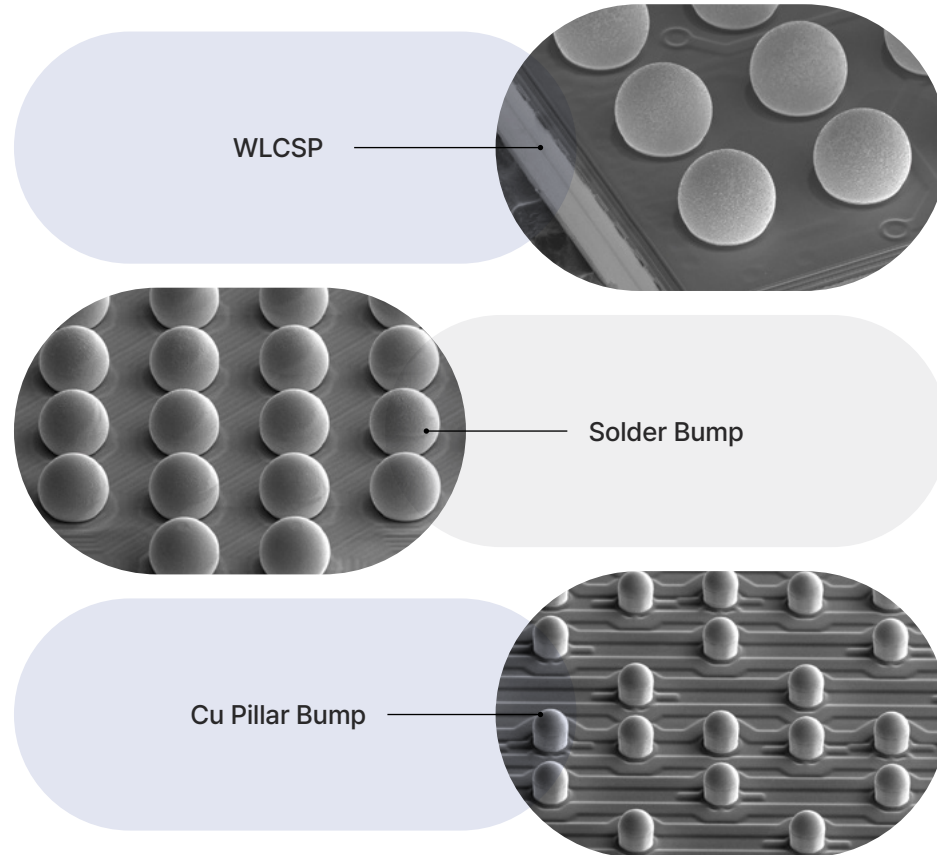


Business Areas

Bump

Bumping is a technology that electrically connects semiconductor chips and substrates by forming conductive bumps at the input/output signal parts of individual chips in a circuit-printed wafer state. This maximizes electrical efficiency, minimizes the size of the package, and enables a high integration with an excellent heat dissipation effect.

(* This project is carried out by 'HANA WLS,' a newly established corporation through physical division to enhance expertise)



Engineering Solution

Design & Simulation

Engineers in package design, simulation, and manufacturing process collaborate to derive the optimal combination of structure, quality, and performance to provide customized design solutions.

Failure Analysis

The Company improves its quality system through prompt and accurate failure analysis.

- Electrical Characteristic Test
- Non Destructive Analysis
- Structure/Element Analysis
- Material Analysis
- Sample Preparation

Software Development

The Company uses the latest technology and equipment to find and implement the best solution to support the products. It automates the production and testing of products, improves performance levels, integrates problem-solving solutions into systems, and enhances infrastructure.

Reliability

The Company provides various reliability tests based on international standards. It gives information of TCT, u-HAST, THST, IR Reflow, HTST, and PCT.

Verification

The Company provides verification tests according to the client's product specifications. It provides SI/PI measurement service for eMCP (DRAM+ eMMC) products and minimizes signal distortion through the interposer.

Future Solution

Flexible Package, HANA Flex

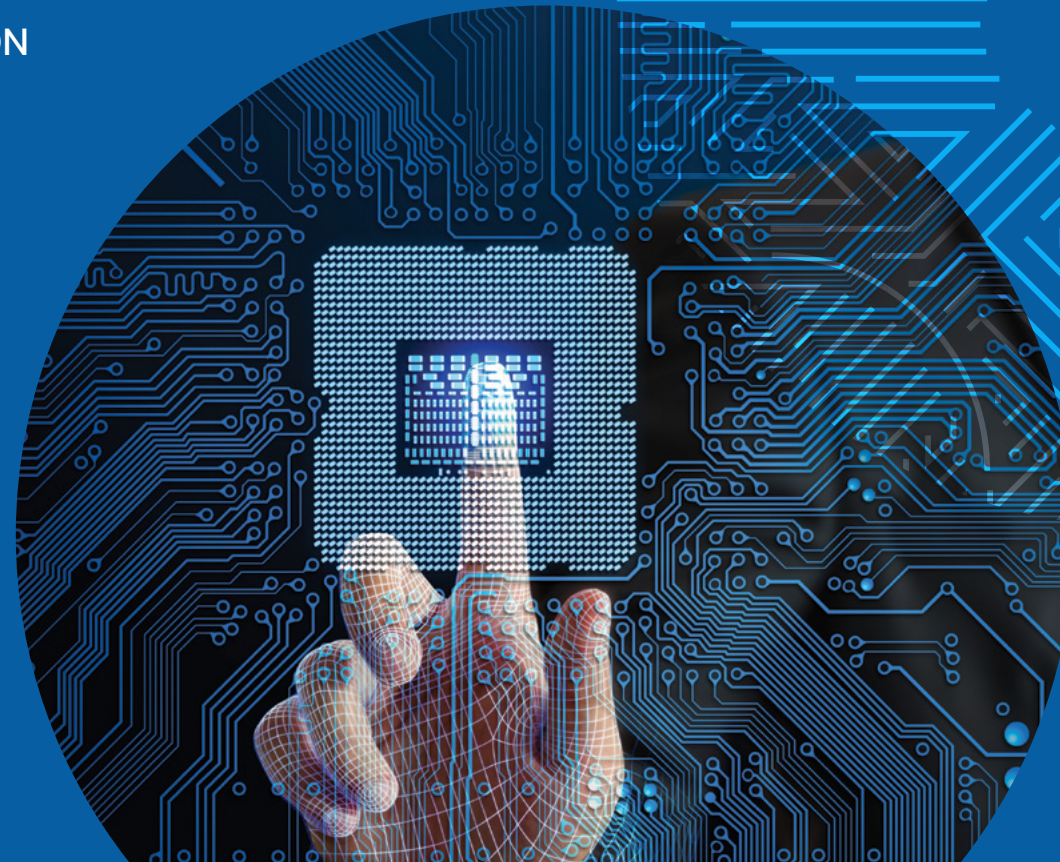
The Company provides HANA flex™ solutions for flexible ultra-thin devices. This flexible packaging technology can be applied to sensors for smartphones and tablets, sensors for wearables such as automobiles and mobile fingerprint sensors, smart cards, and medical devices.

ESG MANAGEMENT

ESG MANAGEMENT IMPLEMENTATION SYSTEM

DOUBLE MATERIALITY ASSESSMENT

STAKEHOLDER PARTICIPATION



ESG Management Implementation System

ESG Vision and Strategy

ESG Vision

HANA Micron's ESG vision is 'Beyond HANA MICRON, Toward Sustainable Semiconductor,' which implies 'semiconductor' as the identity and 'sustainability' as the direction. The expression 'Beyond HANA MICRON' means to go beyond the Company, expand to the country and the world, and continuously develop beyond the limitations of semiconductors of the time.



Three Major Directions

As a provider of high-value-added solutions related to semiconductor packaging & testing, HANA Micron continues with aggressive investments and innovations for business expansion and future growth. It has established three directions for ESG management: practicing eco-friendly green management, realizing a tolerant and happy society, and establishing an advanced organizational system. Based on these, the Company intends to prepare a sustainable growth engine and demonstrate management philosophy and support.



Practicing
Eco-friendly Green
Management

HANA Micron realizes the environmental problems occurring worldwide and strives to create a sustainable environment that can be handed down to future generations. The Company intends to practice eco-friendly green management by minimizing the environmental impact of business activities and actively leading in environmental improvement.



Realizing
a Tolerant and
Happy Society

Beyond realizing economic returns, HANA Micron strives to contribute to the happiness of humankind by pursuing social values. The Company will minimize the risk of negative impact on society and the environment and play a vital role in creating a tolerant and happy community.



Establishing
an Advanced
Organizational
System

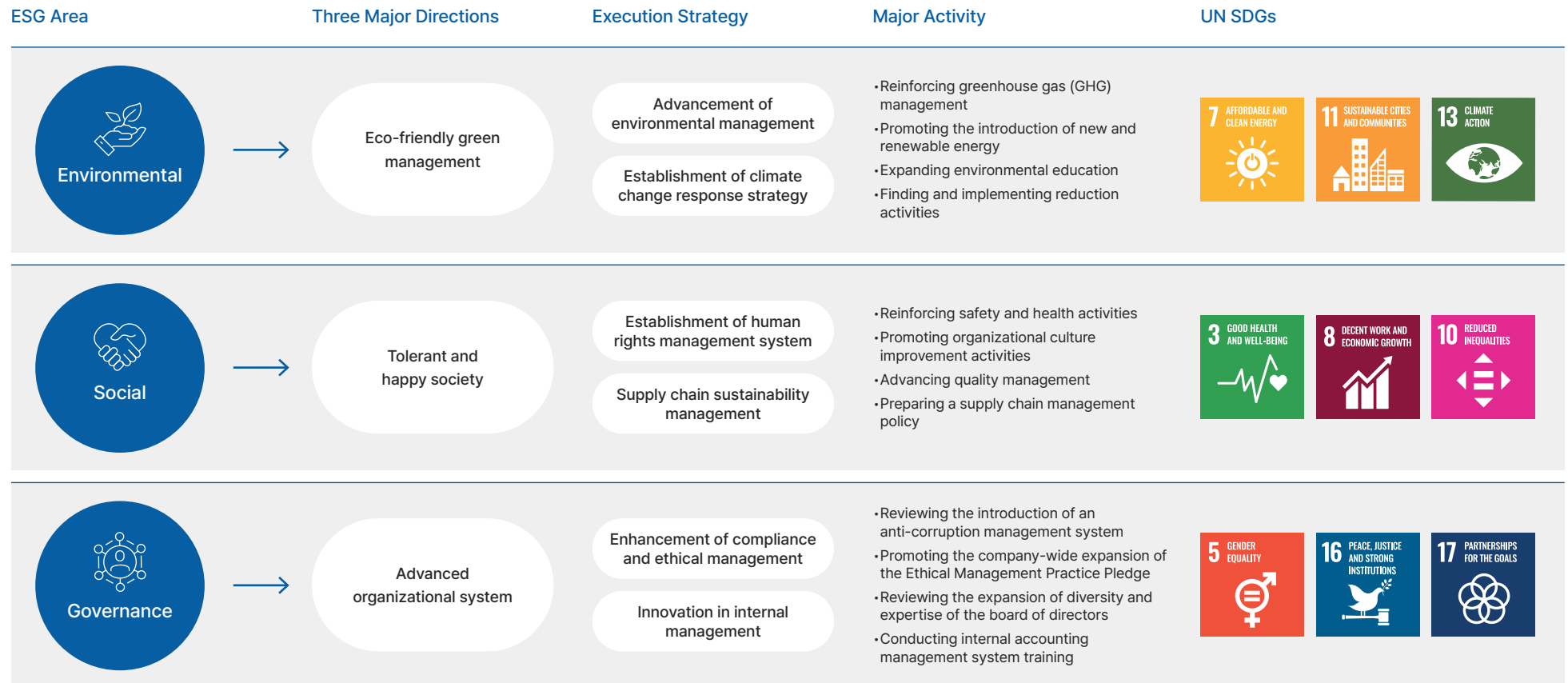
HANA Micron aims to establish an advanced organizational system to improve efficiency and innovation without being bound by past practices. The Company will pursue communication with all stakeholders, including employees of the Company, as its top priority, with the belief that communication with stakeholders ensures sustainable growth while strengthening compliance and ethical management and enhancing the responsibility of the board of directors.

ESG Management Implementation System

ESG Vision and Strategy

Execution Strategy

The Company reports execution strategies and major activities centered on the environment, society, and governance in line with the three major directions. This was prepared with a focus on the major activities of each direction within the reporting period and linked them to the UN SDGs (Sustainable Development Goals).



ESG Management Implementation System

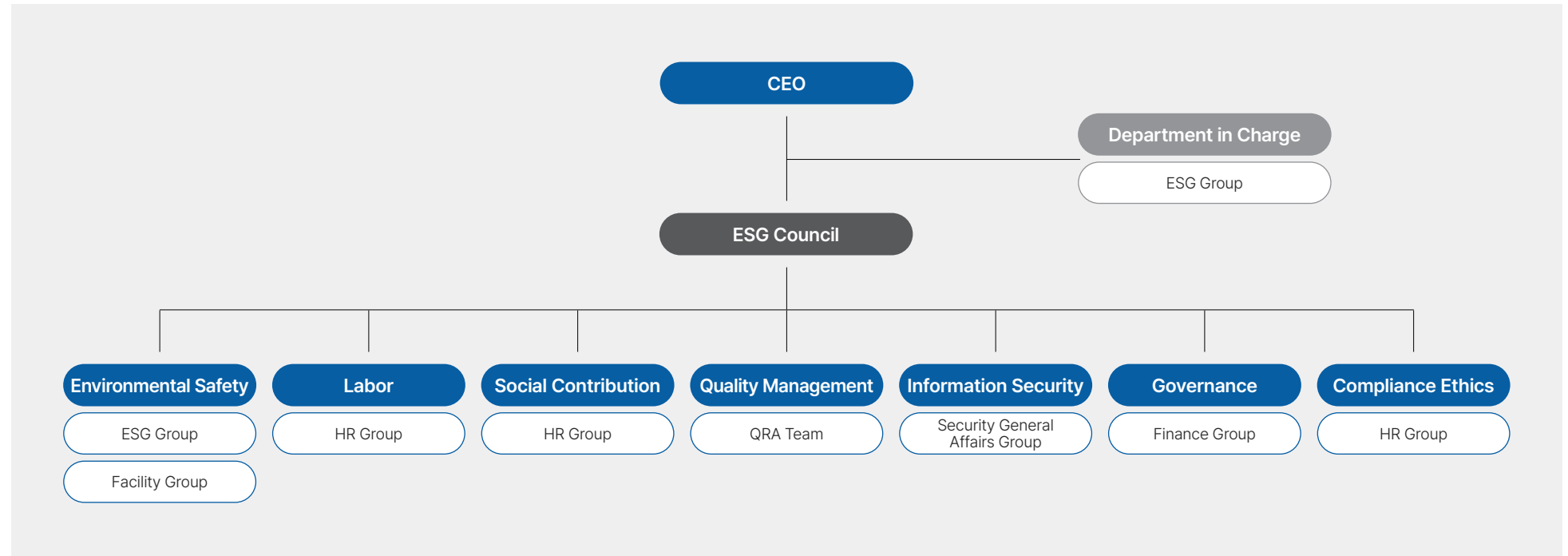
ESG Management Implementation Governance

HANA Micron promotes enterprise-wide ESG management activities by forming an 'ESG Council' in which ESG management and relevant departments participate. The ESG Group, an organization dedicated to ESG management, establishes an ESG vision and strategy and controls an ESG Council in cooperation with relevant departments to manage and improve major ESG issues.

Major Activities of the ESG Council

The Council reports on critical issues and status related to ESG at weekly executive meetings. In particular, it reports on the status and accident prevention at monthly environmental safety and health meetings regarding environment, safety, and health and reports the operating status to the board of directors once a year.

ESG Council

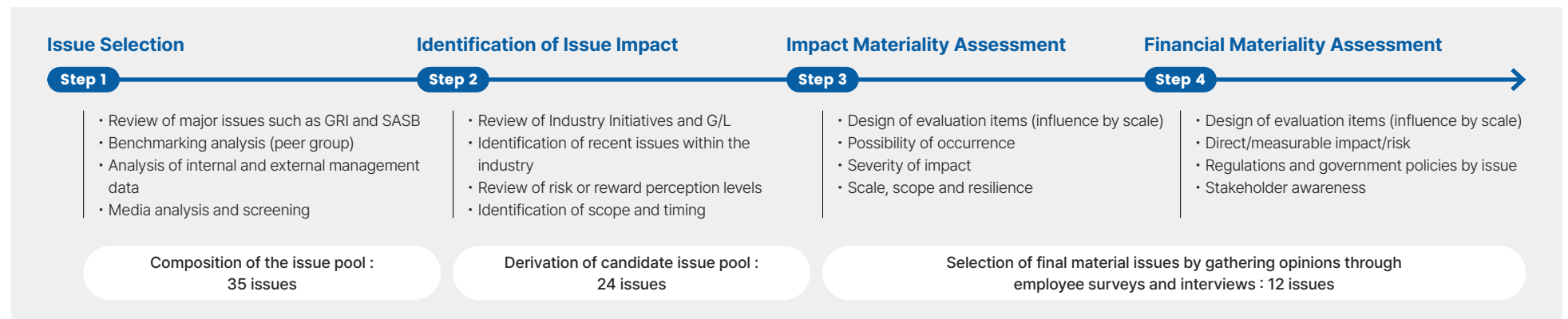
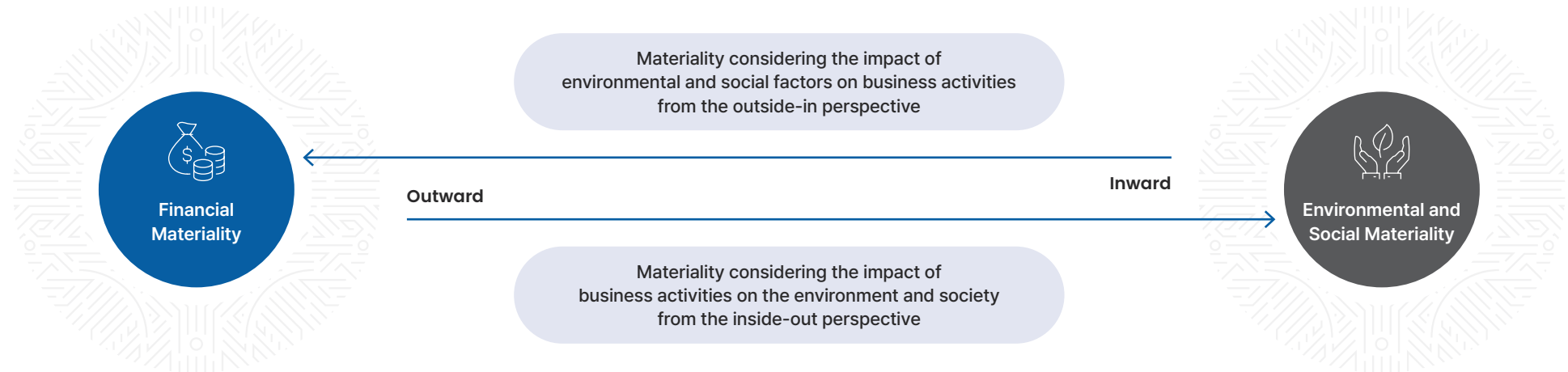


Double Materiality Assessment

Double Materiality Assessment

Double materiality refers to considering both the external environmental and social impacts of corporate management activities and the internal corporate financial conditions affected by external environmental and social factors. As such, materiality assessment is used as a tool to determine the economic value of an enterprise influenced by ESG.

When determining material issues for sustainability, HANA Micron adopted and analyzed the double materiality assessment, considering not only the environmental and social impacts but also the possibility of having a significant financial impact on the Company.

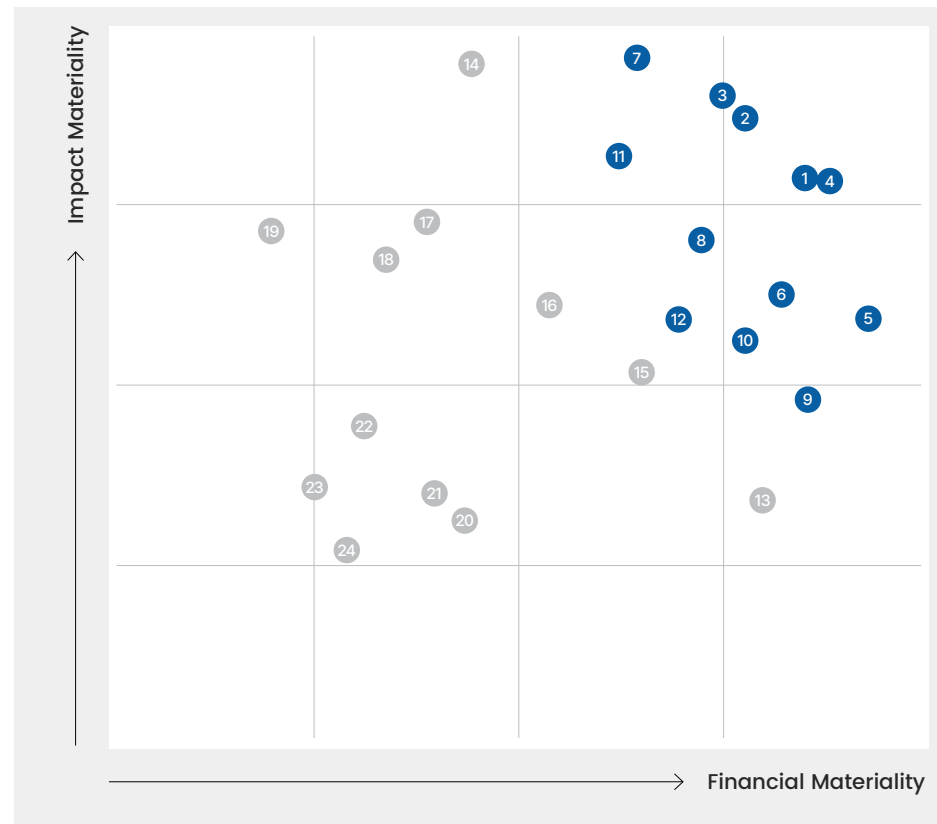


Double Materiality Assessment

Results of Double Materiality Assessment

Based on a double materiality assessment, the Company selected 12 material issues out of 24 that could have environmental, social, and financial impacts and reported related activities, achievements, and goals in this report.

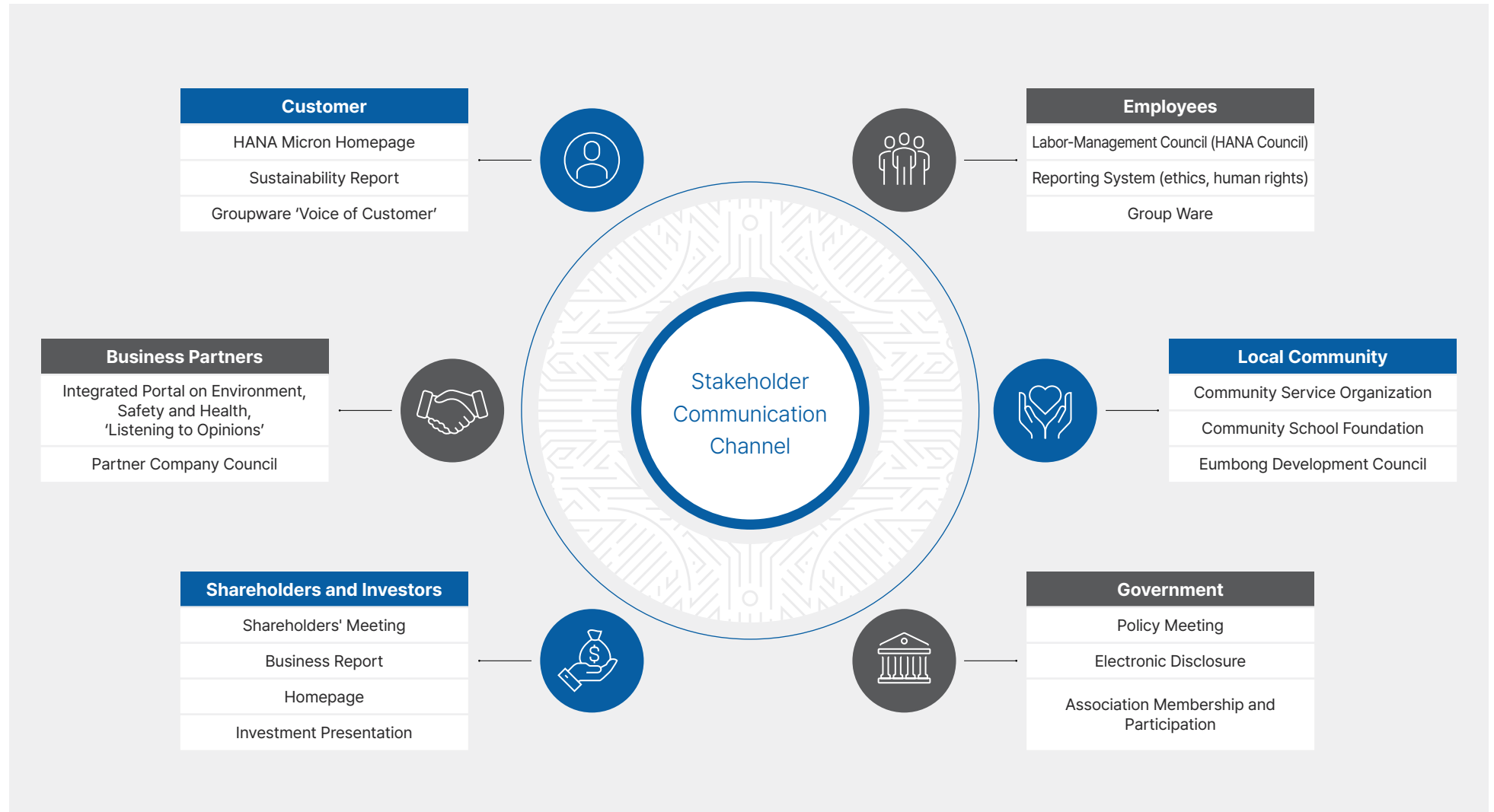
Double Materiality Assessment



ESG Area	Issue	Page	GRI
Environmental	1 Hazardous materials and waste management	24-25	GRI 305, 306
Environmental	2 GHG emissions management	20-21	GRI 305
Environmental	3 Energy management	20-21	GRI 302
Environmental	4 Water and effluents management	23	GRI 303
Governance	5 Communication improvement with stakeholders	16	GRI 2-29
Social	6 Supply chain sustainability management	38	GRI 414
Environmental	7 Expansion of investment in response to carbon neutrality (new and renewable energy)	22	GRI 302
Social	8 Enhancement of safety and health activities and disaster risk response capabilities	33-34	GRI 403
Governance	9 Strengthened Responsibilities of Board and Committee	43-45	GRI 2-12, 13
Governance	10 Enhancement of compliance and ethical management	46-47	GRI 2-27, 205, 206
Social	11 Improvement of product quality and responsibility	35	GRI 416
Social	12 Establishment and advancement of human rights management system	36-37	GRI 401, 405
Social	13 Promotion of win-win cooperation programs related to semiconductors		
Social	14 Enhancement of technology protection and information security		
Governance	15 Introduction and implementation of anti-corruption or compliance management system		
Governance	16 Compliance and establishment of fair trade		
Environmental	17 Compliance with environmental laws		
Social	18 Securing new growth engines by expanding business areas		
Environmental	19 Development of eco-friendly technology		
Social	20 Enhancement of semiconductor-related vocational training and job creation		
Governance	21 Internal management innovation through digital transformation		
Social	22 Promotion and vitalization of strategic social contribution		
Environmental	23 Introduction and expansion of product life cycle assessment		
Environmental	24 Purchase of green products		

Stakeholder Participation

HANA Micron seeks to identify major concerns and issues through various communication channels, actively respond to them, and communicate the results with stakeholders.



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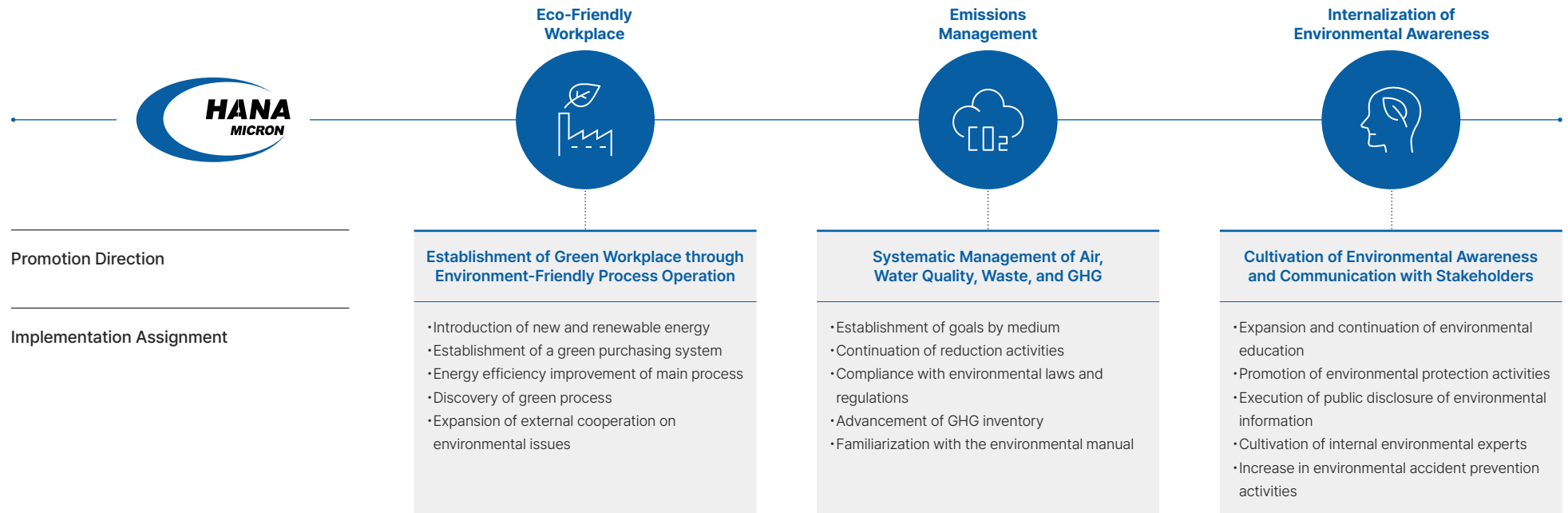
Environmental Data

Environmental Management

Environmental Management Strategy

HANA Micron is striving for sustainable development through eco-friendly management activities. To solve the global climate crisis, the Company is reducing the use of raw materials, water, and energy, as well as greenhouse gas (GHG) emissions, while making every effort to lessen air and water pollutants and waste emissions. Moreover, by establishing environmental policies and promotion systems based on the environmental management system (ISO 14001), the Company efficiently manages environmental risks and systematically identifies, evaluates, and improves the organization's environmental performance.

Environmental Management Promotion System



Environmental Policy

HANA Micron establishes an environment-oriented management system according to the principle of putting the environment first and carries out eco-friendly management activities throughout the entire process of corporate actions and products.

- 1 Reduction of greenhouse gas emissions and minimization of pollutant emissions
- 2 Compliance with environmental laws and requirements
- 3 Continuous environmental pollution prevention and improvement activities and establishment of eco-friendly workplaces
- 4 Implementation of environmental education and disclosure of environmental information and performance to stakeholders



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GHG and Energy


Strategy

HANA Micron has participated in the Emissions Trading Scheme since its inception in 2015 and has been responding to the national carbon-neutral policy. In addition, the Company participates in the Carbon Disclosure Project (CDP)*, one of the world's most credible platforms, to disclose GHG emissions and decision-making systems. It prepares statements on GHG emissions annually, establishes goals and action plans to reduce GHGs, and continues to carry out reduction activities.

* CDP (Carbon Disclosure Project) : A project to respond to climate change that is being carried out globally

Target

2030 Target

GHG emissions and energy consumption per sales **15%** 

(Based on average emissions from 2018 to 2020)

Performance

The Company continues to improve the internal system and facility to implement and achieve the 2030 goal. A case in point is that the Company has constantly developed reduction measures by advancing its internal management system, such as a GHG inventory, while reducing energy consumption by applying high-efficiency equipment such as low NOx boilers and inverter-type air compressors. As a result of these reduction activities, GHG emissions and energy consumption per sales are steadily improving.

	Unit	2020	2021	2022
GHG emissions*	tCO ₂ eq	30,249	33,359	39,899
Direct emissions	tCO ₂ eq	1,788	1,720	1,831
Indirect emissions	tCO ₂ eq	28,461	31,639	38,068
Basic unit	tCO ₂ eq/KRW 100 million	9.72	9.06	6.56

	Unit	2020	2021	2022
Total energy consumption*	TJ	619	693	830
Basic unit	TJ/KRW 100 million	0.20	0.19	0.14
Direct energy source consumption	TJ	33.7	32.4	34.6
City gas (LNG)	TJ	29.7	28.4	30.7
Gasoline	TJ	1.1	1.2	1.1
Diesel	TJ	2.9	2.8	2.8
Indirect energy source consumption	TJ	586	661	796
Electricity	TJ	586	658	793
Steam	TJ	-	3	3

* Calculation basis and scope : "Guidelines for reporting and certification of GHG emissions trading scheme (Ministry of Environment Notice No. 2022-279)", Sum of HANA Micron headquarters and Pangyo plant (Pangyo plant included from 2021)

Next Plans

HANA Micron is promoting reduction activities for direct and indirect emissions at the head office and Pangyo plant, respectively. Regarding direct emissions, the Company completed reviewing the installation of an energy recovery heat exchanger for cooling water for air compressors in January 2023. As for indirect emissions, it completed the construction of a solar power generation facility on the roof of the headquarters in March 2023. The Company plans to proliferate these reduction activities to affiliates, suppliers, and overseas subsidiaries.

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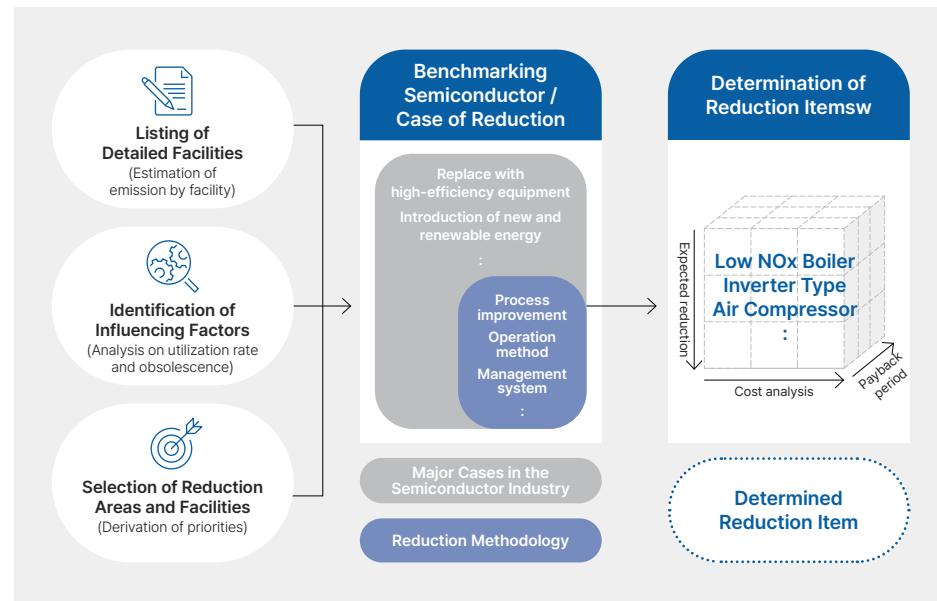


Environmental Data

GHG Reduction Activities

Strategy

HANA Micron establishes an annual GHG reduction plan by analyzing the consumption and trend of utility resources. After listing the facilities in detail, it estimates the emissions by facility, analyzes each facility's obsolescence and operation rate, and selects candidates for reduction means by examining reduction means and benchmarking cases in the industry. Afterward, the Company runs an economic analysis and finally determines reduction items.



The analysis during the reporting period indicates that the potential reduction areas include indirect emissions from electricity use and fixed combustion emissions from boiler operation. According to the estimation of emissions from power-using facilities that account for more than 90% of total GHGs, air compressors and dryers were found to be facilities with a high reduction potential. The Company has established a plan for a step-by-step introduction of such facilities and improvement of management and operation methods.

Performance

GHG Reduction Activities	Period	Detail	Investment (KRW 100 million)
Introduction of high-efficiency facilities	2020.07 ~ Continued		6.72
Boiler	2020.07 ~ 2020.10	Replaced with low NOx boilers	0.97
Air compressor	2021.09 ~ 2022.03	Replaced with an inverter type	2.85
Air dryer	2021.09 ~ 2022.03	Replaced with Non-Purge* method	2.90
Introduction of new and renewable energy	2022.12 ~ 2023.03		
Construction of solar power facilities**	2022.12 ~ 2023.03	203 kW solar power generation	0.97
Improvement of management method	2020.01 ~ Continued		
Optimization of facility utilization rate	2020.01 ~ Continued	Optimal operation by season and time	-
Control of maximum demand power***	Continued	Application of Demand Controller	-

* Non-Purge : An advantageous method for saving energy by not using compressed air to regenerate the adsorbent
 ** Participation in the green premium renewable energy installation support project (for own facilities). Investment cost based on self-pay
 *** Demand Controller installed before the reporting period

Next Plans

HANA Micron is reviewing a plan to replace outdated motors and introduce additional non-purge air dryers gradually. In addition, the Company plans to continue discovering GHG reduction items by analyzing old facilities and benchmarking case studies at least once a year. It will continue to reduce GHG emissions in the future and strive to create a sustainable workplace.

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Renewable Energy

Strategy

HANA Micron participated in the Green Premium Renewable Energy Installation Support Project in December 2022. The green premium scheme is a plan that purchases electricity produced by renewable energy by paying a premium to the current electricity rate, by the "Regulations on Support for New and Renewable Energy Equipment (Ministry of Trade, Industry, and Energy Notice No. 2022-175)." HANA Micron is contributing to proliferating new and renewable energy use and realizing green values by participating with customers.

Target

2030 Target

Annual power generation **1,000,000 kWh** or more

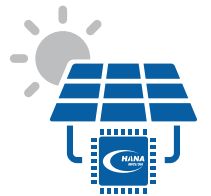


Performance

HANA Micron is transitioning to renewable energy to achieve the 2030 goal. By participating in the Green Premium Renewable Energy Installation Support Project, the Company built a self-powered solar photovoltaic power generation facility with a capacity of 203 kW on an area of about 1,200 m² of the total roof area of the head office building. Participation in this project is expected to reduce electricity consumption by 21,270 kWh per month and 255,240 kWh per year. This is about 0.32% of the head office's electricity consumption in 2022, and the annual expected greenhouse gas reduction is about 117.26 tCO₂eq.

Progress of Introduction of Solar Photovoltaic Power Generation Facilities (Green Premium Renewable Energy Installation Support Project)

Period	2022.12.09 ~ 2023.03.17
Total project cost	KRW 324,800,000
Total investment	KRW 97,440,000
Location	Rooftop of HANA Micron headquarters building
Installation area	1,200 m ²
Installation scale	203 kW
Electricity consumption in 2022 (head office)	80,366,705 kWh
Estimated annual savings	255,240 kWh
Estimated annual GHS reduction	117.26 tCO ₂ eq



Next Plans

Global companies that have joined RE100* are implementing RE100 by utilizing various types of renewable energy. However, in Korea, the penetration rate of renewable energy is not as high, and the means of implementation are not diverse. After reviewing the participation of the K-RE100 Council, which was established to support the global RE100 implementation for Korean companies, HANA Micron will examine various means presented as the primary implementation measures in K-RE100 from multiple angles, such as a continuous expansion of self-powered power generation, promotion of Power Purchase Agreement (PPA),** purchase of Renewable Energy Certificates (REC),*** and equity participation. Going forward, the Company will not only participate in responding to the global climate crisis but also actively participate in RE100 together with its clients.

* RE100 (Renewable Electricity 100%) : A global initiative to replace electrical energy with 100% renewable energy
 ** PPA (Power Purchase Agreement) : Direct purchase contract system for renewable energy between power generation companies and companies
 *** REC (Renewable Energy Certificates) : Renewable energy supply certificate issued by Korea Energy Agency

Environmental Data

Water

Strategy

HANA Micron uses both industrial water and residential water. Due to the nature of the water-consuming process, the amount of water used for industrial purposes is higher than that for living. Industrial water is classified by process and residential water by building and is monitored monthly through flow meters. In addition, the Company operates its own recycling facility to reduce water consumption in the process and increase the circulation rate.

Target

2030 Target
Recycling rate by 2030 **50%** or higher



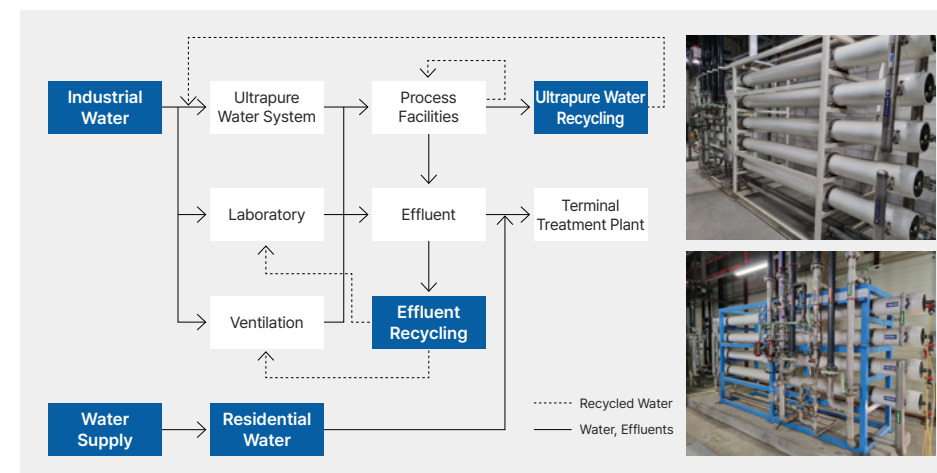
Performance

The Company continues increasing the amount of water recycled to achieve the 2030 target. The amount of water recycled (recycling rate) has constantly improved from 79,638 m³ (12%) in 2020 to 148,045 m³ (24%) in 2021 and 234,948 m³ (45%) in 2022, with a plan to further increase the recycled amount.

	Unit	2020	2021	2022
Water consumption	m ³	644,601	606,464	519,910
Residential water	m ³	55,819	45,851	23,320
Industrial water	m ³	588,782	560,613	496,590
Basic unit	m ³ /KRW 100 million	207.09	164.72	85.49
Amount of water recycled	m ³	79,638	148,045	234,948
Water recycling rate	%	12.35	24.41	45.19

Recycle System

HANA Micron has built a facility that reuses water in the ultrapure water process to reduce industrial water consumption. Initially, the recycling capacity was 200 - 300 m³/day, whereas the current recycling capacity has increased to 700 - 800 m³/day through expansion. The recycling facility's utilization rate is currently at 70-80% and is planned to run up to its maximum utilization rate. The failure is expected to significantly contribute to reducing water consumption in the future.



Next Plans

HANA Micron aims to achieve a water recycling rate of over 50% by 2030 by gradually expanding water recycling facilities in its processes. By 2025, it plans to secure operation stability while maintaining a recycling rate similar to 2022. Also, the Company intends to increase the water recycling rate by 1-2%p every year from 2025 onward by continuously analyzing and examining applicable processes, operation rates, and expected water reduction.

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Waste

Strategy

HANA Micron monitors the entire process, from waste generation to transportation and treatment, by applying an environmentally legal treatment system. Supervised by the ESG Group, the Company continues to comply with the legal treatment of various wastes, observes the storage days according to the type and nature, and creates an inspection log to check periodically.

Target

2030 Target Waste incineration and landfill **ZERO**

Performance

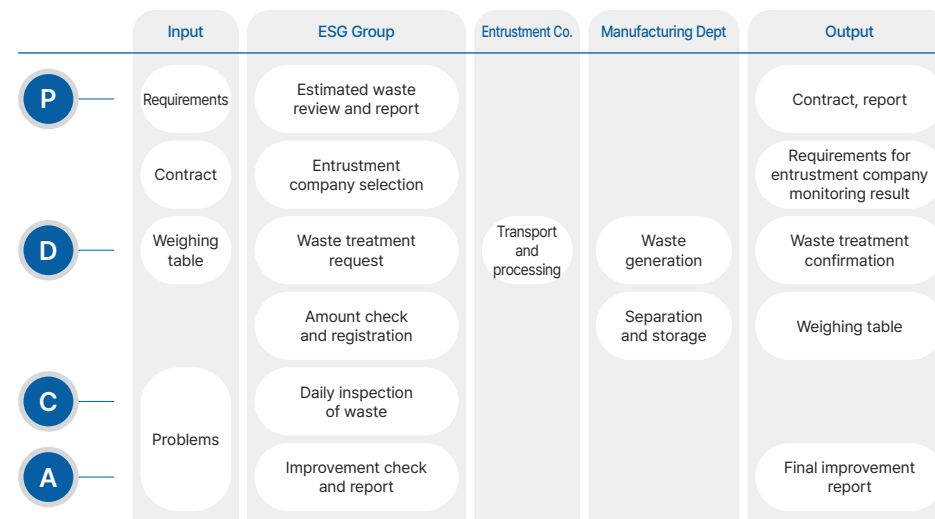
Waste synthetic resins (general) and waste organic solvents (specified) are the primary wastes from HANA Micron. Therefore, it is essential to treat both types of waste by recycling: as stable materials based on petrochemical raw materials, waste synthetic resins rarely decompose naturally and generate harmful gases when heated, whereas waste organic solvents cause various types of air pollutants when incinerated. However, since its business nature of limited direct consumption of such recycled waste, the Company focuses on water recycling and entrusts all the generated waste for treatment. Also, it checks the waste recycling process of the entrustment company to increase the waste recycling rate during entrustment treatment. As such, the total amount of recycled waste has surged since 2021.

	Unit	2020	2021	2022
Amount of waste	ton	363.67	357.42	485.35
General waste	ton	356.62	351.20	480.50
Specified waste	ton	7.05	6.22	4.85
Basic unit	ton/KRW 100 million	0.12	0.10	0.08
Total amount of waste recycled after discharge	ton	128.87	316.43	312.29
Rate of waste recycled after discharge	%	35.44	88.53	64.34

Waste Treatment Process

HANA Micron has established a waste treatment process based on the PDCA* Cycle of the environmental management system (ISO 14001). The ESG Group manages waste treatment with the participation of entrustment companies and manufacturing departments. When selecting an entrustment company from the planning stage, the Company prioritizes a candidate with technology and licenses to recycle discharged waste.

* PDCA : Plan, Do, Check, Act



Next Plans

To achieve the 2030 target, HANA Micron plans to set the recycling rate to at least 90% after discharge from business sites and later to devise methods for recycling some of the waste synthetic resins and waste organic solvents that are not currently being recycled. In addition, the Company will prepare and implement internal regulations to consider measures in case entrusted companies violate waste treatment and the recyclability of purchased raw materials and consumables.

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Pollutant Reduction

Strategy

Having the business site with Type 4 air emission facilities and Type 1 effluent discharge facilities, HANA Micron conducts self-measurements twice a year for dust, sulfur oxides (SOx), and nitrogen oxides (NOx) and monitors the results. Also, as for effluents, the Company regularly monitors about ten types of water pollutants, including biochemical oxygen demand (BOD), chemical oxygen demand (COD), suspended solids (SS), total phosphorus (TP), and total nitrogen (T-N). All effluents are treated by flowing into the effluent treatment facility.

Performance

HANA Micron is committed to preventing water pollution and ensuring stable treatment. The Company is establishing an effluent treatment process based on the PDCA cycle of the environmental management system, logging inspection on a daily basis. Water pollutants vary depending on the amount of discharge and concentration at the time of measurement, with suspended solids accounting for the majority. Emissions of air pollutants increased during the reporting period, whereas emissions per unit of intensity improved thanks to the complete replacement of general boilers with low NOx boilers.

	Classification	Unit	2020	2021	2022
Air pollutants (Total)	Emissions	ton	0.41	0.45	0.52
	Basic unit	ton/KRW 100 million	0.000132	0.000122	0.000086
Nitrogen oxide (NOx)	Emissions	ton	0.39	0.33	0.46
	Basic unit	ton/KRW 100 million	0.000125	0.000090	0.000076
Sulfur oxides (SOx)	Emissions	ton	Non-detection	Non-detection	0.02
	Basic unit	ton/KRW 100 million	Non-detection	Non-detection	0.000003
Dust	Emissions	ton	0.02	0.12	0.03
	Basic unit	ton/KRW 100 million	0.000006	0.000033	0.000005

	Classification	Unit	2020	2021	2022
Water pollutant (Total)	Emissions	ton	48.10	85.42	43.29
	Basic unit	ton/KRW 100 million	0.015453	0.023203	0.007118
Biochemical oxygen demand (BOD)	Emissions	ton	3.04	27.43	1.69
	Basic unit	ton/KRW 100 million	0.000977	0.007450	0.000278
Chemical oxygen demand (COD)	Emissions	ton	11.59	10.98	4.09
	Basic unit	ton/KRW 100 million	0.003723	0.002982	0.000673
Suspended solid (SS)	Emissions	ton	32.60	46.09	37.01
	Basic unit	ton/KRW 100 million	0.010473	0.012518	0.006086
Total nitrogen (T-N)	Emissions	ton	0.82	0.17	0.45
	Basic unit	ton/KRW 100 million	0.000263	0.000046	0.000074
Total phosphorus (T-P)	Emissions	ton	0.05	0.76	0.05
	Basic unit	ton/KRW 100 million	0.000016	0.000206	0.000008

Next Plans

HANA Micron intends to set reduction targets in phases to lower emissions of air and water pollutants and strengthen monitoring by shortening the self-measurement cycle. In addition, the Company will continue to comply with the separate emission standards for Asan Digital Industrial Complex set by the Ministry of Environment under the "Water Environment Conservation Act".



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Environmental Participation

Strategy

HANA Micron enhances environmental awareness through environmental education for employees and minimizes the impact of its business activities and products on the environment. The Company establishes an annual environmental education plan, including legal education. When setting a plan, the Company divides the types of education into recruitment training, work training, special training, regular education, etc., and conducts various educational programs on environmental topics such as fine dust, environmental safety, hazardous substances, and GHGs to improve a sense of responsibility for the environment.

Target

Violation of environmental laws **ZERO** 

Performance

Due to the nature of its business, HANA Micron is regulated by various environmental laws and regulations, such as the "Air Quality Conservation Act", "Water Environment Conservation Act", and "Waste Management Act". During the reporting period, there were no cases of violation of environmental laws or fines paid. Under the environmental management system, the Company has established and steadily carried out environmental policies, promotion plans, corrective actions, management reviews, and improvement activities.

Classification	Unit	2020	2021	2022
Environmental certification	Case	1	1	1
Violation of environmental laws	Case (KRW)	0(0)	0(0)	0(0)
Violation of laws	Case	0	0	0
Fines and penalties	KRW	0	0	0
Environmental liability insurance	Y/N	Y	Y	Y

Details of Environmental Education

HANA Micron conducts periodic environmental training at least once a year for environmental managers and hazardous chemical workers. During the reporting period, the environmental training included fine dust-related training, ISO 14001 internal auditor training, environmental improvement cases and issue dissemination training, and environmental regulation-related training.

Environmental Education Details	Subject	Training Date	No. of Participants
Fine dust prevention	All relevant departments	2021.12	561
ISO 14001 internal auditor training	Applicable person	2023.03	38
Chemical substance training	Handlers, related workers	Frequent	61
Education on environmental laws and trends	Environmental officer	2021.11	1
Intensive environmental education (carbon neutrality)	Environmental officer	2022.10	1

Next Plans

HANA Micron intends to expand environmental education further to achieve the goal of 'zero violation of environmental laws and regulations.' While specifying an annual environmental training plan, the Company will gradually expand the related budget. It plans to have those who have completed legal education hold in-house proliferation training and, if necessary, arrange training programs for each environmental issue from external professional institutions. In particular, the Company is reviewing revisions to related regulations, such as conducting education at least once a year on GHG, resource recycling, and water, which are vital emerging issues in the environmental field, including ESG.

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Strategy

HANA Micron seeks to establish a human rights management system under the ESG direction of realizing a tolerant and happy society. HANA Micron respects the freedom and human rights of all employees, guarantees equal opportunities without discrimination, and supports them in developing and demonstrating their capabilities. In addition, the Company respects the value of diversity and tolerance and strives to realize an organizational culture and safe working environment that balances work and life. HANA Micron has defined talents as ‘challenging spirit, professionalism, creativity, globalism, and leadership.’ The Company provides opportunities to challengers by systematically nurturing talent from a mid to long-term perspective, running a differentiated evaluation system for each job category, and operating an in-house college.

Target

HANA Micron manages a talent development system to help new hires adapt to the organization and improve their job capabilities. Also, the Company aims to improve the work environment of employees through regular labor-management council meetings, reducing the turnover rate and raising the average length of service. Furthermore, it seeks to diversify its educational platform, improve educational accessibility, ensure a self-directed learning system, and operate a variety of educational courses by adding new content.



2022 Performance

Labor-Management Relations

HANA Micron operates the HANA Council, which is the culmination of labor-management harmony. Five people each from the employer and employee sides participate in a regular quarterly meeting, and regular discussions and consultations on issues such as management status reports, improvement of working conditions, and welfare of employees.

	2020	2021	2022
No. of meetings held	4	4	4
Key achievements	Pavement of parking lot	Meal, school expenses, flu vaccination support	Transportation subsidy raise, introduction of new reward for 15 years of service

Employee Status*

The Company ensures that there is no discrimination based on race, gender, age, disability, etc., in recruitment and employment activities such as promotion, wages, and compensation and strives to secure diversity within the organization, such as gender balance and employment of the socially underprivileged.

		Unit	2020	2021	2022
Total no. of employees		Person	689	836	825
By age	Under 30	Person (%)	334(48)	414(50)	400(48)
	Over 30 – under 50	Person (%)	337(49)	395(47)	395(48)
	Over 50	Person (%)	18(3)	27(3)	30(4)
By employment type	Regular	Person (%)	689(100)	836(100)	825(100)
	Temporary	Person (%)	0(0)	0(0)	0(0)

* Number of employees at HANA Micron headquarters and Pangyo office, as of the end of the year

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Diversity of Employees

		Unit	2020	2021	2022
Gender balance	Female employees	Person (%)	310(45)	363(43)	381(46)
	Female executives	Person	0	0	0
	Female managers	Person	10	13	15
Employment of disabled persons	Total number	Person	19	19	19
	Total number	Person	0	0	0

* Female managers include executives, group leaders, part leaders, and team leaders.

Hires and Tenures

		Unit	2020	2021	2022
Hires	Total new hires	Person	103	318	375
	Male	Person (%)	27(26)	167(53)	179(48)
	Female	Person (%)	76(74)	151(47)	196(52)
Type of hires	Unexperienced	Person (%)	79(77)	227(71)	269(71)
	Experienced	Person (%)	24(23)	91(29)	106(29)
Length of service	Average length	Year	6.5	5.8	6.0
	Male	Year	7.5	6.4	6.9
	Female	Year	5.2	5.0	4.8
Turnover	Turnover rate	%	2.5	1.8	2.5

Dismissal

		Unit	2020	2021	2022
Dismissal	Percentage of total employees	%	0	0	0
	No. of employees dismissed	Person	0	0	0

Various Awards Regarding Labor-Management Culture



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Evaluation and Remuneration

HANA Micron pays fair wages per relevant regulations on assignments and length of service. Male and female employees receive basic wages on equal standards without gender discrimination, with a defined benefit retirement plan.

The Company has established an evaluation and reward system based on individual performance and capabilities with differentiated evaluation systems for each job group, such as task-oriented evaluation (MBO, KPI evaluation) and skill-level evaluation. Also, it implements differential compensation in proportion to performance through the Productive Incentive system.

	Unit	2020	2021	2022
Equal pay for men and women (basic wage ratio of women to men)	%	100	100	100
Ratio of competency development evaluation system applicable	%	35	36	36
Average annual salary per employee	KRW million	53	48	57
Highest amount of remuneration	KRW million	277	402	525
Ratio of highest paid to average employee salary	Times	5.2	8.4	9.2

* Total remuneration excluding retirement benefits

Education

To develop self-directed leaders, HANA Micron provides leadership education for each level/manager, education for promoted employees, and education for new hires. The Company supports professional degree courses and operates job competency improvement courses to nurture field-oriented experts. Moreover, it strives to foster talents with global capabilities by managing internal and external language courses and supporting autonomous learning.

As an in-house university course, Baekseok Culture University's industry consignment training course has been launched and operated since 2004. Also, upon completion of the course, the Company provides employees with opportunities to improve their competency by acquiring a bachelor's degree, sponsoring educational expenses, and supporting the training center.

	Unit	2020	2021	2022
Training hours per employee	Hour	27	23	38
Training expenses per employee	KRW 1,000	50	23	59

	Unit	2020	2021	2022
Performance rate against competency-building learning goals	%	100	100	100



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Work-Life Balance

Strategy

HANA Micron operates several systems to provide practical support based on the diverse voices of all executives and employees for a work-life balance. The Company supports family occasions and children's school expenses to support family life, subsidizes resort facilities and well-being clubs to support leisure life, and funds medical expenses and family health checkups to support healthy lives.

Target

HANA Micron strives to support the balance between personal life and company work by encouraging to use of parental leave and implementing various welfare systems and continues to improve and introduce methods to create a fun and exciting corporate culture.

2022 Performance

Family Life Support

To share joy and sorrow with employees, HANA Micron supports congratulatory and condolatory expenditures for marriage, death, and 60th birthday of employees and their families, vacation, and funeral wreaths, as well as funeral support services through employee associations. In addition, the Company supports the cost of childcare at daycare centers and subsidizes expenses for admission or tuition fees from elementary school to university.

Leisure Life Support

HANA Micron supports using Sono and Hanwha Resorts nationwide at corporate rates and supports in-house clubs. Moreover, as a member of the well-being club with affiliated branches nationwide, the Company supports using various sports and leisure facilities such as health, swimming, golf, and spa at affordable prices.

Healthy Life Support

The Company supports health examinations for employees and their spouses, as well as medical expenses for diseases and accidents. It operates an in-house healthcare center staffed by nurses to improve employees' health and ensure they receive necessary medicines and treatment.



Childbirth Gift



Child Admission Gift



Well-Being Club



Health Care Room

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Work-Life Balance

Employee Benefits

	Unit	2020	2021	2022
Employee benefits	KRW million	4,191	4,011	5,772
Employee benefits to sales	%	1.3	1.1	0.95

Parental Leave

		Unit	2020	2021	2022
No. of employees on parental leave	Male	Person	6	2	1
	Female	Person	11	10	13
Return to work after parental leave	Male	Person	1	1	Employees less than 12 months are excluded from calculation
	Female	Person	8	7	
Employees who have worked for over 12 months after returning to work	Male	Person	1	1	
	Female	Person	8	6	



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Safety and Health

Strategy

HANA Micron is fulfilling its social responsibility for safety and health for a bright and prosperous world and is seeking to establish a sustainable and innovative health and safety culture. The Company has established a health and safety management system and is continuously improving to provide the best products and services that meet customer needs.



EHS Management Principles

As a company that grows together with people, the environment, and the local community, we will fulfill our social responsibilities by creating a safe and clean workplace through continuous improvement.

Target

To create a safe workplace, the Company sets health and safety objectives yearly to conduct activities and monitor them from the perspective of compliance with health and safety laws, improvement of harmful and risk factors, operation of health and safety management system, and establishment of autonomous health and safety management system.



2022 Performance

Health and Safety Diagnosis

HANA Micron has obtained the health and safety management system (ISO 45001) certification and conducts an internal assessment once a year and a follow-up assessment through a certifying institution. The Company performs risk assessments of its workplaces and takes corrective measures for the identified risks to ensure the stable operation of the system.

International Certification	2020	2021	2022
ISO 45001 (Health and safety management system)	Certified	Certified	Certified

EHS Operation and Management

As a safety management activity, the Company is making efforts to establish the three core safety measures of pinching, falling, and stumbling by carrying out safety accident prevention and win-win cooperation activities to improve safety awareness, such as education for internal and external partners, health and safety support activities, and the formation of a council. In addition, the Company conducts safety management and accident prevention activities through the pre-registration system for hazardous work.

As a health management activity, the Company has established a chemical substance pre-registration system to identify and manage the risks of substances in advance. Also, it measures and improves the working environment to prevent employee disabilities and create a pleasant workplace. Furthermore, the Company promotes health management activities for workers by conducting preventive activities for musculoskeletal disorders and regular health examinations.

In response to the spread of the COVID-19 virus, the Company established and announced in-house quarantine guidelines, set response scenarios according to quarantine stages, and actively carried out infectious disease prevention activities.

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Safety and Health

Occupational Accident

Employee	Unit	2020	2021	2022
No. of deaths	Person	0	0	0
No. of occupational illnesses (OI)	Case	0	0	0
Near-miss accident rate	%	0	0	0
Lost time incident (LTI)	Case	0	0	1

Supplier	Unit	2020	2021	2022
No. of deaths	Person	0	0	0
Lost time incident (LTI)	Case	0	0	0

Occupational Safety Management

To maintain RBA (Responsible Business Alliance), the Company conducts semi-annual self-inspections as well as quarterly internal audits of risk assessments and target implementation inspections to continuously improve harmful and risk factors.

	Unit	2020	2021	2022
Risk assessment	No. of times per year	17	182	322
Supplier safety prevention management	Implementation	-	-	84
Supplier council meeting	No. of times per year	12	12	12

Health and Safety Education

HANA Micron carries out chemical risk assessments, user education, and regular training according to internal emergency response scenarios. In addition, the Company improves its health and safety capabilities by training each level for self-management of employees and clarifying responsibilities and roles.

	Unit	2020	2021	2022
No. of participants	Person	730	822	734
Education hours	Hour	19,992	28,608	25,024
Education hours per person	Hour	27.4	34.8	34.1
Percentage of employees participating in education	%	100	100	100

Violation of Health and Safety Laws

The Company thoroughly complies with health and safety laws and company regulations by conducting quarterly regulation compliance assessments for each process and business site and through inspection activities related to health and safety regulations, including those of suppliers. In addition, the Company has set a roadmap and management procedures for reducing serious accidents and has established an emergency measures and response system in case of an accident.

		Unit	2020	2021	2022
Safety accident	No. of serious accidents	Case	0	0	0
Violation of laws	No. of violations	Case	0	0	0
	Penalty	KRW 1,000	0	0	0
	Fine	KRW 1,000	0	0	0



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Product Safety and Quality Control

Strategy


HANA Micron runs a customer-oriented, optimized quality management system and strives to satisfy customers through quality innovation and continuous improvement.

Quality Policy




- 1 Providing flawless quality and reliable services
- 2 Providing customer satisfaction through continuous quality innovation
- 3 Strictly complying with environmental, safety and health laws and regulations
- 4 Creating an environment-friendly environment, preventing safety accidents, and improving employee health


Quality Management System




Maintaining quality management system through IATF16949, ISO14001 certification



MES-based process computerization



Real-time quality control through facility on-line system



Rapid response to customer complaints

Target

Based on its management policy, HANA Micron establishes quality-related goals for each department every year. The Company sets quality-related KPIs and objectives for each manufacturing, quality, and technology department and checks performance against the target, status, and issues through a weekly quality manager meeting and a monthly CEO meeting. Also, it implements systematic target management by reflecting it in the MBO from quality managers to executives.

2022 Performance

Status of Quality Management System Certification

HANA Micron obtained quality certifications of ISO 9001 in 2002, IATF 16949 in 2006, and ANSI/ESD S20.20 in 2018 to realize customer satisfaction by providing products and services that meet customer needs and the highest quality standards.

International Certification	2020	2021	2022
IATF 16949 (Automotive quality management system)	Certified	Certified	Certified
ISO 9001 (Quality management system)	Certified	Certified	Certified
ANSI/ESD S20.20 (Electro static discharge)	Certified	Certified	Certified

Employee Quality Control Training Program

HANA Micron conducts quality training for all employees once or twice a year. Internal auditor training for IATF 16949 and ISO 9001 certifications is held by an external organization for quality managers, while regular training is conducted regarding the authority and responsibility specified in manuals, regulations, quality standards, and work standards. Moreover, the Company holds quality briefings on a regular basis and improves quality work capabilities through product-specific quality issues and quality improvement activities.

Curriculum	Target	Frequency
Product quality awareness training	Relevant department	Once a year
ESD (Electro Static Discharge) training	All staff	Twice a year
Internal auditor training	Quality officer	Once every 3 years

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Human Rights Management

Strategy

Under the ESG direction of realizing a tolerant and happy society, HANA Micron is striving to create a workplace where the human rights of its employees are guaranteed and dignity is recognized. The management and all employees conduct business activities in compliance with HANA Micron's labor and ethics policies, the RBA Code of Conduct, and national labor-related laws. 'Article 9. Respect for Employees,' 'Article 10. Non-Discrimination,' and 'Article 11. Human Resource Development' of HANA Micron's Code of Ethics 'Chapter 4. Promises with Employees' and HANA Micron's Code of Conduct 'A. Labor Regulations' deal with respect for and protection of human rights.

The CEO is in charge of ethical management, and the management support team leader establishes ethical management systems and policies. A culture of respect for human rights could take root by establishing a scheme for all employees in each department to practice human rights management with education and publicity through the HR group.

2022 Performance

Management of Grievance Handling System

HANA Micron has regulations on '8) Worker Feedback, Participation, and Grievance Handling' in the Code of Conduct 'E. Management System.' The Company evaluates workers' understanding of the Code of Conduct, including effective grievance handling procedures, and seeks continuous improvement by receiving feedback or violations. Management has established an operating system for workers with an environment where they can deliver grievances and feedback without fear of reprisal.

Grievance Handling Process



Occurrence of Grievance

- Company-related grievances from employees and external stakeholders



Grievance Filing

- Receipt of grievances through grievance handling channels
- Interview with a worker commissioner or grievance handling commissioner



Hosting of the Agenda Subcommittee

- Sharing content with worker commissioners
- Sharing information with HR managers



Grievance Handling

- Finding the facts about the grievance
- Preparing a plan for handling



Sharing of Actions

- Sharing action plans with the worker commissioner and the grievance handling commissioner
- Sharing measures to be taken with victims of grievances
- Announcement through groupware when necessary

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RBA Third Party Inspection

HANA Micron conducts an RBA third-party inspection to prepare a sustainable and effective response system for human rights due diligence, which has recently become an issue in the global society. The Company performed an RBA third-party inspection in 2022 and received a score of 200, earning RBA Platinum status.

Company-Wide Human Rights Education

HANA Micron conducts annual education to prevent sexual harassment and bullying in the workplace and improve awareness of people with disabilities to cultivate an understanding of respect for human rights for all employees. The Company also conducts job stress prevention training for employees every year so that employees can learn proper ways to deal with stress and health management methods and practice them within the organization. In addition, the Company is steadily carrying out human rights awareness-raising activities through RBA and HANA Micron Code of Conduct training.



RBA Platinum Status Certificate

Human Rights Education

	Unit	2020	2021	2022
Human rights education hours per person	Hour	3	3	5
Sexual harassment/bullying prevention training hours	Hour	1	1	2
Training hours to improve awareness of people with disabilities	Hour	1	1	2
HANA Micron code of conduct and ethics management training	Hour	1	1	1

Human Rights Reporting and Violation of Laws

		Unit	2020	2021	2022
Human rights reporting	No. of reports related to human rights	Case	0	0	0
	No. of cases related to human rights	Case	0	0	0
Violation of laws	No. of violations	Case	0	0	0
	Penalty	KRW 1,000	0	0	0
	Fine	KRW 1,000	0	0	0



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Supply Chain Sustainability Management

Strategy

HANA Micron strives to build a sustainable supply chain ecosystem under the ESG direction of realizing a tolerant and happy society. The Company shares the RBA-based code of conduct with suppliers, requests them to comply, and strives to secure supply chain competence through supplier evaluation. The Company establishes and complies with conflict zone mineral policies to manage human rights and environmental risks that may occur while producing and procuring primary raw materials and minerals.

2022 Performance

Supplier Evaluation

HANA Micron evaluates suppliers semi-annually to enhance the competitiveness of its supply chain. The main evaluation items include quality management, environmental management system, hazardous substance management, material/product management, safety/environment, labor/human rights, etc., which are evaluated based on transaction performance data and data provided by suppliers. The Company seeks to improve competency by inducing the establishment and execution of plans to enhance the grade of suppliers with differentiated purchase policy according to the evaluation grade.

In addition, the Company organizes a supplier council and holds a monthly meeting where the Company discusses issues such as quality and delivery, provides on-site health and safety education and emergency drills, and supports establishing safe workplaces by measuring the working environment twice a year.

Responsible Supply Chain Management

HANA Micron has established a code of conduct for partner companies to strengthen compliance management, which is the foundation of mutual growth with suppliers and requires its suppliers to strictly comply with the norms, secure a safe working environment, establish a management system in which workers are respected, and run the business ethically. Based on the RBA Code of Conduct, the HANA Micron Supplier Code of Conduct applies to all types of organizations that design, sell, manufacture or provide parts and services used to produce HANA Micron products. The Supplier Code of Conduct comprises 35 items in five categories: labor, health and safety, environmental protection, ethical management, and management system. It evaluates suppliers, requests improvement for violations, and may suspend transactions or terminate contracts if improvements are not made.

Conflict Minerals Management

HANA Micron has established a Conflict-Free Mineral Policy for the use of gold, tantalum, tungsten, and tin and strictly complies with and implements this policy. Conflict minerals refer to products that support or return benefits to armed groups in the Democratic Republic of the Congo or neighboring countries (Sudan, Uganda, Rwanda, Burundi, Tanzania, Angola, and Central Africa) or products that cause labor/human rights violations and environmental damage when mined.

HANA Micron periodically checks from its suppliers whether mining products from regulated areas are not being supplied and asks suppliers to verify where their minerals originate from the list provided by the Electronic Industry Citizenship Coalition-Global e-Sustainability Initiative (EICC-GeSI).

In addition, the Company receives a pledge from the environment manager of the supplier to provide analysis and information on the product environment and harmful substances based on the BOM by preparing procedures to check whether conflict minerals are used in the eco-friendly system planning regulations and hazardous substance management regulations.

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Social Contribution & Local Economy

Strategy

HANA Micron is committed to fulfilling its social responsibilities by continuously expanding activities to create a society that prospers together, such as actively supporting the socially underprivileged and running a volunteer group with the local community.

2022 Performance

HANA Volunteer Group Activities

HANA Micron discovers neighbors in need in the local community. It helps them achieve economic self-sufficiency and regularly conducts volunteer activities for neighbors cooperating with organizations.

The volunteer group tries to create a society where people can live together by donating to the underprivileged in the local community and visiting welfare facilities to contribute their talents and volunteer efforts. Moreover, since 2010, the volunteer group has supported the cost of making kimchi in Umbong-myeon, Asan, every year while participating in the kimchi-making event. In addition, due to the recent spread of COVID-19, the group has donated kimchi-making expenses and masks since 2020.



1 Company 1 River, 1 Company 1 Mountain Care Campaign

The Company is implementing an environmental cleanup campaign to restore the ecosystem and preserve water quality in the rivers and Yeonamsan Mountains near the workplace.

Love Blood Donation Campaign

The campaign is carried out with vehicle support from the Red Cross Daejeon Chungnam Blood Center and the voluntary participation of employees every year. The blood donor cards collected through this campaign are donated to organizations in need of blood donor cards at the end of the year.



Kimchi-Making Expenses & Mask Support



1 Company 1 River Care Campaign

Regional Industry-University Cooperation

HANA Micron cooperates with local universities such as Korea University of Technology and Education, Dankook University, and Hoseo University to secure outstanding graduates at an early stage and contribute to expanding industry-university cooperation in the region. In addition, the Company signed an industry-university cooperation agreement (MOU) with community colleges such as Korea Polytechnic Asan Campus, Woosong Junior College, and high schools in the region, such as Cheonan Girl's Commercial High, to nurture semiconductor-related experts with the support for educational programs, joint use of equipment for semiconductor experiments and practice, and educational equipment. Through this, the Company provides opportunities for technical and on-the-job training in the semiconductor field and contributes to job creation and industry revitalization in the region by hiring excellent local talent.

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Employment of People with Disabilities and Support Activities for Local Vulnerable Groups

HANA Micron continues to hire disabled people, including those with severe disabilities, and has participated in the vocational competency development project since 2007 to nurture semiconductor experts suitable for precision production processes. In connection with the Cheonan-Asan Customized Training Center of the Korea Employment Agency for Persons with Disabilities, the Company performs customized training such as industrial safety, semiconductor sign language terminology, and job experience training for hard of hearing people and places them on site. HANA Micron publishes its own sign language book, including semiconductor terminology, and ensures no communication difficulties with sign language education and LED display boards for employees.

In 2021, with the 'Good Step Donation Campaign' commemorating the 20th anniversary of its founding, the Company collected KRW 10 million for the target step achievement and supported the vulnerable in the region through the Chungnam Social Welfare Community Chest.



Good Step Donation Campaign



Donation of Semiconductor Practice Equipment to Korea Polytechnic University

Information Security

Strategy

HANA Micron establishes management information and technology information protection regulations and operates rules and guidelines for the management and protection of information assets, security matters, trade secrets, and intellectual property rights.

The Security General Affairs Group establishes annual security work plans for administrative security, physical security, and IT security. The Group appoints a security officer and security manager for each department to clarify their roles and holds a security deliberation committee semi-annually to deliberate on preventive and follow-up measures, such as revision of security regulations, security violations, and related matters.

In addition, the Company trains on personal information protection and information security for all employees once a quarter to reinforce security awareness and conducts information protection oath and information security system mock training.

2022 Performance

Security Organization and Roles

HANA Micron appoints the CEO as the head of security to make top-notch decisions on corporate security and manages a security organization by designating a security management manager with expertise for efficient and systematic security work. The Company nominates a security manager and a security officer for each department to clarify their respective roles.

Security Organization	Security Manager	Security Officer
Roles	<ul style="list-style-type: none"> • Appointing a security officer within the department • Supervising compliance with security regulations and guidelines • Encouraging security officers to work 	<ul style="list-style-type: none"> • Conducting security training for department members • Conducting departmental security checks • Preventing security incidents • Explaining and managing security pledges

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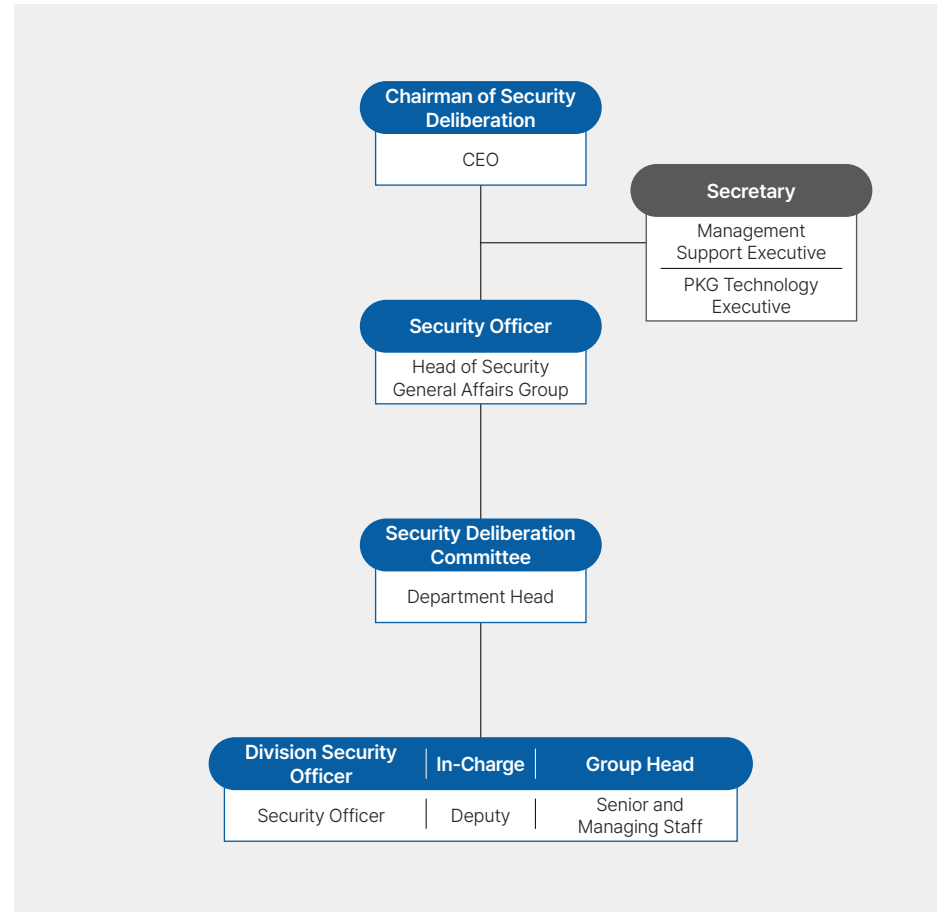


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Security Deliberation Committee

HANA Micron maintains a cooperative system between high- and low-level departments by organizing the Security Deliberation Committee and controls preventive and follow-up measures on security.



Major Information Security Activities

At least once a year, HANA Micron conducts security inspections and IT infrastructure security evaluations, such as security regulation adequacy evaluation for technology protection, employee awareness level evaluation, security adequacy assessment for protected areas, internal data leakage, and hacking prevention.

The Company trains and publicizes security-related announcements, cases of security incidents, and results of security inspections once a quarter to strengthen employees' security awareness and prevent security incidents.

Security Inspection and Information Security Training

	Unit	2020	2021	2022
Security inspection	Times	4	4	4
Information security training	Times	4	4	4

Next Plans

HANA Micron plans to strengthen its physical security system and invest in IT security step by step, such as building a proxy and security control system, by establishing a mid to long-term information protection operation plan.



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Board of Directors

Strategy

The Company appoints a majority (75%) of directors with relevant industry experience to form the board of directors to reflect the professional characteristics of the semiconductor situation and designates outside directors at the general shareholders' meeting with the recommendation of the board of directors to secure objectivity.

Target

HANA Micron intends to gradually increase the number of outside directors to two-thirds to strengthen the independence of the board of directors, despite already meeting the requirements for resolution by the board of directors, with plans to appoint external experts from various fields as members of the board in terms of diversity, expertise, and independence.

2022 Performance

The board of directors is HANA Micron's highest permanent decision-making body and consists of four directors and one auditor, including three inside directors (full-time) and one outside director (part-time) as of March 2023.



Composition of the Board of Directors

Classification	Name	Gender	Key Career and Positions	Expertise
Inside director	Dong-cheol Lee	M	Semiconductor Division Head (Executive Director), Samsung Japan Current) President and CEO, HANA Micron Inc. Chairman of the Board	Management
	Gil-baek Kim*	M	Head of Semiconductor Technology/QE Group, Samsung Electronics Current) Vice President, COO, HANA Micron Inc.	Management
	Sang-muk Park	M	Current) Executive Director of Business Management Team, HANA Micron Inc.	Finance
Outside director *	Hojeong Jang (resigned)	M	Current) Director of Advanced Materials Technology Research Institute, Dankook University Current) Professor, Dankook University Department of Electrical Engineering	Semiconductor
	Seung-bu Jung (appointed)	M	President, the Korean Microelectronics and Packaging Society Current) Professor, Dept of Materials Science and Engineering, Sungkyunkwan University	Semiconductor
Auditor	Jae-geun Ahn	M	Head of HR (Executive Director), Samsung Electronics Semiconductor Head of Samsung Electronics Suwon Support Center (Vice President)	

* 2023.3.30. At the regular shareholders' meeting, Gil-baek Kim was reappointed as inside director and Ho-jeong Jang was replaced as Seung-bu Jeong as outside director.

Board of Directors

HANA Micron's board of directors holds regular quarterly board meetings and temporary board meetings when necessary and promotes sustainable growth by reviewing and analyzing strategies and key issues related to the environment, society, and governance. Matters discussed by the Board of Directors over the past three years include 'Establishment of overseas entities and fundings,' 'health and safety management plan,' and 'measures for hedging foreign exchange risk.'

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Board of Directors

Independence and Expertise of the Board of Directors

HANA Micron has a board of directors that reflects the views of various stakeholders with no conflict of interest. According to the Company's articles of association, directors with a special interest in the agenda are prevented from exercising their voting rights, creating a basis for independent judgment by the board of directors.

HANA Micron does not have a separate support organization within the Company to assist outside directors in performing their duties. However, the Company supports the business management team to perform professional duties, provides materials in advance so that the contents of the agenda can be sufficiently reviewed before the board meeting, and holds separate briefing sessions if necessary. Also, the Company participates in ESG-related CEO training, such as the Severe Accident Punishment Act, internal accounting management system, and compliance management. The outside director, newly appointed in March 2023, has the expertise of an expert in the industry.

Outside Director Appointment Process

Although the Company does not have a separate outside director candidate recommendation committee, it complies with the requirements for appointing outside directors under the Commercial Act. Outside directors do not have a special relationship with major shareholders, management, or affiliates. Candidates who meet the relevant laws are recommended by the board of directors and appointed at the general shareholders' meeting. All directors abide by commercial laws, monopoly regulations, and fair trade laws to prevent conflicts of interest with the Company. For the expertise and diversity of the board of directors, the Company does not discriminate against or limit directors based on age, gender, educational background, or region of origin when appointing or evaluating directors.

Board of Directors

		Unit	2020	2021	2022
Independence	Percentage of outside directors in the board	Person (%)	1(25%)	1(25%)	1(25%)
	Expertise				
	Director with industry experience	Person (%)	3(75%)	3(75%)	3(75%)
	Financial expert	Person (%)	1(25%)	1(25%)	1(25%)
Efficiency	Average tenure	Year	3.0	4.0	5.0
	Attendance rate	%	100	100	100
Meeting	No. of meetings held	Time	12	21	25
Report and resolution	No. of reported issues	Case	4	4	4
	No. of resolutions	Case	17	26	29
Opinion by agenda	Assent	%	100	100	100
	Dissent	%	0	0	0
	Amend	%	0	0	0
	Abstain	%	0	0	0

Board Responsibilities

HANA Micron does not subscribe to executive liability insurance, but its articles of incorporation stipulate director responsibility regulations.

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Board of Directors

Auditor

HANA Micron serves a full-time audit system with less than KRW 2 trillion in total assets. Currently, there is only one auditor with audit rights for accounting and business guaranteed in the articles of association. The business management team assists with the auditing duties and has conducted training on changes to the internal accounting management system.

Board Evaluation and Compensation

HANA Micron conducts regular in-company evaluations of inside directors while performing a comprehensive internal assessment for outside directors of whether they provide appropriate advice on major business decisions as experts in the industry and whether they are proactive. The evaluation results are thoroughly reflected in the reappointment decision after the three-year term.

As for remuneration for registered directors, the Company pays the base salary according to the delegation contract based on the executive remuneration table, which is determined by comprehensively considering the position, delegated duties, and years of service, along with holiday bonuses and incentives depending on the achievement of management performance. The maximum amount of remuneration is determined at the general shareholders' meeting to strengthen compensation transparency and meet the requirements for legitimacy. The payment of severance pay follows the regulations on severance pay for executives approved at the general shareholders' meeting. The Company transparently discloses the limit of approved remuneration and the payment status in the business report. The 2022 general shareholders' meeting approved the annual director remuneration limit of KRW 4.5 billion (including audit). Outside directors are paid within the limit of director remuneration approved at the shareholders' meeting in consideration of the transparency and fairness of their roles.

Board of Directors Remuneration Payment Status

Classification	Unit	Total Remuneration	Average Remuneration per Person	Person
Registered director	KRW million	1,010	337	3
Outside director	KRW million	20	20	1
Auditor	KRW million	131	131	1

Shareholders and Dividend Status

HANA Micron is a KOSDAQ-listed corporation with 13,374,796 issued shares as of the end of 2022, and the largest shareholder is Choi Chang-ho, with a 16.58% stake. To enhance the convenience of shareholders in exercising their voting rights, the Company introduced an electronic voting system in March 2018 so that shareholders can exercise their voting rights without time and place restrictions. The Company determines dividends by considering business conditions. The Company decides to pay dividends and the amount according to the internal dividend policy if there is a need for dividends. When the decision on dividends is made, the Company announces the decision, informs shareholders, and sends dividend notices to shareholders.

		2020	2021	2022
Activation of voting rights	Introduction of electronic voting system	Y	Y	Y
Protection of shareholder rights	Notice of agenda prior to general shareholders' meeting	Y	Y	Y
	Disclosure of dividend policy	Y	Y	Y

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Ethical Management and Compliance

Strategy

Ethical management is a management activity that fulfills responsibility for stakeholder value creation and sustainable growth through transparent management practices.

HANA Micron has a code of ethics and practice guidelines that serve as standards for all members' behavior and value judgment and strives to establish transparent and fair trade relationships through the code of conduct for suppliers. To this end, the management expresses its will to practice ethical management through executive messages and conducts ethics training for all members, including employees and suppliers. The Company presents standards for self-determination of ethical management by preparing the principles for decision-making and behavioral judgment in the ethical code of practice guideline with an unethical behavior reporting system to provide institutional support for practical ethical management.

Principles for Decision Making and Behavioral Judgment



Target

The pledge to practice ethical management will be extended to all Company members to solidify their will to participate. The Company conducts fair trade and anti-corruption training every year for business-related personnel to contribute to developing a fair society without corruption by improving the fairness and reliability of transactions such as anti-corruption and fair competition, with a plan to expand to key positions in the future.

2022 Performance

Ethical Management Efforts

		Unit	2020	2021	2022
Ethics education	Training hours per person	Hour	1	1	1
	Completion rate	%	100	100	100
	Supplier code of conduct pledge	Y/N	N	Y	Y
Fair trade and anti-corruption education (Relevant persons)	Training hours per person	Hour	1	2	1
	Completion rate	%	100	100	100

Ethics Management Consulting and Reporting

HANA Micron runs various reporting methods such as email, phone, and SNS so that stakeholders, such as employees, suppliers, and customers, can freely report unfair transactions, bribery, and violations of laws related to the Company's business activities. The Company guarantees the anonymity of informants through the code of ethics and helps practice ethical management by allowing all employees to consult with the relevant department on questions regarding the code of ethics based on the principles of decision-making and behavioral judgment.

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Ethical Management and Compliance

Whistle-Blowing Process



Compliance Reinforcement Activities

HANA Micron newly enacted regulation management and compliance evaluation regulations in July 2022. Compliance evaluation items include laws and regulations related to the environment, safety, and health, such as the Occupational Health and Safety Act, Rules on Industrial Safety and Health Standards, Act on Installation, Maintenance and Safety Management of Fire Protection Facilities, Waste Management Act, Chemical Substances Control Act, Act on Registration and Evaluation of Chemical Substances, etc. After the review by the ESG Group on applicable laws and regulations, the department in each field establishes and carries out implementation plans and conducts self-inspection semi-annually.

The Company derives improvement tasks through the inspection results and improves the level of compliance management practice of executives and employees. Since 2020, there have been no violations of the law.

Fair Trade Practice

HANA Micron has established and complies with the relevant regulations in the Code of Ethics and Guidelines for Practice of the Code of Ethics to ensure fair competition and autonomous transactions. The Company also strives to raise awareness so that transparent and fair trade can be achieved based on knowledge of relevant laws via continuous education to ensure that fair trade is established and practiced.

Since 2020, there have been no reports on ethical management or violations of the Code of Conduct.



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Risk Management


Strategy

To effectively respond to changes in the business environment, HANA Micron identifies financial and non-financial risks, analyzes their impact, and establishes preemptive response plans to conduct enterprise-wide risk management. The Company secures the basis for sustainable growth by setting and managing risk levels to meet the Company's management strategy and objectives.

2022 Performance

Risk Management Governance

HANA Micron has established a crisis response policy with the CEO as the chief crisis manager and the business management team as the risk management supervisor.

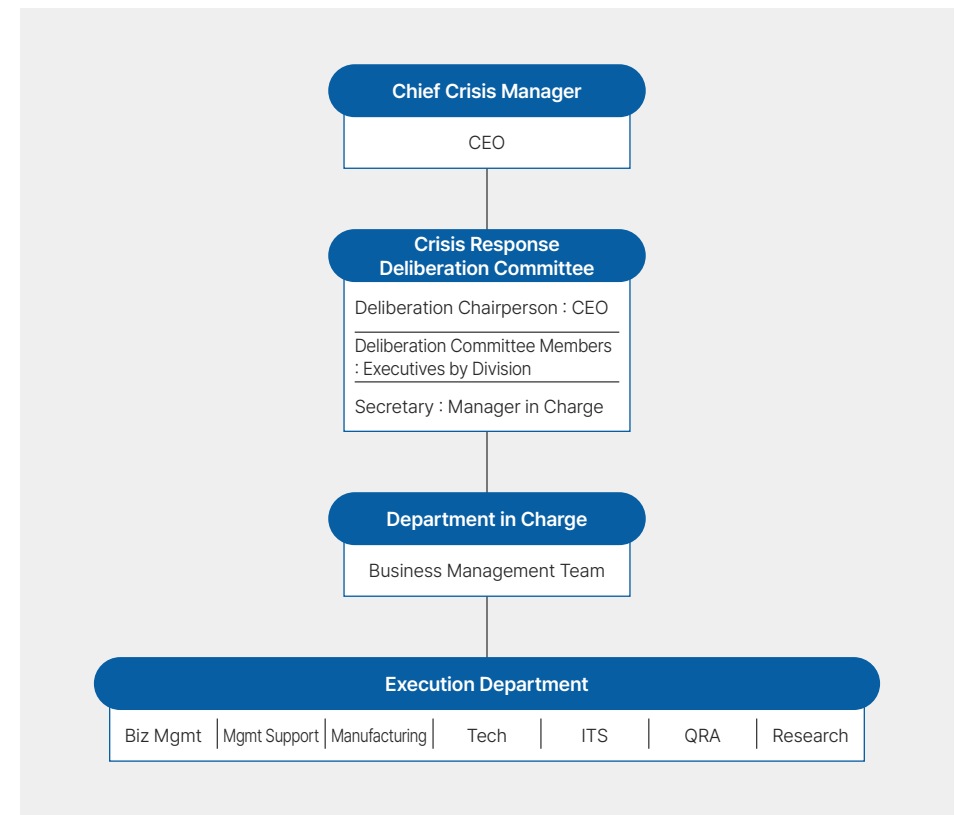


Crisis Response Policy

Pursue prompt and transparent disclosure of information for immediate top-level decision-making and secure a crisis management manual to prepare various detailed contingency plans and countermeasures for internal and external use to formulate appropriate responses in a crisis.

In a crisis, a "Crisis Response Deliberation Committee" is formed with the CEO as the deliberation chairperson, the executive in each division as the deliberation committee member, and the deliberation committee secretary as a manager in charge. After reviewing the situation, the Deliberation Committee decides on the direction of establishing crisis response plans for each sector, and each department head is in charge of the execution department. Department-specific response plans are set depending on the Crisis Response Deliberation Committee results.

In particular, significant issues such as human rights, environment, and safety are reported to the board of directors. The Company operates a professional risk management process by utilizing external advisory processes such as labor attorneys, lawyers, and safety associations.



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Risk Management

Risk Management Process

HANA Micron's risk management process consists of risk definition, risk assessment, risk response, risk monitoring and reporting and sets risk priorities and executes effective responses in each sector.



Risk Assessment

HANA Micron determines the risk grade by quantifying the risk index according to the degree of risk impact and difficulty of risk measures for each department. The Company convenes and reports to the Review Committee according to the risk level and responds by establishing detailed countermeasure guidelines for each risk level.

► Risk Impact

Establishment of standards by level reflecting the characteristics of finance, HR, environment, quality and customer response, manufacturing, technology/intellectual assets, and IT system departments.

| Risk Impact Level by Department |

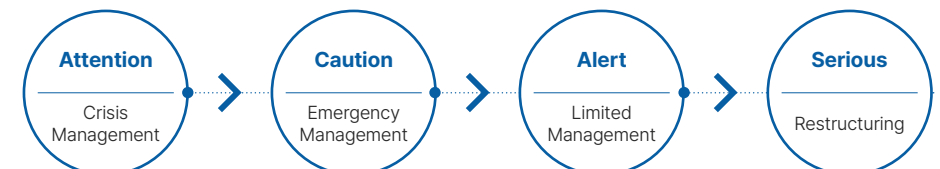


► Risk Action Difficulty

Establishment of standards from Levels 1 to 10 according to the period during which risks can be converted into positive impacts and the level of risk containment.

► Risk Index

The risk index is calculated as the product of risk impact and risk action difficulty and is divided into four stages according to the score.



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Operation of Internal Accounting Control System

HANA Micron prepares and discloses reliable accounting information through an internal accounting control system. The internal accounting control system is based on the 'conceptual system for designing and operating the internal accounting control system' prepared by the Internal Accounting Control System Steering Committee and is effectively run by using the 'Exemplary Standards for Internal Accounting Control System Evaluation and Reporting' as the evaluation standard.

The Company complies with the Act on External Audit of Stock Companies by designating an internal accounting manager responsible for managing and operating the internal accounting control system and annually reports the objective adequacy of its operation to shareholders, the board of directors, and auditors through the service of an accounting firm.

Tax Management

HANA Micron manages tax risks through faithful tax payment and legal compliance to fulfill tax reporting and payment obligations stipulated by law. In addition, the Company faithfully serves various responsibilities, including tax obligations required by domestic and foreign tax laws and related regulations.

Financial Risk Management

Financial risk is a monetary risk divided into currency, credit, and liquidity risks. Considering the volatile and unpredictable economic flow, HANA Micron has established and operates a risk management policy that focuses on minimizing potential risks in line with business attributes.



To reduce fluctuations in management performance due to exchange rates, the Company manages them through dedicated personnel based on the 'Foreign Exchange Management Regulations' and conducts risk management strategies according to causes such as operation, finance, and investment.



It refers to the financial risk exposure when the counterparty to a transaction does not fulfill its contractual obligations. To respond to credit risk, the Company manages tasks such as the collection of receivables and settlement of bad debts and has internal policies that reflect evaluation ratings of external agencies, securing collateral, and insurance coverage to improve transaction safety.



The Company predicts cash flow based on required funds and monitors the financial market to identify and manage the appropriate level of liquidity at all times. It preemptively manages liquidity in consideration of market volatility.

Compliance Risk

Non-compliance with domestic and foreign laws and policies significantly impacts corporate management, resulting in administrative and judicial penalties and damage to reputation. HANA Micron constantly monitors the latest domestic and international regulatory trends and the external environment to respond to the growing importance of compliance risk management. In addition, the Company prepares ethical management and anti-corruption policies and conducts related training so that compliance risk management can be established within the organization and function during daily business operations.

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Summarized Consolidated Financial Information

(Unit : KRW 1,000)

Account	22 nd term (Dec 31, 2022)	21 st term (Dec 31, 2021)	20 th term (Dec 31, 2020)
Current assets	383,477,864	330,074,313	217,891,126
· Cash and cash equivalents	100,683,159	123,077,706	53,779,287
· Short -term financial instruments	2,284,659	10,921,493	9,596,465
· Account receivables and other receivables	82,770,349	75,587,273	56,137,356
· Inventories	182,894,202	105,773,554	79,345,185
· Other current assets	14,845,495	14,714,286	19,032,832
Non-current assets	1,025,570,931	720,965,583	546,936,108
· Tangible assets	807,665,219	610,524,154	497,370,588
· Intangible assets	20,939,321	18,914,288	17,174,690
· Investment assets	175,587,199	78,392,484	8,633,297
· Assets held for sale	1,097,350	-	1,900,000
· Other non-current assets	20,281,843	13,134,657	21,857,533
Total assets	1,409,048,795	1,051,039,896	764,827,234
Current liabilities	442,084,131	339,179,846	300,775,157
Non-current liabilities	478,749,144	263,448,024	217,312,981
Total liabilities	920,833,275	602,627,870	518,088,138
Controlling interest	264,109,940	274,870,984	137,891,099
· Capital	23,960,927	23,960,927	15,332,712
· Other paid-in capital	140,140,631	210,660,027	127,020,963
· Other components of equity	23,117,370	18,275,031	16,786,580
· Retained earnings	76,891,012	21,974,999	(21,249,156)
Non-controlling interest	224,105,580	173,541,042	108,847,997
Total shareholders' equity	488,215,520	448,412,027	246,739,096
Total liabilities and equity	1,409,048,795	1,051,039,896	764,827,234

(Unit : KRW 1,000)

Account	22 nd term	21 st term	20 th term
Sales	894,395,892	669,511,962	539,460,193
Operating income	103,548,272	104,938,650	51,011,650
Income before income tax (loss)	90,660,181	91,321,279	11,283,328
Not income (loss)	58,230,572	67,157,828	3,632,689
Controlling interest	2,830,148	25,654,574	(16,703,484)
Non-controlling interest	55,400,423	41,503,253	20,336,173
Other comprehensive income (loss)	8,033,417	10,993,766	(5,603,976)
Total comprehensive income	66,263,989	78,151,594	(1,971,287)
Controlling interest	9,796,316	35,732,674	(21,927,748)
Non-controlling interest	56,467,673	42,418,920	19,956,461
EPS for controlling interest (KRW)	66	687	(506)
No. of companies included in the consolidation	12	12	10

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Summarized Separate Financial Information

(Unit : KRW 1,000)

Account	22 nd term (Dec 31, 2022)	21 st term (Dec 31, 2021)	20 th term (Dec 31, 2020)
Current assets	261,639,321	139,890,686	122,414,061
· Cash and cash equivalents	26,842,043	29,367,274	1,345,815
· Short -term financial instruments	373,749	7,413,500	7,145,132
· Account receivables and other receivables	185,479,533	65,063,383	68,005,517
· Inventories	40,888,053	29,139,563	30,642,937
· Other current assets	8,055,942	8,906,965	15,274,660
Non-current assets	685,068,608	568,215,297	357,592,291
· Tangible assets	288,566,988	293,979,414	217,023,527
· Intangible assets	5,101,219	1,065,187	1,152,832
· Investment securities in subsidiary and jointly controlled entity	237,147,801	188,615,639	69,748,725
· Investment assets	59,658,569	42,089,213	2,493,397
· Assets held for sale	1,097,350	-	-
· Other non-current assets	93,496,680	42,465,843	67,173,810
Total assets	946,707,929	708,105,982	480,006,352
Current liabilities	315,209,546	195,102,412	193,370,022
Non-current liabilities	273,640,802	179,871,184	137,041,335
Total liabilities	588,850,348	374,973,596	330,411,357
Capital	23,960,927	23,960,927	15,332,711
Other paid-in capital	212,719,541	262,160,497	121,444,678
Other components of equity	9,760,022	3,640,498	9,766,524
Retained earnings	111,417,090	43,370,465	3,051,082
Total shareholders' equity	357,857,581	333,132,387	149,594,995
Total liabilities and equity	946,707,929	708,105,982	480,006,352

(Unit : KRW 1,000)

Account	22 nd term	21 st term	20 th term
Sales	608,136,889	368,189,486	311,271,481
Operating income	52,170,309	29,103,047	1,451,209
Income before income tax (loss)	35,157,763	31,404,790	(19,065,207)
Not income (loss)	16,537,524	21,705,134	(16,618,862)
Other comprehensive income (loss)	7,628,626	2,914,985	(7,572,628)
Total comprehensive income	24,166,150	24,620,119	(24,191,491)
EPS (KRW)	345	547	(472)

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Statement of Use	HANA Micron has reported in accordance with the GRI Standards for the Period 2022.01.01 ~ 2022.12.31				
GRI 1 used	GRI 1 : Foundation 2021				
Applicable GRI Sector Standard(s)	N/A				
GRI Standards	Category	Index No.	Indicators	Reporting Location	Remark
Universal Standards					
GRI 2 : General Disclosures 2021	Organization and reporting practices	2-1	Organization details	5-6	
		2-2	Entities included in the sustainability report within the organization	2	
		2-3	Reporting frequency and contact information	2	
		2-4	Impact and reasons for amendments to information provided in previous reports	-	Not applicable due to initial publication
		2-5	External verification	58, 59	
	Activities and employees	2-6	Activities, organization's value chain and other business relationships	7-9	
		2-7	Employees	28-29	
		2-8	Temporary workers	28	
	Governance	2-9	Governance and composition	43-44	
		2-10	Recommendation and selection of the highest decision-making body	43-44	
		2-11	Chairman of the highest decision-making body	43	
		2-12	The role of the highest governance body	43-44	
		2-13	Delegation of responsibility for impact management	43-44, 48	
		2-14	The role of the highest governance body in sustainability reporting	13	
		2-15	Conflicts of Interest	44	
		2-16	Communication on important matters	13, 43-44, 48	
		2-17	Expertise of the highest governance body	44	
		2-18	Evaluation of the performance of the highest governance body	45	
		2-19	Remuneration policy	45	
		2-20	Remuneration decision procedure	45	
		2-21	Annual total compensation rate	30	

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GRI Standards	Category	Index No.	Indicators	Reporting Location	Remark	
GRI 2 : General Disclosures 2021	Strategy, policy and execution	2-22	Statement on Sustainable Growth Strategy	4, 11-12		
		2-23	Policy declaration	12, 33, 34, 37		
		2-24	Internalization of policies that imply responsible business behavior	13, 26		
		2-25	Negative impact mitigation procedures	46-50		
		2-26	Advisory mechanism for responsible business conduct	48		
		2-27	Compliance	34, 37, 46-47		
		2-28	Membership in association	63		
		2-29	Stakeholder engagement and communication	16		
GRI 3 : Material Topics 2021	Disclosure of materiality issues	2-30	Collective agreement	28		
		3-1	Materiality assessment process	14		
		3-2	List of materiality issues	15		
GRI 3 : Material Topics 2021	Disclosure of materiality issues	3-3	Materiality issue management	14-15		
		Topic Standards				
		GRI 201 : Economic Performance 2016	Economic performance	201-1	Creation and distribution of direct economic value	52-53
201-3	Coverage of the organization's defined benefit plan obligations			30	Defined benefit retirement pension system in operation	
GRI 202 : Market Presence 2016	Market presence	202-1	Wage ratio of new employees to the local legal minimum wage at the workplace (comparison by gender)	30		
GRI 203 : Indirect Economic Impacts 2016	Indirect economic impact	203-1	Infrastructure investment and service support activities for public interest	39-40		
		203-2	Significant indirect economic spillover effects and impacts	39-40		
GRI 205 : Anti-corruption 2016	Anti-corruption	205-2	Notification and training on anti-corruption policies and procedures	46-47		
		205-3	Confirmed corruption cases and actions	47		
GRI 206 : Anti-competitive Behavior 2016	Anti-competitive behavior	206-1	Legal measures against unfair trade practices such as anti-competitive behavior and monopoly	46-47		
GRI 207 : Tax 2019	Tax	207-1	Tax approach	50		



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GRI Standards	Category	Index No.	Indicators	Reporting Location	Remark
GRI 302 : Energy 2016	Energy	302-1	Energy consumption within the organization	20	
		302-3	Energy intensity	20	
		302-4	Energy consumption reduction	22	
GRI 303 : Water and Effluents 2018	Water and effluents	303-2	Impact management of water discharge	25	
		303-5	Water usage	23	
GRI 305 : Emissions 2016	Emissions	305-1	Direct GHG emissions	20	
		305-2	Indirect GHG emissions	20	
		305-4	GHG intensity	20	
		305-7	NOx, SOx, and other important air emissions	25	
GRI 306 : Waste 2020	Waste	306-1	Waste generation and major waste-related impacts	24	
		306-3	Waste generation	24	
		306-4	Waste recycling	24	
		306-5	Waste treatment methods (incineration, landfill, etc.)	24	
GRI 308 : Supplier Environmental Assessment 2016	Supplier environmental assessment	308-1	New suppliers that have undergone environmental criteria screening	38	
		308-2	Substantially or potentially significant negative environmental impacts in the supply chain and actions taken	38	
GRI 401 : Employment 2016	Employment	401-1	New hires and turnover	29	
		401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	28, 31-32	
		401-3	Parental leave	32	
GRI 403 : Occupational Health and Safety 2018	Occupational health and safety	403-1	Health and safety management system	33-34	
		403-2	Risk discovery, risk assessment, incident investigation	33-34	
		403-3	Workplace health service	33-34	



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GRI Standards	Category	Index No.	Indicators	Reporting Location	Remark
GRI 403 : Occupational Health and Safety 2018	Occupational health and safety	403-4	Worker participation, counseling, and communication regarding health and safety at the workplace	34	
		403-5	Occupational health and safety education for workers	34	
		403-6	Worker health promotion	31	
		403-7	Prevention and effectiveness of occupational health and safety impacts directly affected by business relationships	33-34	
		403-8	Workers to whom the occupational health and safety management system is applied	34	
		403-9	Work-related injury	34	
		403-10	Work-related disease	34	
GRI 404 : Training and Education 2016	Training and education	404-1	Annual average training hours per employee	30	
		404-2	Programs for empowerment of employees and support for transition	30	
		404-3	Percentage of employees who received regular performance evaluations and career development checks	30	
GRI 405 : Diversity and Equal Opportunity 2016	Diversity and equal opportunity	405-1	Governance body and employee diversity	29	
		405-2	Basic salary and compensation ratio of women to men	30	
GRI 406 : Non-discrimination 2016	Non-discrimination	406-1	Discrimination incidents and corrective actions	37	
GRI 408 : Child Labor 2016	Child labor	408-1	Workplaces and suppliers with high risk of child labor	-	Not applicable
GRI 409 : Forced or Compulsory Labor 2016	Forced labor	409-1	Workplaces and suppliers with high risk of forced labor	-	Not applicable
GRI 411 : Rights of Indigenous Peoples 2016	Rights of indigenous peoples	411-1	Number of incidents of violations of rights of indigenous peoples and actions taken	-	Not applicable
GRI 413 : Local Communities 2016	Local communities	413-1	Percentage of community engagement, impact assessment and development program operation	39-40	
GRI 414 : Supplier Social Assessment 2016	Supplier social assessment	414-1	New suppliers screened through social impact assessment	38	
GRI 416 : Customer Health and Safety 2016	Customer health and safety	416-1	Health and safety impact assessment of product and service groups	35	



Third Party Assurance Report

Dear Stakeholders of HANA Micron

Korean Foundation for Quality (further 'KFQ') has been requested by HANA Micron to conduct an independent verification on the '2023 Sustainability Report for HANA Micron' (further 'the Report'). KFQ has responsibility to provide an independent verification opinion against the criteria and scope of assurance as specified below. HANA Micron has sole responsibility for the preparation of the Report.

Verification Criteria and Scope

- **Verification Criteria** : AA1000AS(v3) and AA1000AP (2018)
- **Verification Type** : Type 1 [Verification of compliance of 4 reporting principles]
- **Verification Level** : Moderate [Verification based on limited evidence collected]
- **Verification boundary** : Performance and reporting practices of subsidiaries, related companies, partners, and third parties outside the reporting boundaries specified in the report are not included in the scope of this assurance.
- **Verification Scope** : Compliance with the 4 reporting principles according to AA1000AP and the GRI Standards 2021 reporting requirements
 - GRI Standards (2021) Reporting Principles
 - Universal Standards

Reporting in accordance with GRI Standards (2021), compliance with the following requirements

Requirements	Compliance	Requirements	Compliance
1. Reporting principles	○	6. Provide reasons for omission	○
2. General Disclosures	○	7. Publish a GRI content index	○
3. Determine material topics	○	8. Provide a statement of use	○
4. Report the disclosures in GRI 3 : Material Topics 2021	○	9. Notify GRI	○
5. Report disclosures from the GRI Topic Standards for each material topic	○	-	-

- Topic Standards

Requirements	GRI Standards/Topic Disclosure		
Reporting material issues according to the GRI Topic Standards	<ul style="list-style-type: none"> •GRI 201 : Economic Performance •GRI 202 : Market Presence •GRI 203 : Indirect Economic Performance •GRI 205 : Anti-corruption •GRI 206 : Anti-competitive Behavior •GRI 207 : Tax 	<ul style="list-style-type: none"> •GRI 302 : Energy •GRI 303 : Water and Effluents •GRI 305 : Emissions •GRI 306 : Waste •GRI 308 : Supplier Environmental Assessment 	<ul style="list-style-type: none"> •GRI 401 : Employment •GRI 403 : Occupational Health and Safety •GRI 404 : Training and Education •GRI 405 : Diversity and Equal Opportunity •GRI 406 : Non-discrimination •GRI 408 : Child Labor •GRI 409 : Forced or Compulsory Labor •GRI 411 : Rights of Indigenous Peoples •GRI 413 : Local Communities •GRI 414 : Supplier Social Assessment •GRI 416 : Customer Health and Safety

Methodology

In order to assess the reliability of the sustainability performance in the Report against above mentioned criteria, the assessment team reviewed sustainability-related processes, systems, internal control procedures, and available performance data. The documentation the assessment team reviewed during the verification includes:

- Non-financial information e.g., data provided by HANA Micron, disclosed Business Reports, and information obtained from media and/or the internet; and
- Financial information i.e., Data disclosed in the electronic disclosure system (dart.fss.or.kr) of the Financial Supervisory Service and data posted on the homepage were used, but these contents are not included in the scope of verification.

The assessment was performed by document verification and interview the person in charge. The validity of the materiality assessment process, selected major issues, data collecting and management, and Report preparation and contents in the Report were assessed through interview with the person in charge, but external stakeholder interviews were not conducted. Afterwards, it was confirmed that some errors, inappropriate information, and unclear expressions found in the above steps were appropriately supplemented before publishing the Report.

Third Party Assurance Report

Competency and Independence

The assessment team was consisted in accordance with KFQ's internal regulations. KFQ has no conflict of interest to the HANA Micron business which could threaten the independence and impartiality of verification, other than providing third-party verification services.

Limitations

The completeness and responsiveness of sustainability performance represented in the Report have inherent limitations due to its nature and the methodology used to determine, calculate and estimate its performance. In accordance with the terms of the contract, we assessed the information and evidence provided by the HANA Micron. We did not perform any further assessment on raw data.

Findings and Conclusions

As a result of the verification, the Report was prepared in accordance with the requirements for 'in accordance with GRI standard 2021' and the assessment team found reasonable objectives to guarantee the AA1000AS(V3) Type 1 assurance level. We also found no significant errors or inadequacies in the Report regarding compliance with reporting principles.

• Inclusivity

HANA Micron defines the six stakeholder groups (shareholders and Investors, customers, local communities, partners, government, employees) and hear their opinions through the communication channels considering the characteristics of each group for effective communication. The assessment team could not find any major stakeholders that were omitted during this process, and it was confirmed that HANA Micron is making efforts to reflect the collected opinions of stakeholders in its management strategy.

• Materiality

HANA Micron is promoting enterprise-wide ESG management activities by forming an 'ESG Council' led by the ESG Group, an organization dedicated to ESG management. It has established an ESG vision and action strategy to carry out response activities in each area of environment, society, and governance, and confirmed that It intends to disclose related activities transparently.

HANA Micron finally selected 12 material subjects through a stakeholder survey among 24 material subjects derived by identifying the impacts of social & environmental materiality and financial materiality

on each other. In the survey, the negative impact that companies can have on society and the environment was deeply identified, and the justification for selecting material topics was enhanced. The assessment team confirmed that the identified material issues were dealt with heavily in this Report, and that the material issues identified in the materiality assessment process were reported in the Report without omission.

• Responsiveness

HANA Micron strives to respond in a timely manner to the needs and major concerns gathered from stakeholders. The assessment team found no evidence that the organization's response activities and performance on material issues were inappropriately reported.

• Impact

HANA Micron identifies and monitors the impact of material issues related to stakeholders throughout its management activities, and reports the contents within the scope possible. The assessment team could not find any evidence that the impact related to material issues was inappropriately measured and reported.

Recommendation for Improvement

- Although it was the first sustainability report to be published, it was a Report that stood out for HANA Micron's efforts to include various achievements related to ESG activities.
- we hope that HANA Micron reviews the definition of stakeholder groups and the validity and effectiveness of communication channels in order to collect more meaningful stakeholder opinions.
- In addition, through efforts to interpret, analyze and appropriately manage ESG-related data in various ways, we hope that stakeholders able to understand HANA Micron's ESG management performance more completely and in depth.

June, 2023, Seoul, Korea

Ji Young Song, CEO
Korean Foundation for Quality (KFQ)



GHG Emissions Assurance Report

HANA Micron Inc.

Assurance Overview

HANA Micron Inc. conducts MRV based on assurance standards such as ISO 14064 every year to fulfill the reduction target of the Kyoto Protocol. KMR confirms the 2020 assurance results of HANA Micron Inc. as follows.

Assurance Scope

- Organizational boundary and operational boundary : All workplaces and emission facilities under the operational control of the organization
- Workplace subject to assurance : Asan headquarters
- Assurance period : January 1, 2020 – December 31, 2020
- Emission source assurance scope : direct emission sources (Scope1), indirect emission sources (Scope2)
- Guarantee level : Reasonable level of assurance ($\pm 5.0\%$ of total emissions based on materiality)

Assurance Criteria

- ISO 14064-1 (2006), ISO 14064-3 (2006), WRI/WBCSD GHG Protocol (2004)
- Assurance Guidelines for Operation of GHG and Energy Target Management System (Ministry of Environment Notice No. 2016-104)
- KMR GHG and Energy Assurance Manual and Procedures, IPCC Guidelines (2006)

Assurance Results

GHG Emissions	Direct Emissions (Scope1)	Indirect Emissions (Scope2)	Total (Unit : tCO ₂ -eq)	
2020	1,788	28,461	30,249	
Energy Consumption	Fuel Consumption	Electricity Consumption	Steam Consumption	Total (Unit : TJ)
2020	34	586	0	619

Note 1) GHG : CO₂, CH₄, N₂O, HFCs, SF₆

Note 2) 1tCO₂-eq : The global warming effect of 1 ton of carbon dioxide or other GHGs equivalent to 1 ton of carbon dioxide

Assurance Opinion

It has been confirmed that the calculation of GHG emissions and energy consumption of the above organization in 2020 is appropriate.

March 17, 2021

CEO of Korea Management Registrar

함우주

GHG Emissions Assurance Statement

HANA Micron Inc.

Korea Management Registrar Inc. verified the 2021 GHG emissions of HANA Micron Inc. (Scope1, 2).

Assurance Scope

Assurance for all workplaces and emission facilities under the operational control of HANA Micron Inc.

Assurance Criteria

- ISO 14064-1:2006, ISO 14064-3:2006
- WRI/WBCSD GHG Protocol
- IPCC Guidelines for National Greenhouse Gas Inventories (2006)
- Operation Guidelines for Reporting and Certification of Emissions in the Greenhouse Gas Emissions Trading System

Limitations of Assurance

Assurance has inherent limitations that may arise in the process of applying criteria and methods.

Assurance Opinion

- According to assurance criteria, we verified greenhouse gas emissions to meet reasonable verification levels.
- We state that no significant errors have been found in the calculation of emissions during the assurance process and that relevant activity data and evidence were appropriately managed and calculated. We present an “unqualified opinion as a result.
- Importance : Meeting the criteria of less than 5%

(Unit : tCO₂-eq/yr)

GHG Emissions	Direct Emissions (Scope1)	Indirect Emissions (Scope2)	Total (tCO ₂ -eq)	
2021	1,720	31,639	33,359	
Energy Consumption	Fuel	Electricity	Steam	Total (TJ)
2021	32	658	3	693

* Scope 1 and Scope 2 emissions are figures submitted to the Ministry of Environment

May 10, 2023

(주)한국경영인증원 

GHG Emissions Assurance Statement

HANA Micron Inc.

Korea Management Registrar Inc. verified the 2022 GHG emissions of HANA Micron Inc. (Scope1, 2).

Assurance Scope

Assurance for all workplaces and emission facilities under the operational control of HANA Micron Inc.

Assurance Criteria

- ISO 14064-1:2006, ISO 14064-3:2006
- WRI/WBCSD GHG Protocol
- IPCC Guidelines for National Greenhouse Gas Inventories (2006)
- Operation Guidelines for Reporting and Certification of Emissions in the Greenhouse Gas Emissions Trading System

Limitations of Assurance

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Assurance Opinion

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- Importance : Meeting the criteria of less than 5%

(Unit : tCO₂-eq/yr)

GHG Emissions	Direct Emissions (Scope1)	Indirect Emissions (Scope2)	Total (tCO ₂ -eq)	
2022	1,831	38,068	39,899	
Energy Consumption	Fuel	Electricity	Steam	Total (TJ)
2022	35	793	3	830

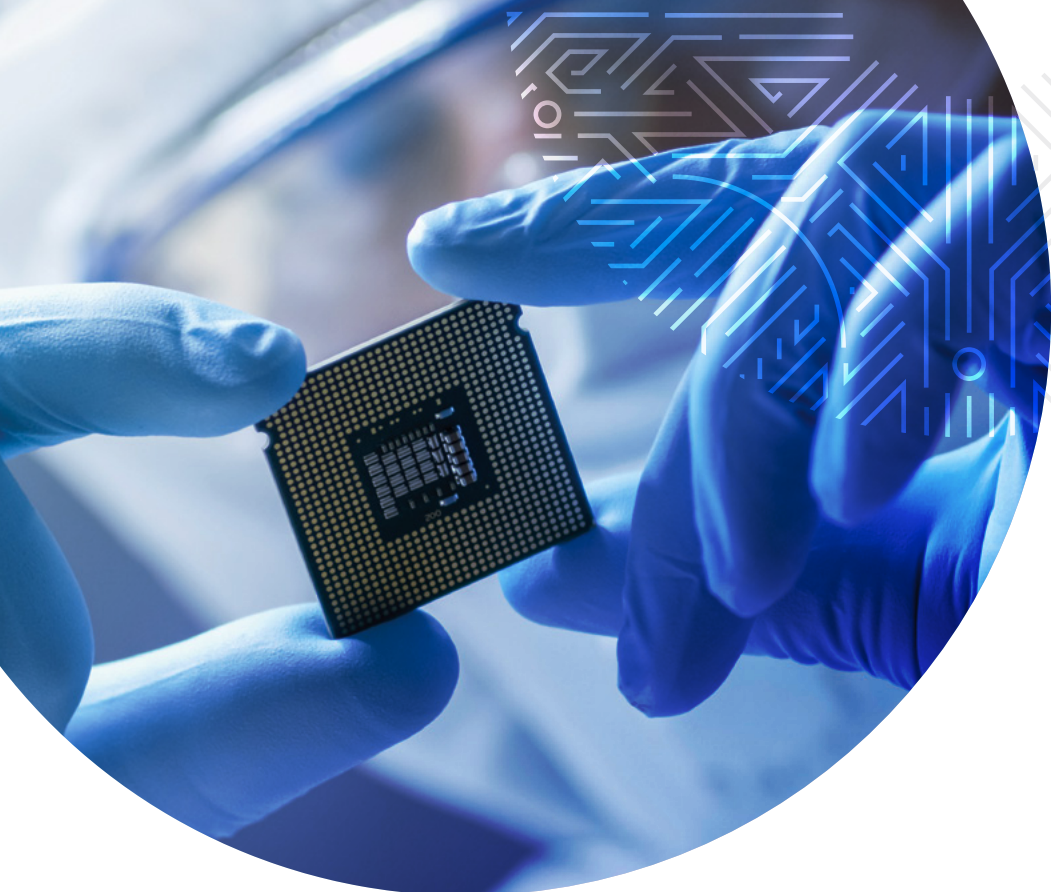
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May 10, 2023

(주)한국경영인증원 

Membership Organization Status





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