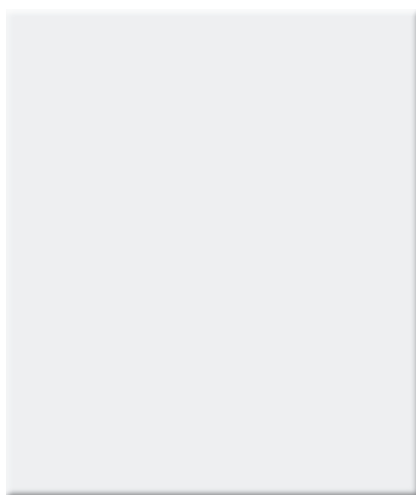


2024 HANSOL GROUP SUSTAINABILITY REPORT

2024 HANSOL GROUP SUSTAINABILITY REPORT



About this Report

This is Hansol Group's 4th Sustainability Report following the first publication in 2020. The purpose of this Report is to disclose information on the impact of our environmental, social and governance activities and sustainability-related activities. Our goal is to actively engage with stakeholders and integrate their feedback into our business management.

Reporting Period	The Report covers the financial and non-financial performance of Hansol Group's key sustainability management activities from Jan.1 to Dec. 31, 2023, while some data reflect activities carried out in the first half of 2024. We included the recent three years of quantitative data from Jan. 1, 2021 to Dec. 31, 2023 to demonstrate changing trends and for consistency of disclosure.
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Scope and Boundaries	The scope of this Report includes the sustainability management activities of Hansol Group., comprising Hansol Holdings and ten affiliates, and their outcomes. Financial data is limited to the consolidated financial statements of Hansol Holdings in accordance with the Korean International Financial Reporting Standards (K-IFRS).
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Reporting Principles and Standards	This Report adheres to the Global Reporting Initiative (GRI) Standards, the international reporting guidelines for sustainability management, and includes indicators from the Sustainability Accounting Standards Board (SASB) and United Nations Sustainable Development Goals (UN SDGs).
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Report Assurance	The financial information contained in the Report has been verified by EY Korea, a professional sustainability report assurance provider. Non-financial data have been verified by the Korea Management Registrar (KMR), an independent, third-party institution, to ensure objectivity and reliability of the contents of this Report.
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Inquires about the Report	For inquiries related to the Report, please reach out using the contact information below. This Report has been issued on June 25, 2024.
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CEO Message



Dear Respected Stakeholders

I would like to express my sincere gratitude to all of you for your unwavering support and encouragement for Hansol Holdings.

The year 2023 was an extremely difficult one, with heated competition within the industry and heightened uncertainty of winning contracts amid omni-directional economic recession. However, on one hand, the crisis presented an opportunity to look back on the competitiveness of our business portfolio and identify shortcomings. We were also able to think deeply about the path toward achieving sustainable growth.

2024 is a year of transformation for Hansol Group to drive long-term growth. We will continue to pursue new values for business management based on a customer-centric mindset and promote long-term growth as a result. In addition, we will strive to gain trust and respect from customers and stakeholders by contributing to society.

To that end, we are carrying out various activities to establish an advanced governance structure and a system for transparent business management.

We have strengthened our responsibility by constructing a comprehensive company-wide risk management system, including non-financial risks throughout 2023, and reporting it to the Board of Directors. Furthermore, we preemptively responded to the request of internal and external stakeholders by reporting key ESG issues concerning the group to the Board. In 2024, we continued to implement shareholder-friendly policies, such as making a decision to repurchase KRW 3 billion of our own shares and implementing our dividend plan in good faith.

In addition, we put our focus on promoting ESG management efforts to achieve carbon neutrality and respond to climate change. Our affiliates established and stayed compliant with the “Environment Management System,” which is founded on ISO 14001, an environmental management system certification. Affiliates in the manufacturing sector have created a roadmap to achieve carbon neutrality. Hansol Group remains committed to making investments in development of eco-friendly materials and products, establishing a recycling ecosystem, and developing a sustainable business portfolio.

We are leading ESG-management activities for shared growth with various stakeholders and the local community. We also pursue safety and health management based on ISO 45001, an international certification standard in health and safety management and the International Safety Rating System (ISRS). As a result, we reduced the number of accidents by approximately 60 percent year-on-year in 2023. Additionally, our main affiliates led efforts to contribute to the development of the local community and shared growth with local residents by laying the foundation for human rights protection of all stakeholders through human rights management and a three year roadmap, and conducting various CSR activities.

Hansol Holdings is dedicated to becoming a company trusted by stakeholders through sustainable management. We sincerely appreciate your attention and support in our sustainable growth.

Thank you!

CEO of Hansol Holdings
Lee Myung-gil

Hansol Holdings at a Glance

Hansol Holdings is dedicated to discovering and cultivating new corporate values for the upcoming era. As the holding company of Hansol Group, we aim to identify new roles for the sustainable growth of our affiliates, strengthen competitiveness, and create synergy. In addition, Hansol Holdings achieves sustainable management by promoting Hansol's brand value, diversifying our business portfolio, and optimizing resource allocation. We also demonstrate leadership in recognition of the importance of ESG responsibilities, such as identifying new business opportunities and providing management consulting services to affiliates. Hansol Holdings will continue to develop a business model that gives Hansol Group a competitive edge, and enhance corporate value by leading sustainability management.

Company Information

Date of Establishment

January 1965

ESG Rating

A

(Korea Institute of Corporate Governance and Sustainability [KCGSI])

Key Business Areas

Business consulting, investment and asset management, brand management, etc.

Grade-A for four consecutive years



2023 Financial Performance (As of December 2023, based on standalone financial statements)

Total assets

KRW **464.2** billion

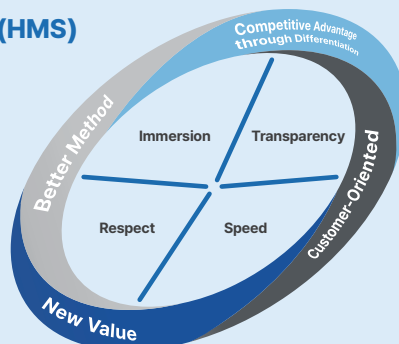
Sales

KRW **34.6** billion

Operating Income

KRW **15.3** billion

Hansol Management System(HMS)



Our Mission

We aim to secure a competitive advantage through differentiation, maximize values, and seek continuous growth together with customers

Our Principles

- We prioritize our customers
- New values shape the future
- 'A better method' is our philosophy
- Our survival depends on gaining and maintaining a differentiated competitive advantage

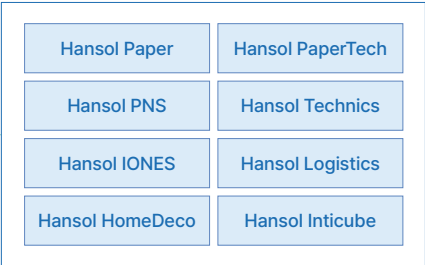


Hansol Group

Holding Company



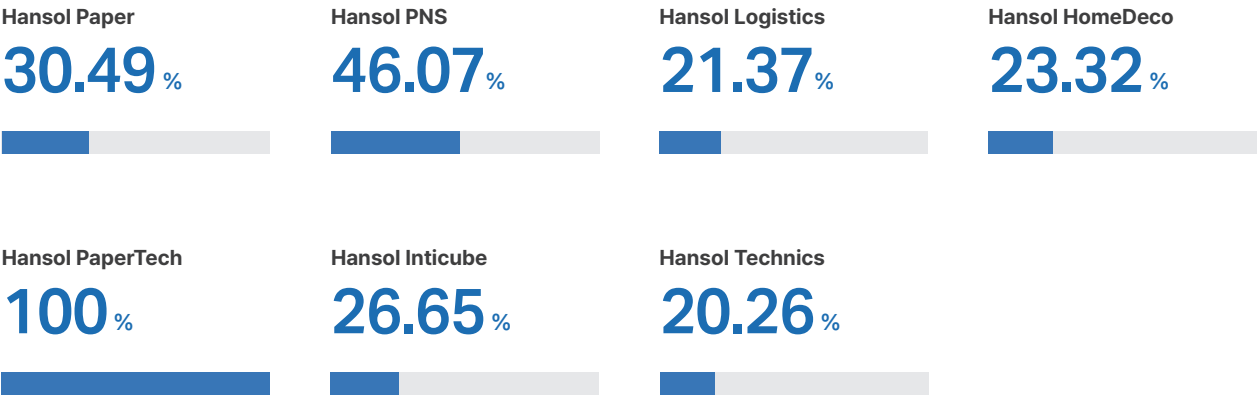
Subsidiaries



Affiliates



Hansol Holdings Shareholding Structure (As of December 2023)



History

Since its founding as a paper manufacturer in 1965, Hansol has provided services to customers in various fields such as electrical/electronics, chemicals, logistics, IT, and semiconductors. The past 60 years have been a journey full of consistently pushing our boundaries and pioneering new ideas for the future. The expertise and experience gained throughout the journey are key to our unwavering commitment to becoming a global company with unparalleled competitiveness and expertise based on innovation and adaptation to new surroundings.

1965

- Establishment of Saehan Paper
- Samsung Group's acquisition of Saehan Paper

1968

- Saehan Paper was renamed as Jeonju Paper



1972

- Became the first Samsung Group affiliate to be listed on the Korea Stock Exchange

1979

- Established the industry's first paper research center



1981

- Achieved 1 million tons of paper production for the first time in Korea

1982

- Reached 10,000ha of forestry for the first time in its industry

1987

- Developed thermal paper for the first time in Korea



1991

- Separated from Samsung Group and became independent
- Founding of Hansol HomeDeco

1992

- Founding of Hansol Chemicals
- Completed construction of Hansol Paper Janghang Plant

1995

- Founding of Hansol Cultural Establishment
- Completed construction of Hansol Paper Daejeon Plant
- Completed construction of Hansol HomeDeco Iksan Plant
- Founding of Hansol Technics, Hansol Telecom (currently named Hansol PNS)
- Hansol Development developed Oak Valley, the largest resort in Korea

1996

- Completed construction of Hansol Technics Jincheon Plant
- Hansol HomeDeco entered New Zealand's forestry business

1997

- Hansol HomeDeco launched laminated flooring Chammaru



1960

1970

1980

1990

2000

- Hansol Logistics launched its global logistics platform business
- Hansol Paper declared its vision to become the best paper manufacturer in Asia

2001

- Hansol Logistics developed the world's first smart delivery system

2002

- Hansol Group appointed Cho Dong-gil as the Chairman

2005

- Vision declaration ceremony in celebration of the group's 40th anniversary

2007

- Hansol Paper obtained the Forest Stewardship Council(FSC) certification

2008

- Hansol PNS acquired Hansol Inticube

2009

- Hansol Paper became the 4th largest printing paper manufacturer in Asia

**2011**

- Acquisition of Hansol PaperTech

2012

- Establishment of Hansol Chemical's overseas branch office in China (Hansol Electronics)

2013

- Opened Museum SAN

2014

- Hansol Chemical became the world's first mass producer of QD

2015

- Hansol Group launched its holding company structure and established Hansol Holdings
- Introduced the HMS
- Hansol Technics entered the electronics manufacturing services (EMS) business

2016

- Hansol Chemical acquired Tapex

2019

- Hansol HomeDeco launched a branch office in Vietnam

**2020**

- Launched Hansol V-Frontiers

2021

- Hansol Logistics acquired Eastern Logistics
- Hansol PNS acquired Coever I&T
- Hansol PNS acquired BS
- Hansol Intiube acquired Stickus Corporation

2022

- Hansol Paper acquired SungwooEnvi Tech
- Hansol Paper issued ESG bonds
- Hansol Technics acquired IONES
- Hansol Logistics acquired Moonlogis
- MODU VHOM's spinoff from Hansol HomeDeco

2023

- Hansol Paper won first place in Most Admired Companies (paper category) for 20 consecutive years
- Hansol Group designated as a corporate group subject to public disclosure

**2024**

- Hansol Technics became the first overseas business to win the 2024 Disaster Prevention and Mitigation Award, held in Japan
- Hansol Paper signed a business agreement for creating a resource circulation system for sterilization packs
- Hansol Holdings increased its share of Hansol Logistics



2000

2010

2020

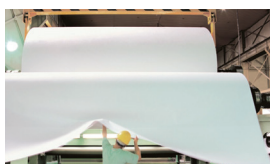
2024

Group Business Portfolio



Hansol Hansol Paper

Hansol Paper is the largest and only comprehensive paper company in Korea that has contributed to the cultural and national development of the country since its foundation in 1965. The company produces printing paper, industrial paper, special purpose paper, thermal paper, and different types of paper at four base plants in Janghang, Daejeon, Cheonan, and Shintanjin, respectively, and elevates brand value through continuous research and development and excellent customer service. In 2015, Hansol Paper became an independent company through a spin-off from Hansol Holdings, which focuses on investment, to secure expertise as a paper business and for transparent governance. Furthermore, Hansol Paper continues to grow as a global paper company by focusing on high-value added and technology intensive, high-tech paper materials and expanding its network across the global market. The recent merger with Hansol EME has laid the foundation for business diversification in the environmental field and resource recycling, and sustainable growth.

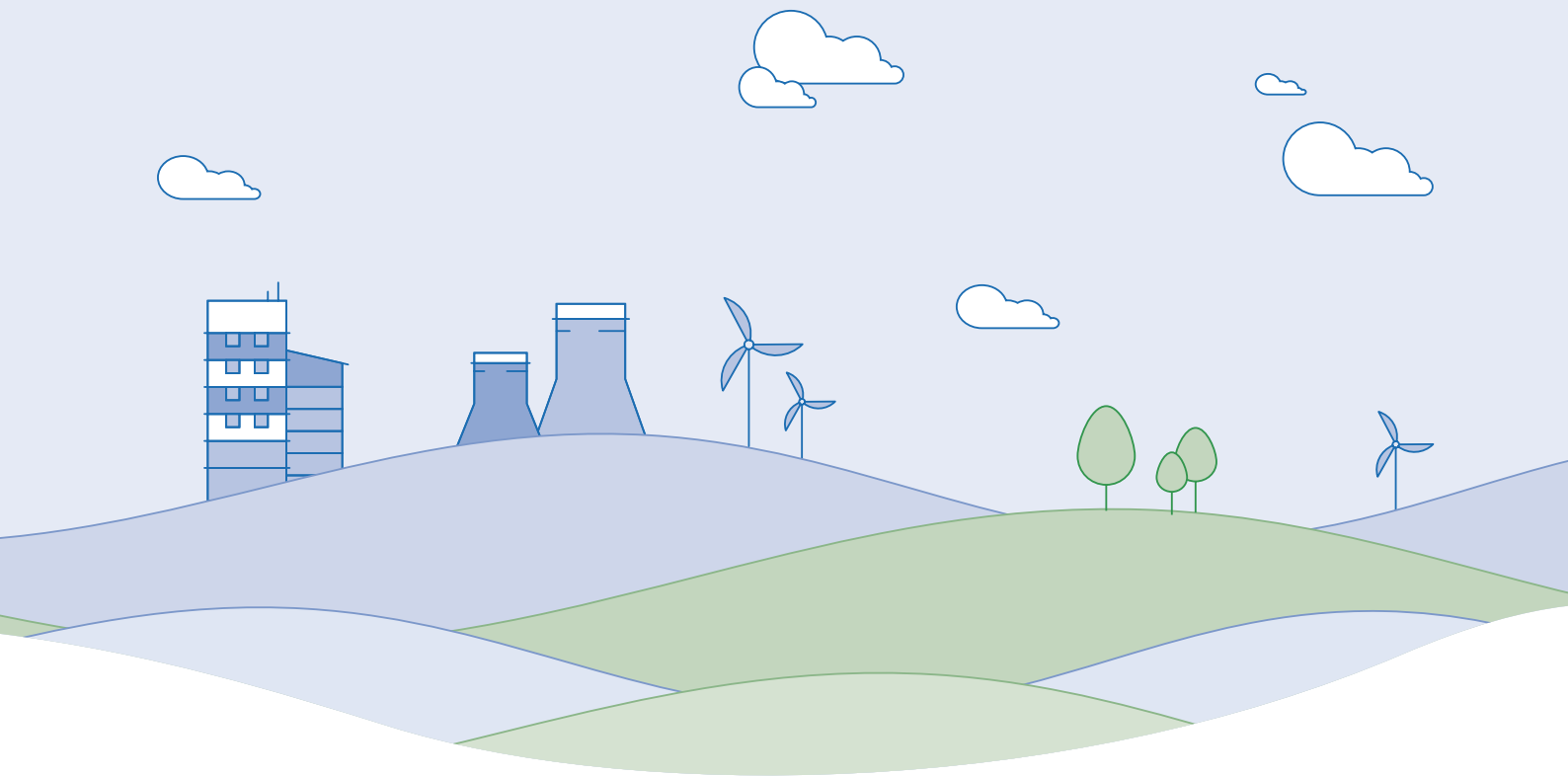


Date of Establishment	January 2015
Headquarters	100 Eulji-ro, Jung-gu, Seoul, Republic of Korea 23 ~ 24/F, Pine Avenue Building B
Business Areas	Paper Production of printing paper, industrial paper, special purpose paper, and thermal paper / Environment: EPC (Engineering, Procurement, Construction) and O&M (Operation and Management)
Credit Rating	A(NICE Investors Service, same as below)
ESG Rating	A(KCGS, same as below)

Sales	(Unit: KRW million)
2021	1,834,224
2022	2,457,953
2023	2,194,103

* Based on consolidated financial statement

* Credit Rating and ESG Rating based on 2023



Hansol

Hansol PaperTech

Hansol PaperTech, a leading manufacturer of corrugated cardboards, is gaining competitiveness in both the domestic and overseas markets, and is aiming to generate stable sales by expanding to the global markets, such as Southeast Asia and China. The company manufactures and exports all types of corrugated paper, including surface paper, scrap paper and fluting paper. Corrugated cardboard has exceptional shock-absorbing qualities, keeping products contained safe from external shock. As a result, it is extensively used for producing boxes for industrial or agricultural goods, including parcels, electronic items, and general industrial packaging. HansolPaperTech aims to maintain stable materials supply and sales based on sustainable partnerships, and remains dedicated to realizing customer satisfaction as a high-quality corrugated product manufacturer.



Date of Establishment	February 2000
Headquarters	80 Daechi 7-gil, Daejeon-myeon, Damyang-gun, Jeollanam-do, Republic of Korea
Business Areas	Production of corrugated boxes such as surface paper, scrap paper and fluting paper

Sales (Unit: KRW million)	
2021	134,802
2022	130,363
2023	108,020

* Based on consolidated financial statement

Hansol

Hansol PNS

Hansol PNS is Korea's largest paper distributor and an IT service provider that leads the industry with relentless innovation empowerment. Since its inception, the company has continued to secure competitiveness in the paper distribution and IT service sectors, and demonstrated stronger customer-oriented management in 2022 by launching Grooup, an online paper mall focused on maximizing user convenience. In the IT service sector, the company is responsible for information systems for companies, developing hardware and application software, and customized solutions for clients. Hansol PNS also contributes to the ESG management activities of domestic small and medium-sized enterprises(SMEs) in the smart factory business by supporting their digital transformation. Furthermore, the company continues to secure a strong foothold in the market by providing optimized services to customers in the IT service and solution domain, including establishment of the group's IT system and outsourcing and system maintenance.

Date of Establishment	February 1975	Sales	(Unit: KRW million)
Headquarters	5th floor, Ilheng Building, 213 Toegye-ro, Jung-gu, Seoul	2021	262,943
Business Areas	Paper distribution, IT services	2022	314,246
Credit Rating	A3	2023	311,689
ESG Rating	B+	* Based on consolidated financial statement	

Hansol

Hansol HomeDeco

Hansol HomeDeco is a total interior and building materials company that offers products with world-class quality and design. The company has developed a value chain in the timber industry, from international afforestation and production of lumber, to furniture components, flooring, wall coverings, and interior materials, and distribution. The company continues to show sustainable growth by expanding to the eco-friendly business domain, including wood powder and renewable energy. The company is dedicated to creating new added value with its system for recycling timber resources, and securing future growth engines by maximizing synergy between businesses to develop eco-friendly products and gain energy independence. On the back of these efforts, Hansol HomeDeco brought about innovation in the eco-friendly building materials market by launching "Hansol Recycle MDF", the world's first MDF product produced with 100% renewable materials. Meanwhile, the company launched VHOM, a direct interior platform, as both an online website and mobile app in 2022 to secure a new customer-friendly sales channel. Hansol MODU VHOM was established through physical separation of the total interior business to further expand its capabilities and differentiation.

Date of Establishment	December 1991	Sales	(Unit: KRW million)
Headquarters	27/F, Jeonmun Geonseol Hoegwan, 15 Boramae 5-gil, Dongjak-gu, Seoul, Republic of Korea	2021	263,250
Business Areas	Wood: Production and distribution of boards(MDF), flooring, and interior products / Combined Heat & Power Generation: Biomass renewable energy (electricity and steam generation) / Afforestation: Investment in overseas afforestation products through a New Zealand corporation	2022	283,414
Credit Rating	BBB	2023	300,003
ESG Rating	B+	* Based on consolidated financial statement	

Hansol

Hansol Logistics

Hansol Logistics is a comprehensive logistics service provider founded in 1994 that leverages know-how tailored to industry and systematic systems to provide customers with the best SCM solutions across various domains of logistics, including global logistics services, container, truck and rail freight transport, W&D and logistics consulting. The company realizes customer satisfaction and practices ESG management at the same time, encompassing creation of a safe business environment, promotion of ethical management, and ensuring shareholder value. Based on the experience and expertise gained in the domestic market, the company has secured a global network consisting of over 20 branches in seven countries — including in the Americas and Asia, where it provides differentiated global logistics services. The company aims to expand its global network to China, India, Southeast Asia, Hungary, and other countries to further consolidate its position as a global logistics provider leading the industry.

Date of Establishment June 1994

Headquarters 22/F, Pine Avenue Building B, 100 Eulji-ro, Jung-gu, Seoul, Republic of Korea

Business Areas International logistics, container transport, truck transport, W&D, logistics consulting

ESG Rating B

Sales (Unit: KRW million)

2021 747,044

2022 1,015,372

2023 726,537

* Based on consolidated financial statement

Hansol

Hansol Technics

Hansol Technics places importance on talents and technology in accordance with its future-oriented management philosophy and aims to achieve world-class quality, product development capabilities, and innovative cost competitiveness. Its core business areas include Power Module Devices (PMDs). It specializes in the production of digital power, mobile phones, wireless charging modules, and automotive electronics, and Energy Solutions (ES), which handles the production of solar power modules and LED wafers. The company's TV and living appliance, wireless charging, solar panels, LED materials, and mobile phone assembly (EMS) business has unmatched competitiveness. Its continuous pursuit of new business development has enabled its success growth as an electronic parts and energy solutions provider. Hansol Technics is responding to changes in the electronic materials area, which has great potential for future growth and profitability, with agility. These efforts have fueled the company's competitiveness in the IT industry and its significant role in the country's key export industry. In addition, Hansol Technics is dedicated to systemizing ESG management within its business activities and fulfilling its social responsibilities by contributing to the growth of SMEs.

Date of Establishment April 1995

Headquarters 5/F, Pine Avenue Building B, 100 Eulji-ro, Jung-gu, Seoul, Republic of Korea

Business Areas Electric · electronic product power modules, wireless charging modules, solar power generation modules, LED material processing, mobile phone components and EMS

Credit Rating A3+

ESG Rating B+

Sales (Unit: KRW million)

2021 1,036,216

2022 1,360,770

2023 1,302,679

* Based on consolidated financial statement

Hansol

Hansol IONES

Hansol IONES is a global comprehensive semiconductor parts company that provides non-stop services, encompassing designing, processing, measurement, cleaning, coating, and analysis of ultra-precision special parts used in the semiconductor and display industry. The company has a proven record of demonstrating distinct competitiveness by supplying precision parts to global top-tier semiconductor equipment companies and general semiconductor companies with top-notch technology and quality. With the goal of achieving shared growth with customers, the company is dedicated to continuous innovation, including development of new materials, nano-coating, and surface treatment technologies for the development of the industry. Boldly welcoming challenges and changes, Hansol IONES will continue to gain a strong foothold in the global market based on continued innovation.

Date of Establishment	March 1993 (Formerly Dong-A Engineering)	Sales	(Unit: KRW million)
Headquarters	2061 Anseong-daero, Gosam-myeon, Anseong-si, Gyeonggi-do, Republic of Korea	2021	163,667
Business Areas	Precision processing, cleaning, and coating of products across the entire semiconductor process and display manufacturing equipment and parts	2022	163,912
Credit Rating	A- (NICE D&B)	2023	123,933

* Based on consolidated financial statement

Hansol

Hansol Inticube

Hansol Inticube is a leading player of business-communication solutions specializing in next-generation AI contact centers, and a provider of total services, from establishment and maintenance of domestic contact centers to operation, diagnosis and consulting. The company showcases next-generation technologies such as virtual consulting services using AI, cloud, and big data, the key technologies of the 4th Industrial Revolution and cloud services, and provides total communication experience. Leveraging expertise gained from building various digital contact centers, Hansol Inticube provides customers with optimized infrastructure building consulting services and integrated solutions. In particular, the launch of ISAC-AI has helped even SMEs to easily introduce AI consulting and communication services. The company aims to achieve shared growth while contributing to the digital innovation of the overall business ecosystem.

Date of Establishment	December 2003	Sales	(Unit: KRW million)
Headquarters	14/F, Nuri Dream Square Business Tower, 396 Worldcupbuk-ro, Mapo-gu, Seoul, Republic of Korea	2021	59,492
Business Areas	Digital contact center, AI communication, communication cloud, and mobile solution	2022	59,146
Credit Rating	BB	2023	41,681

* Based on consolidated financial statement



On the back of constant innovation, Hansol Chemical has become a leading high-tech fine chemical company, renowned for producing quality chemical products. The company covers a wide range of businesses, from fine chemicals to electronic materials, based on its large-scale production plants located in Jeonju, Ulsan, and Xian, China, respectively. With semiconductors, cutting-edge display, and secondary battery materials boosting its competitiveness, Hansol Chemical aims to realize sustainable growth by expanding its business domain to new markets including IT and the environment. The company is committed to maximizing global capabilities by proactively implementing ESG management practices and discovering new business opportunities.

Date of Establishment March 1980

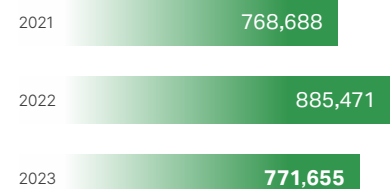
Headquarters 7~8/F, K-Tower, 513 Teheran-ro, Gangnam-gu, Seoul, Republic of Korea

Business Areas Fine chemicals, display materials, semiconductor materials, and secondary battery materials

Credit Rating A+ (Korea Investors Service)

ESG Rating B+

Sales (Unit: KRW million)



* Based on consolidated financial statement



Established in 1994, Tapex specializes in industrial-tape production and has expanded its business across various industries — from functional tapes for electronic materials in secondary batteries, to display, semiconductor manufacturing processes, food packaging wraps, and eco-friendly products. In particular, promoting its business capabilities in accordance with changing environmental policies in response to global climate change has put the company in a leading position in the functional-tape sector for green electric vehicles. Prioritizing customer satisfaction for sustainable management, Tapex reinforced R&D and production infrastructure to secure world-class quality, and puts emphasis on improving its management system to become a leader, with an ESG system that meets the requirements of major ESG regulating countries. These efforts will contribute to the sustainable growth of Tapex in both the domestic and global markets.

Date of Establishment April 1994

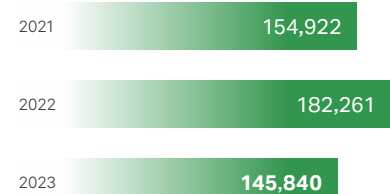
Headquarters #812 & 813, 8/F, Daehak 4-ro, Yeongtong-gu (Ace Gwanggyo Tower 1, Iui-dong), Suwon, Gyeonggi-do, Republic of Korea

Business Areas Functional tapes for electronic materials, food packaging wrap, consumer goods

Credit Rating A- (Korea Investors Service, 2022)

ESG Rating A

Sales (Unit: KRW million)



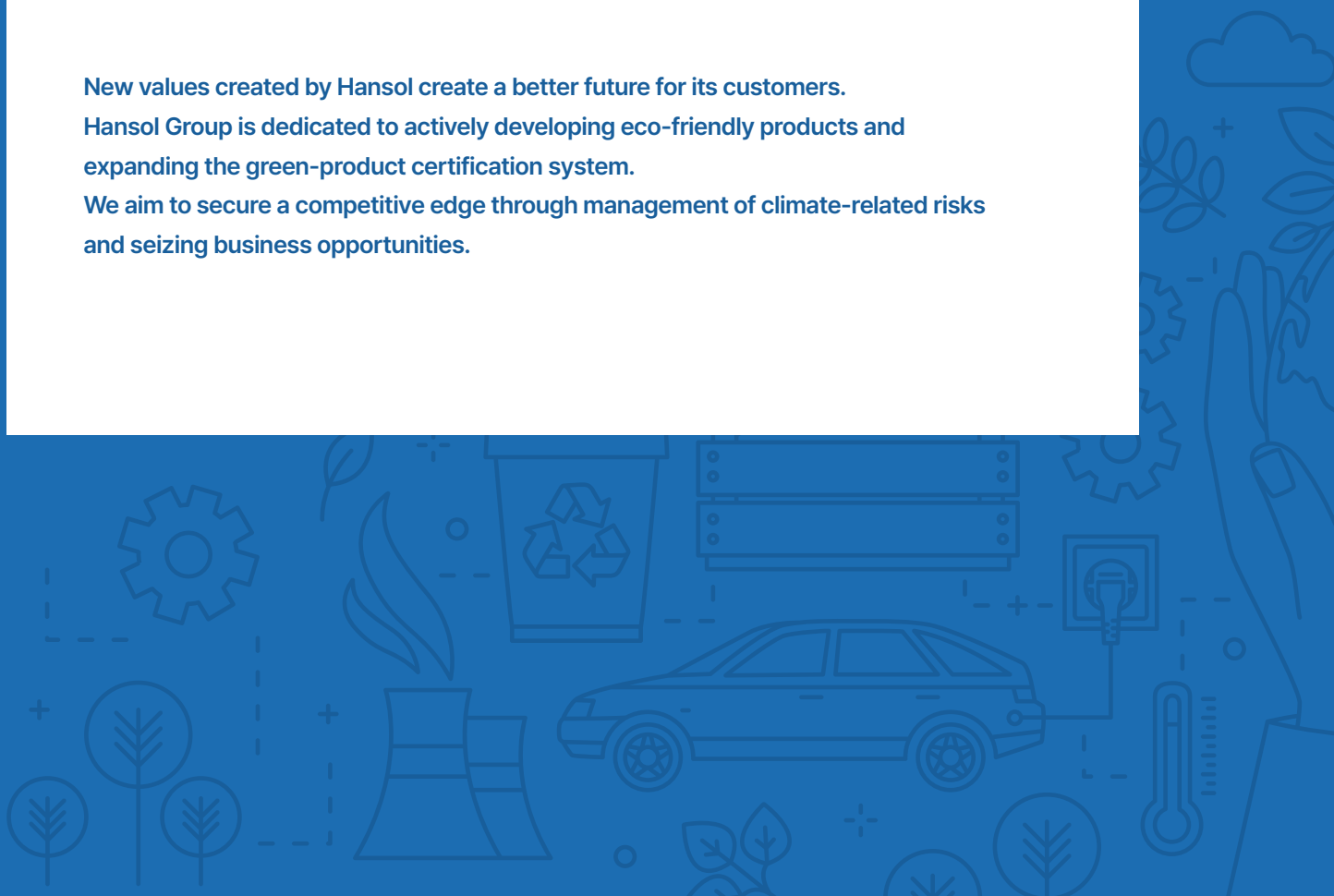
* Based on consolidated financial statement

SUSTAINABILITY ESSENTIALS

New values created by Hansol create a better future for its customers.

Hansol Group is dedicated to actively developing eco-friendly products and expanding the green-product certification system.

We aim to secure a competitive edge through management of climate-related risks and seizing business opportunities.



1



1. Sustainability Key Figures 2023	18
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3. Sustainability Focus Issues	26

Sustainability Key Figures 2023

Hansol Group remains committed to achieving sustainable growth by gaining customer trust and elevating corporate value through sustainability management. Our data effectively reflects our unwavering dedication to sustainability management and pursuit of new technologies.

Hansol Paper

The most respected company in Korea
(in the paper sector)

Ranked top
for 21 consecutive years



Hansol Chemical

Korea Industrial Technology Grand Prize

Ministry of Trade,
Industry and Energy



Hansol Group

Attracting investment for startups that
participated in Hansol V-Frontiers

KRW **27** billion



HansolPaperTech

Investment in environmental facility for
nano filter installation

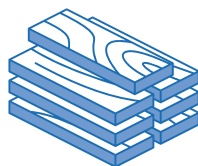
KRW **650** million



Hansol HomeDeco

Recycled raw material usage rate for
MDF production

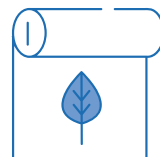
100%



Tapex

Eco-friendly PO wrap contributing to
reduced plastic waste generation

0.43 tons



Hansol IONES

Greenhouse gas emissions reduced by 4.3% compared to the previous year

11,440 tCO₂eq

**Hansol Group**

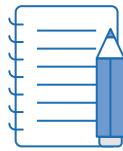
University students' participation in Hansol Dreamverse Company

A total of **290** students

**Hansol IONES**

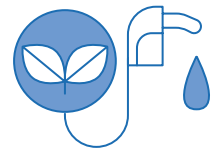
Completed answering to postings on the in-house grievance system

171 postings

**Hansol Chemical**

Reduction of LNG usage and greenhouse gas emissions

Approximately **1,000** tons

**Tapex**

Campaign to recycle discarded home appliances and electronic products to reduce carbon emissions

2,486 kgCO₂eq

**Tapex**

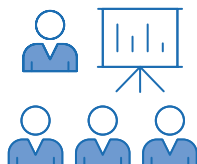
Implementation of process safety management(PSM)

Grade **S**

**Hansol Group**

Extension of board meeting notice period

Seven days
prior to the meeting

**Hansol Group**

Affiliates that are members of Hansol Group's ESG council

Seven
affiliates in total

**Hansol Technics**

No. of non-financial risks reported to the board of directors

4 in total

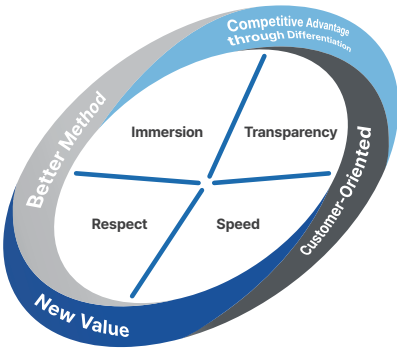


Sustainability Management System

Hansol Group has secured a competitive edge and introduced the Hansol Management System(HMS) under the vision of pursuing sustainable growth. The system stands as core values practiced and embraced by all employees and executives within the group. The group has also implemented environmental management, human rights management, safety and health management, and ethical management to reflect sustainability-management principles in its business operations. Hansol Holdings has further enhanced its sustainable management responsibility by creating a comprehensive risk-management system across the company including non-financial risks throughout 2023 and reporting them to the Board of Directors.

Hansol Management System (HMS)

Hansol Group is dedicated to pursuing new values in its business operations based on a customer-oriented mindset and driving long-term growth as a result. Hansol Management System aims to instill a culture and management style of mutual respect among all members of the organization.



Business Principles

Customer-Oriented	New Value	Better Methods	Competitive Advantage through Differentiation
We prioritize our customers	New values shape the future	'A better method' is our philosophy	Our survival depends on gaining and maintaining a differentiated competitive advantage

Organizational Principles

Immersion	Transparency	Speed	Respect
Focus and sense of unity for outstanding results	Honest sharing of procedures and results	Agility based on simplicity and substantiality	Valuing one another

Environmental Management System (EMS)

Hansol Group and its affiliates have established EMS which is based on ISO 14001 to practice environmental management across all business practices, and manufacturing affiliates have implemented a roadmap for carbon neutrality.

Environmental Management

Hansol Group has introduced an ESG indicator management system with Hansol Holdings, the group's holding company, at the center to manage ESG data in a systematic and efficient way. Actions to improve environmental activities are conducted by using the ESG-indicator management system to monitor and implement management-system establishment and certification, climate change responses, greenhouse gas emissions, energy and water consumption, and pollutants and waste.

Hansol Holdings' Environmental Policies

Efficient Use of Resources and Environmental Protection

We take the lead in preventing environmental pollution and protection of the environment by making efficient use of resources and energy and minimizing waste.

EMS Operation and Continuous Enhancement

All employees acknowledge the importance of our environmental policy and make combined efforts to set achievable goals, and take action to improve environmental performance. We also continue to advance our EMS reflecting improvement points and non-conformities.

Stakeholder Communication and Compliance Obligations

We regularly review our environmental goals and detailed directions on a regular basis through active communication with stakeholders. We ensure our stakeholders' compliance with environmental obligations by informing them of environmental requirements and management standards that align with their needs.

Transparent Environmental Management Practices

We disclose our environmental policy and information on environmental management to our stakeholders to encourage active participation and incorporate transparent environmental management practices into our operations.

International Environmental Management System(ISO 14001) Certification

19 Business sites

Hansol Paper, Hansol PaperTech, Hansol PNS, Hansol HomeDeco, Hansol Logistics, Hansol Technics, Hansol IONES, Hansol Chemical, Tapex(refer to p. 150 for "Affiliates and Certifications")

Human Rights Management

Hansol Group has introduced a policy for human rights protection and promotion of all stakeholders including employees and executives in accordance with paragraph 2 of Article 25 of the National Human Rights Commission Act. We have also included details on human rights management implementation in our Human Rights Management Guidelines. Respecting the dignity and rights of all human beings as prescribed in the Universal Declaration of Human Rights, and the Declaration of Fundamental Principles and Rights at Work, and other international human rights standards and regulations, we ensure a non-discriminatory working environment, strictly prohibit forced labor and child labor, and guarantee industrial safety and environmental rights.

Hansol Holdings Human Rights Management Guidelines

Companies' responsibilities to uphold and respect human rights have become an important social trend along with the expanded influence of companies on the society and environment. Hansol Group proactively prevents labor rights violations pursuant to Principle 1 of the UNGC that states, "Businesses should support and respect the protection of internationally proclaimed human rights." Hansol Holdings published the Human Rights Management Guidelines in May 2022, disseminating it across the group and using it for employee training. The guidelines include guidance on human rights management, human rights violation standards, specific relief procedures, prevention programs, and representative human rights violation examples. The guidelines presented an opportunity for employees who may experience human rights violations to report them. Major affiliates have incorporated human rights management into their daily operations in 2023, and established a three-year roadmap to lay the foundation for human rights protection of internal and external stakeholders, contributed to the development of the local community, and led shared growth with residents through various social contribution activities.

Guidelines on Human Rights Management

Human Rights Statement

Hansol is committed to upholding the dignity and values of all human beings across all business activities. Both our employees and executives acknowledge this declaration as the guiding principle for making value decisions and the code of conduct for human rights management.

Human Rights Manager

1. Hansol shall appoint a human rights manager to systematically carry out regulatory procedures and training sessions to promote human rights.
2. The roles and responsibilities of the human rights manager are as follows:
 - Conducting human rights training
 - Relief procedures in the event of human rights violations
 - All cases where deliberation on human rights management is required

Human Rights Training

Training on human rights shall be conducted at least once per year to promote the human rights awareness of employees and executives at any time and method deemed appropriate.

Support for Human Rights Activities

Hansol can take action necessary for human rights protection and value promotion. The company may extend support to organizations, institutions, and stakeholders relevant to promoting human rights.

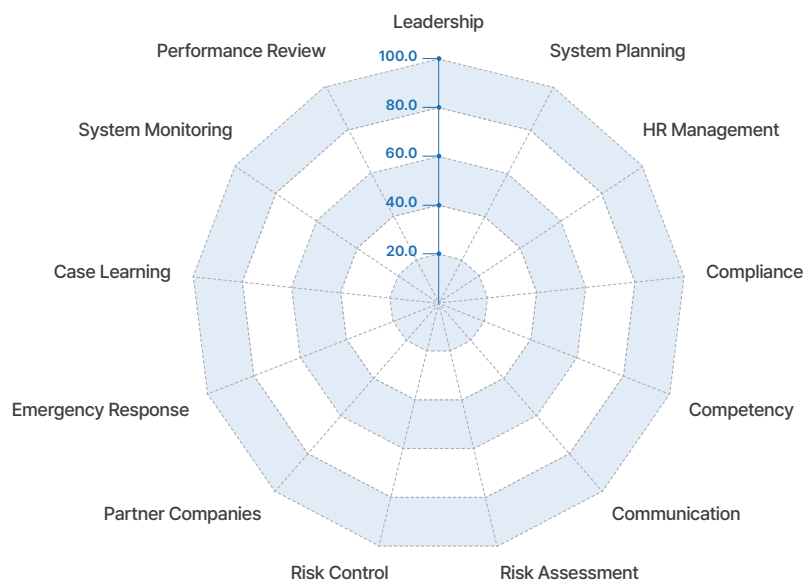
Hansol Safety-Rating System(HSRS)

The saying “No work is worth getting injured” best demonstrates Hansol Group’s commitment to safety and health management. Hansol has introduced HSRS to foster a culture of safety, and address the growing legal and regulatory risks as a reliable company. HSRS is a safety and health work standards and evaluation system, created by optimizing ISRS, the International Safety Rating System to reflect Hansol’s business characteristics.

Introduction of Hansol Safety Rating System

It was 2019 when Hansol Group first introduced ISRS as a fundamental response for safety management. We assessed the safety management status of the company, verified its effectiveness in 2020, and completed the second performance evaluation in 2021. As a result, we have laid the groundwork for fundamental safety management, advanced the response system, and nurtured safety management talents. Safety and health management activities reduced the number of accidents by approximately 60% in 2023 compared to the previous year.

HSRS Process Assessment Items



Business Sites Utilizing HSRS Assessment

Nine sites

Four business sites and Environment Biz of Hansol Paper,
Hansol HomeDeco, HansolPaperTech, Hansol Logistics, Hansol Technics

Ethical and Compliance Management

Hansol Group's high-standard ethical management system serves as the basis for sustainable growth, and the Code of Ethics was prescribed for all employees and executives to comply with in their business operations. In addition, an ethical-management website was launched as a reporting channel for employees to use at any time for exposing fraud or corruption. The company also strives to promote ethical awareness and create a transparent company culture by preparing misconduct-prevention education programs for employees and executives. There is a growing demand for companies to be compliant with the law and take responsibility for their business management activities. Compliance management is the most basic requirement for ESG management that companies have to meet. Hansol conducts assessment of the group's current position in compliance management, and resolves vulnerabilities identified at each affiliate to further systemize compliance management, which is growing more and more important each year.

Hansol Code of Ethics

We announced our commitment to ethical management and upholding Hansol's spirit of integrity and transparency in our Code of Ethics. Our Code of Ethics reflects our strong will to fulfill our ethical obligations to Hansol Group's stakeholders, including customers and shareholders, and a sense of responsibility for ethical management instilled in employees and executives.

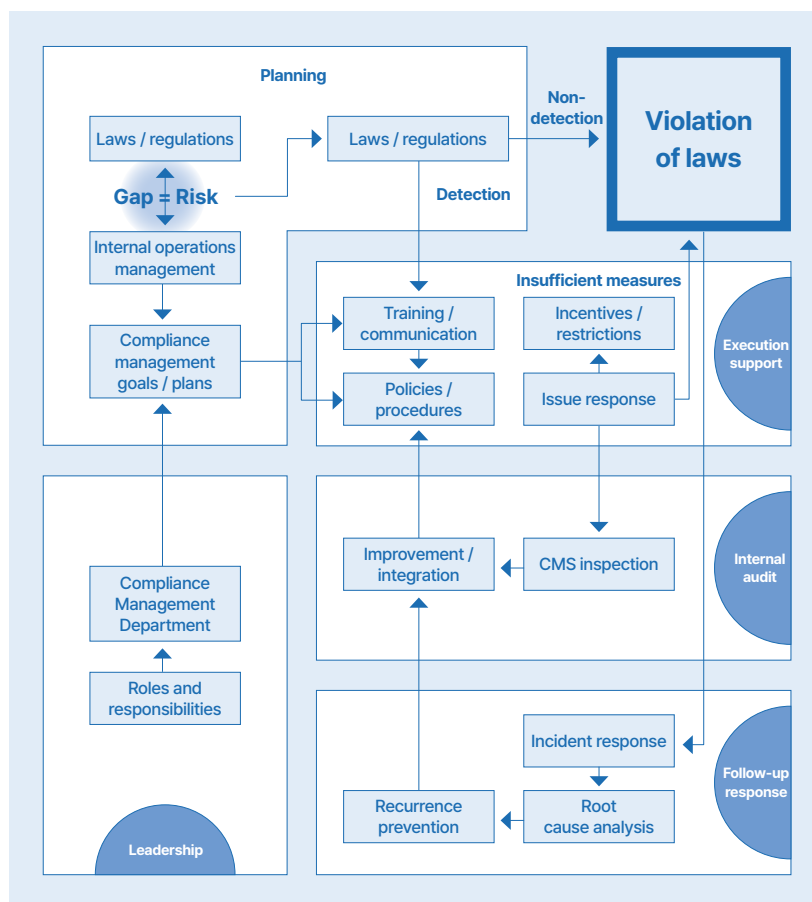
Compliance-Management Assessment

Hansol Group has been carrying out compliance-management assessment from 2021. In 2023, the assessment items have been categorized at a more granular level, and the assessment system was expanded to eight affiliates, including Hansol Paper, Hansol Technics, Hansol HomeDeco, Hansol Logistics, Hansol PNS, Hansol Inticube, HansolPaperTech, and Hansol IONES. The compliance management assessment system helped spread awareness and dedication toward compliance throughout the entire Hansol Group. We will continue to drive improvement tasks according to the assessment results of each affiliate with the goal of establishing a compliance risk management system and strengthening the business's ability to take action to further promote the group's compliance management procedures.

Execution of Compliance-Management Tasks

Hansol Paper, Hansol Technics, Hansol HomeDeco, Hansol Logistics, Hansol PNS, and Hansol Inticube are conducting compliance-management activities by selecting legal and regulatory tasks that require immediate attention while reinforcing the overall compliance management process and addressing risks.

Strengthening the Common Compliance-Management Process



Compliance Management Execution Tasks

Hansol Technics	Hansol Technics	Hansol Technics
<ul style="list-style-type: none"> · Management of subcontracting risks 	<ul style="list-style-type: none"> · Improvement of risk-management system related to environmental-regulation violation · Improvement of risk-management processes pertaining to violations of the Unfair Competition Prevention and Trade Secret Protection Act and Personal Information Protection Act 	<ul style="list-style-type: none"> · Designing and improvement of the internal audit process for addressing compliance risks
Paper Distribution Business of Hansol PNS	IT Service Division of Hansol PNS/ Hansol Inticube	Hansol Technics
<ul style="list-style-type: none"> · Identification of risk factors and establishment of safety-accident management plans to prevent safety accidents within new centers 	<ul style="list-style-type: none"> · Introducing industry-specific laws and regulations, compliance guidelines, and training 	<ul style="list-style-type: none"> · Improvement of process for subcontractor selection

Hansol Focus Issues

ISSUE 1

Employment and Talent Development



BACKGROUND

Hansol Group has introduced Hansol Dreamverse Company, a virtual internship program utilizing metaverse technology to support the job competencies of young persons and help them decide on their career paths. The internship program gives young talents an opportunity to gain hands-on job experience required for job seeking as they experience the company without being limited to time and space and acquire job competencies together with our employees. The reviews from satisfied participants encourage more and more youths to join the internship program. According to data, the number of youths applying for the program has been increasing over time.

MANAGEMENT BRIEFING

Virtual Internship, Hansol Dreamverse Company

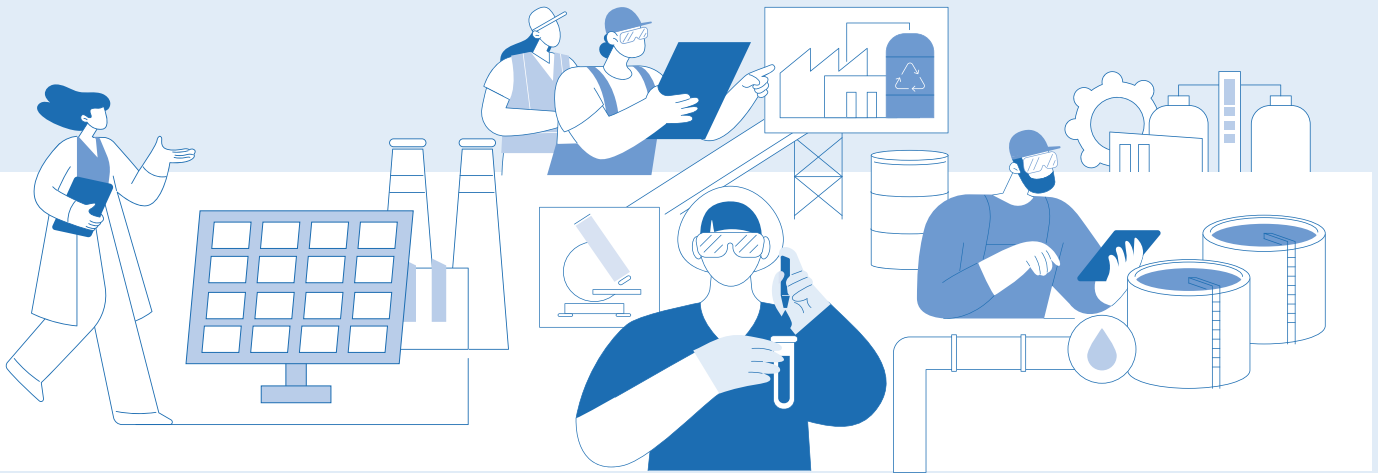
Jeon Seung Mi, Manager of Hansol Holdings HR Support Team

What is the program's operation process like? Could you walk us through the key steps and activities that participants experience in detail?

The major process of the program consists basically of four steps. The key steps and activities that participants take part in and contribute to are as follows:

1 Recruiting	2 Education and Training	3 Hands-on Work Experience	4 Feedback and Performance Evaluation
We select candidates who meet Hansol Group's ideal talent expectations	Participants participate in various education and training sessions from the start of the program. The activities help promote their capabilities and enhance understanding of the program.	Hands-on Work Experience The most important purpose of the program lies in hands-on work experience gained on site. Participants take part in a variety of projects to promote their field capabilities and acquire understanding of actual work operations.	By receiving continuous feedback during the program, participants gain a better understanding of their competencies and identify areas needing improvement.

Dreamverse Company participants achieve self-growth by gaining field experience and demonstrating what they have learned from the program. Furthermore, their social-engagement level increases since they learn and practice cooperation with the local community, and develop social responsibilities. As a result, the processes serve as a key role in stimulating the self-growth and social engagement of participants.



Could you give us an example of how the program affected or changed the students and members of the society?

Before starting the program, we contemplated the values and experience that Dreamverse Company can offer to participants. We wanted to help them become talents capable of demonstrating professional competence even if they don't end up getting a job at Hansol Group after the program. This is why we wanted our program to be designed to be field experience-oriented, meaning it should go beyond simply offering experience to giving students the competence required as a job seeker. We gave students constructive feedback based on actual work performance. The youths who hadn't recognized the importance of figures and working in a structured way learned to produce what they have learned and researched into numbers and created quality results.

<p>1</p> <p>Impact on the Economic Stability and Career Path of Students</p> 	<p>2</p> <p>Members of Society's Perception Changes and Solidarity</p> 	<p>3</p> <p>Promotion of Social Responsibility and Social Development</p> 
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Do you have plans to cooperate with other companies or organizations for more efficient operation or expansion of the Hansol Dreamverse Company program?

Our plan is to apply the Dreamverse Company program methodology to Hansol Group's hiring process for improvement, use it for intellectual validation, and expand its use further. We will be recruiting approximately 200 interns for the 2024 program and will provide benefits to those who graduated from the internship program with quality results when they apply for the company in the second half of the year.

ISSUE 2

Transparent Governance

BACKGROUND

The Outside Director Nomination Committee is a committee established within the Board of Directors to recommend outside director candidates pursuant to relevant laws, Articles of Incorporation, and rules and regulations of the BoD. The role of the committee is to review if the outside director candidates satisfy independence requirements and verify their competency as a director of a global company. In response to increasing calls for transparent governance, Hansol Paper has established the Outside Director Nomination Committee in 2023 to strictly verify the candidates, independence and competencies before recommending them to the Board.

MANAGEMENT BRIEFING

Installation of the Outside Director Nomination Committee

Park Ji-yong, Manager of the HR Team of Hansol Paper

Please walk us through the structure of the Outside Director Nomination Committee. How is it structured, and what standards are used for appointing members?

The Outside Director Nomination Committee currently consists of a total of four members, including three outside directors and one inside director. The composition ensures that the committee is led and operated mainly by outside directors. Transparency and promotion of shareholder value and ESG capabilities are the standards applied for member nomination. The three outside directors are Director Kim Hee-Kwan, an expert in serious accidents and compliance (attorney at BKL), Director Lee Ho-young, a professional of the Fair Trade Act (Dean of Hanyang University School of Law), and Director Yoon Hyejeong, an expert in eco-friendly materials (Professor of the Environmental Materials Science, Department of Forest Sciences at Seoul National University).

Please tell us about the activities to further elevate governance transparency to be conducted with the installation of the committee. What impact will these activities have on the company's internal processes and relationships with external stakeholders?

The committee is expected to greatly contribute to transparent governance as it will minimize the company's influence on outside director nomination. Monitoring over the company's processes and key decisions will become stricter as a result, which will enhance the external stakeholders and shareholders' trust in us.



What role is the committee expected to play in order to contribute to the company's sustainable development and transparent operations? How will it improve the company's ethical management practices and level of management?

As a key decision-making organization that has a significant impact on business operations, the composition of the Board of Directors is directly related to the company's competency and transparency. This is why appointing independent outside directors with competitive skills is vital for the growth and transparency of the company.

What is Hansol Paper's long-term goal or vision for the Outside Director Nomination Committee? How do you think the committee will contribute to the vision and strategy of the company?

The purpose of installing the committee is to guarantee an independent outside director candidate recommendation process to create a Board of Directors with independence, expertise, and diversity, all of which is required for achieving the goal of advanced governance and promotion of shareholder value.

What is the most significant improvement made following the committee's installation?

What has drastically changed compared to the previous governance is that we have now secured independence. The company's influence over outside director appointment is minimized, and the independence of outside directors is strengthened, since the final candidates are recommended by the committee and eventually nominated by the resolution of the General Shareholders' Meeting.

Issue **3**

**New Business
Development**

BACKGROUND

With a sense of social and environmental responsibility, Hansol Group created a resource recycling system to reduce greenhouse gas emissions to minimize environmental impacts, and achieve carbon neutrality.

Hansol Paper implements green-management activities to minimize negative environmental impacts, such as creating a resource-recycling system for aseptic packaging containers, for which the recycling rate was only 1%. We are expanding our partnerships with local communities and schools to collect regenerative materials and will increase the usage of regenerative materials from 46% as of 2023, to 50% in 2025.

MANAGEMENT BRIEFING

“MOU Signed for Resource Recycling System for Reusing Aseptic Packaging Containers”

Kim Jin-bo, Senior Manager from the Paper Domestic Sales Team of Hansol Paper

Could you walk us through the background of how the MOU was signed?

Aseptic packaging containers are effective for storing food and beverages at room temperature for a long period of time as the aluminum inside blocks light and heat. However, the recycling rate stands at only 1.5% due to its ① low profitability, ② large amounts of remnants, and ③ low quality. A recycling rate of 1.5% is extremely low, compared to the recycling rate of 80% for paper, metal cans, and plastic bottles, but most companies in the industry are unable to resolve the issue.

Hansol Paper designed a cooperative system for recycling aseptic packs with 12 companies responsible for recycling waste to allocate corporate social responsibility. And the MOU was signed to join efforts to implement government-led industry new growth strategies for vitalizing the circular economy.

* Producer obligated to recycle wastes: Companies that produced recyclable packaging materials or imported them

What do you expect to achieve from the MOU? How will it contribute to the long-term vision of the company?

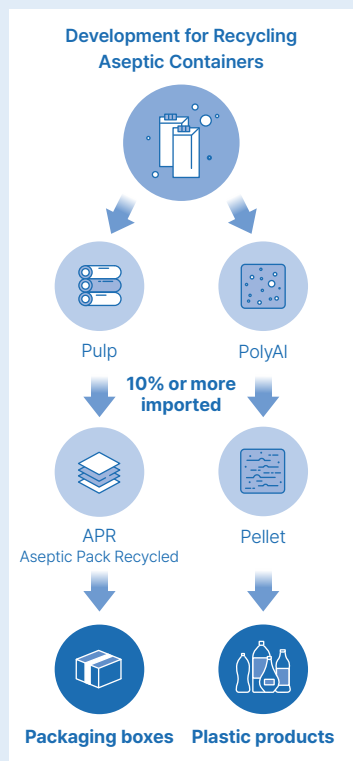
The social impact would be as described below:

<p>Contribution to the recycling of aseptic packaging containers</p> <p>14.6 in 2024</p> <p>* Recycling rate of aseptic packaging containers in 2023: Approximately 1.5% (543 tons)</p>	<p>Contribution to the government's environmental activities and policies</p> <p>* Separation of garbage, circular economy, etc.</p>	<p>Changing people's perceptions toward recycling</p> <p>* Many people were confused with garbage separation in 2024 as aseptic containers had a "difficult to recycle" mark</p>
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Hansol Paper is looking forward to the below results.

- Recognition as an eco-friendly company utilizing resource circulation
- Secured a stable sales channel for APR in the short term by creating a resource-circulation system with producers obligated to recycle waste (Sales volume changed from a variable to a constant) and in the long term, expanded the type of paper sold through cooperation and implemented various business initiatives. (printing paper, fancy paper, plastic products, etc.)



How will the circulation system and recycling of aseptic containers impact new business development?

A large amount of remnant is produced when recycling aseptic containers. Hansol Paper aims to recycle pulp as the material for APR and remnants (polyAl) as plastic materials to realize zero remnant generation, or 100% recycling. Papers using recycled waste are processed by the future business part of Hansol Paper central research center, in collaboration with injection companies, and our business scope is expected to expand to not only paper, but also eco-friendly plastics production and sales.

How will the MOU affect the company's sustainability?

With the announcement of strategies for industry new growth for the vitalization of the circulation economy jointly with related ministries on June 21, 2023, the government is promoting policies to maximize efficient utilization of resources by continuously circulating resources, going beyond the existing linear economy. Many companies at home and abroad are preparing response measures, as a bill from the EU for protecting the supply chain and the environment is expected to enter into force soon.

* Critical Raw Materials Act (CRMA), Corporate Sustainability Due Diligence Directive (CSDDD), Net-Zero Industry Act (NZIA)

We believe we can improve our image by taking part in the government's policies by signing the MOU, preemptively responding to the recycling market with resource circulation, new business using plastic materials and developing eco-friendly paper reusing aseptic containers.

Issue 4

Energy Use

BACKGROUND

Achieving net zero emissions and addressing environmental issues require cross-border cooperation and collaboration. In June 2023, Hansol Technics signed an MOU to conduct joint empirical research on solar modules and donate our media PV products to the Research Institute for Solar Energy and New Energies (IRESEN), an affiliated renewable energy research lab of Morocco's Ministry of Energy, Mines and Environment

MANAGEMENT BRIEFING

MOU with Morocco's Renewable Energy Research Center

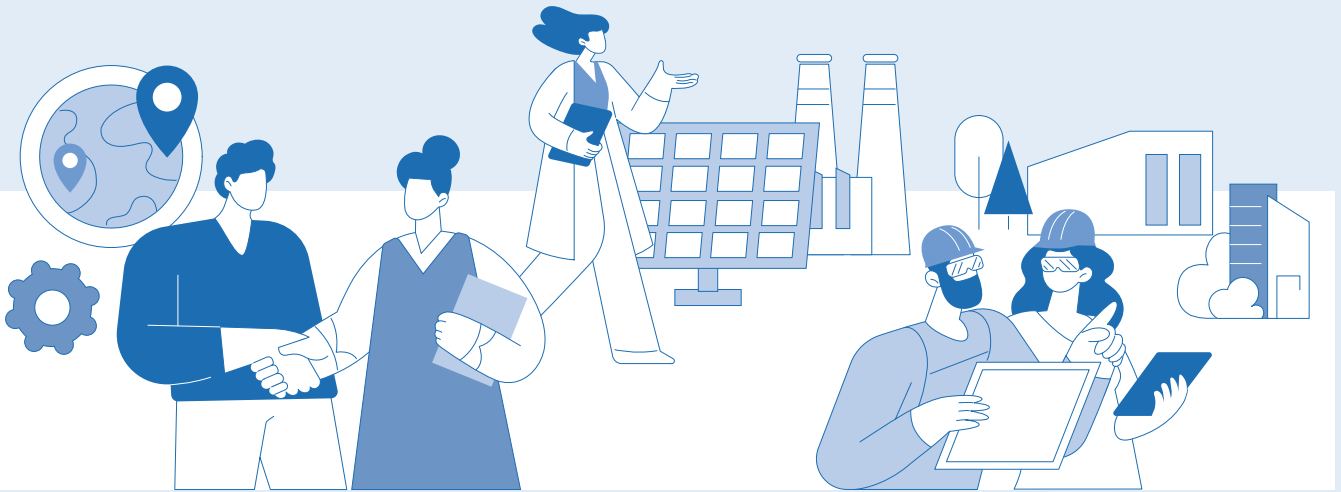
Na Young-jin, Head of ES Quality Team (Quality Group) and Kim Tae-beom, Senior Manager of ES Domestic Sales Team of Hansol Technics

Taking into consideration that environmentally friendly new businesses contribute to new market development and ESG management activities, what is the MOU with the Moroccan renewable energy center expected to achieve?

IRESEN is a public research institution established to serve a pivotal role in fostering the energy industry of Morocco. The center is instrumental in policy development of the PV industry, research and development and nurturing of quality intellectuals. We believe the MOU with Morocco's IRESEN will help us enter into other markets in North Africa and publicize our company. Installing our media PV at GEP will become an opportunity for publicizing the company in not only Morocco, but also other countries in North Africa, since the institution is frequently visited by high-level executives, PV developers, and entrepreneurs from other countries.

What synergy effects are expected from the agreement?

Morocco is a bridgehead to the North African market for exporting facilities for renewable energy. The Ouarzazate Solar Power Station, the world's largest concentrated solar power station, located in the Sahara desert is an example that shows the strong will of the country to implement policies supporting renewable energy power generation. The power plant, which is the size of 3,500 soccer fields, can produce 1500GWh annually. In addition, Morocco's weather is hot and humid compared to Korea. As a result, the country will be a great test-bed for GEP-PV institution's joint research to understand the reason for media PV power generation decline in inclement weather conditions and reasons for damage. The researchers within GEP are mostly professionals with Ph.D. and master's degrees.



Please explain further about the new business area that Hansol aims to enter into through the agreement with Morocco's renewable energy research center and the adjacent developing countries that the company plans on expanding to.

Morocco's industrial structure makes it a desirable bridgehead for expanding to the European and African markets. The government gives benefits for foreign investors and there is an FTA agreement with 55 countries. The country ranks top in North Africa in terms of cross-border connectivity and infrastructure.

Tangier, the largest port in the Mediterranean Sea, handles over nine million containers annually. In addition, connecting 185 ports and 80 countries with the country makes the per container export cost competitive at US\$156 (Source: Morocco now). Furthermore, four North African developing countries adjacent to Morocco are among the top-10 GDP countries in Africa. The four markets with growth potential are Egypt with a GDP of US\$395.93 billion, Algeria with US\$600.7 billion (No. 4), Morocco with US\$359.7 billion (No. 5), and Sudan with \$207.7 billion (No. 10). The country has the political stability for Hansol to make inroads into the North African market and carries out national policies to promote the use of renewable energy.

Is there an example where Hansol Technics installed its solar media PV products in Korea?

A pilot test that's the size of approximately 10.8kW(70m²) has started from October last year in our Jincheon plant, and we've added an additional 5.4kW(35m²) to the Cheonan plant of Hansol Paper, our affiliate. For projects implemented with non-affiliates, we're working through details of the installation of lighting for publicizing patriotism along the handrail of the Bridge of Patriotism located in Chilgok. The construction will be completed by the end of the year. Using media PV for landscape lighting as well as the general PV business gives Hansol Technics an opportunity to also expand into the field of landscape lighting and zero energy building, an area that has recently started to garner interest. Media PV is a product developed based on our accumulated experience in the general PV business that currently has no competition in the market. There are some similar products to be released by SMEs later on, but our products have a competitive edge in quality as the long-term durability of these products have not been thoroughly tested and reviewed.

Issue **5**

**Climate-Change
Response**

BACKGROUND

To proactively respond to issues expected to arise due to climate change, Hansol Group is making efforts to enhance facility efficiency and reduce carbon emissions, reduce recycling contribution costs by using renewable materials, produce sustainable products, and create new market values in accordance with adapting to climate change. HansolPaperTech invests in developing wastewater recycling technology to minimize physical impact, such as water resource depletion caused by climate change.

MANAGEMENT BRIEFING

**Normalization of Production Through Development of
Wastewater Recycling Technology**

Seo Seong-bok, Manager of Environmental Technology Team of Hansol PaperTech

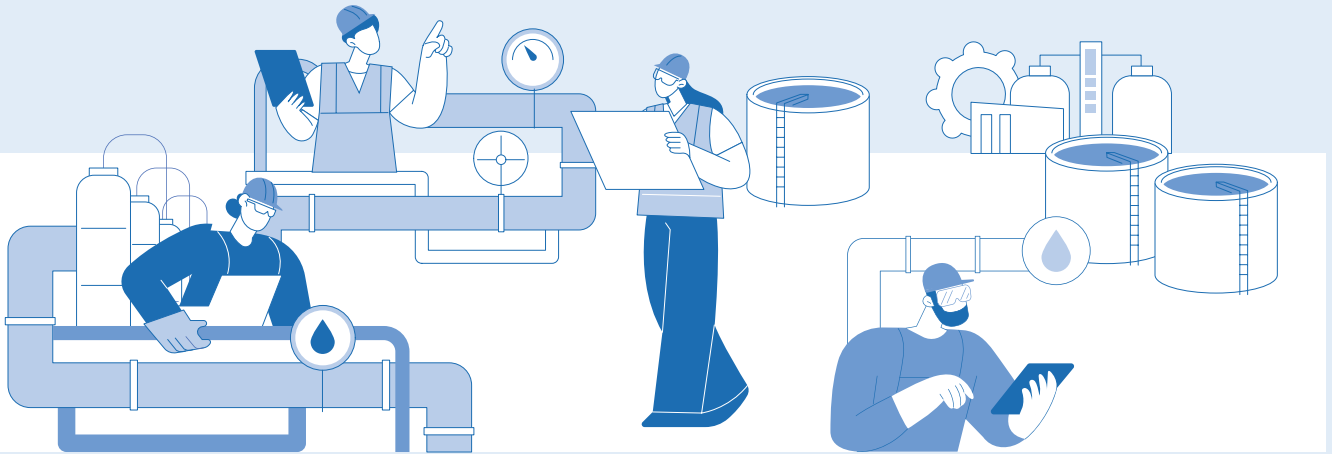
Please walk us through the water resource management process.



Increased use of recycled water due to the suspension of water supply led to accumulation of pollutants and the continuous rise in the electrical conductivity. This led to the inevitable increase in the use of chemicals at the production site and reduced efficiency. To enable stable production, Hansol introduced nano-filters that operate when the conductivity level reaches 2500uS/cm to lower it and supply recycled water.

Could you illustrate the process by water type and the flow of the water used for both production(plants and offices) and non-production activities?

Potable water	Water	Rainwater
Wastewater generated after use of potable water flows into the wastewater treatment plant (processing both wastewater and sewerage)	Water used for manufacturing (river water and groundwater) flows into the wastewater treatment plant	Rainwater from regions with rainfall flows into nonpoint pollutants treatment facility through rainwater pipes, where it is processed and discharged



Please expand on the technology used for recycling wastewater?

The technologies utilized for wastewater recycling include preprocessing and desalination technology applied to paper manufacturing processes, preprocessing technology for removing solid content, and desalination technology for ion removal.

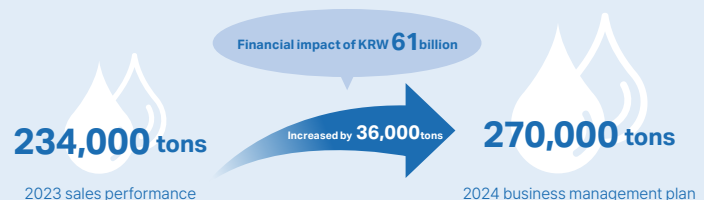
Could you provide some insight into when the wastewater recycling technology was adopted background, and companies and institutions that applied the technology?

We came up with the idea to recycle wastewater with minimized contamination after the drought of 2022 and the suspension of water supply left us looking for ways to operate plants with minimal water. We installed preprocessing facilities to remove pollutants from the wastewater and added desalination facilities for ionic material removal.

Is it possible to measure the financial impact of production normalization from a contribution margin perspective?

The financial impact is KRW 6.1 billion, with the sales volume increasing by 36,000 tons from 234,000 tons in 2023 to 270,000 tons in 2024.

* 36,000 tons * Contribution margin of KRW 171,000



HANSOL SUSTAINABILITY ACTION

Hansol Group further upgrades our business by responding to changing times in an agile manner and viewing customer feedback as an opportunity to promote competitiveness. Hansol's innovation creates a better future.



2

1. Consumer

Various Channels of Economic Value and Strategies

38

2. Environment

Environmental Management and Climate Change Response

48

3. Social

Sustainable Growth for All

68

4. Governance

Transparent Governance and Shareholder-Friendly Management

98

Consumer

TOWARDS SUSTAINABILITY

Hansol Group recognizes sustainability management as the key to successful business operations and integrates it with product and service development. Hansol Holdings strengthens the group's distinctive competitiveness through the Innovation Olympics, and nurtures promoting startups and supports their sustainable growth through Hansol V Frontiers. With the introduction of eco-friendly electric vehicles being accelerated, Tapex has seen an increase in the sales of functional tape used for secondary batteries and number of global customers. We are achieving success on the global stage through the construction of the Saemangeum plant, expansion of the Malaysian branch, and opening of offices in Germany.

Hansol PNS updates the “Grooup” system on a regular basis and promotes communication with customers. Hansol Logistics enhances secondary battery logistics competitiveness in the Asian region, and pursues expansion into the Americas and Europe. Hansol Paper is consolidating its position in the global market through various exhibitions and customer events, and Hansol HomeDeco introduced eco-friendly products at the Seoul Design 2023 event.

Hansol Group will continue to realize sustainability management based on customer trust through continuous innovation and growth.

KEY SUSTAINABILITY ISSUES

KEY PERFORMANCE

Various Channels of Economic Value and Strategies

Hansol Group continues to lead the market by developing groundbreaking products based on competitive technology and stable production capabilities. In particular, we are committed to elevating our key competencies through business restructuring and M&As in response to changing business circumstances, and taking the lead in future business areas.



Hansol Group
2023 Innovation Olympics

Seven affiliates

- **Tapex** completes construction of the Saemangeum plant located in the Saemangeum Industrial Complex
- **Tapex** Paltan Factory & Yanggam Factory receive Quality Management System certification (IATF 16949)

Tapex
2023 Seoul Design
Tapex × Hanyang University

Hosting of

exhibitions

- **Hansol Paper's** INSPER and stronger communication on social media platforms such as Instagram and YouTube

Hansol PNS
Manufacturing and operation
system

MES development

- **Tapex** digitalizes its Warehouse Management System (WMS)
- **Hansol Logistics** develops and advances its Transportation Management System (TMS)

1. New Business and Market Development

New Business and Portfolio Diversification

Hansol Group

The Innovation Olympics hosted by Hansol Holdings is an event in which Hansol Holdings evaluates the outcome of the innovation tasks established every year by affiliates of the group in accordance with mid-term strategies. The event, a key driver of Hansol's sustainable growth, started in 2013, and was later on expanded across the group in 2014. The 2023 Innovation Olympics awarded a total of five prizes, including 1 Gold Prize, 2 Silver Prizes, 1 Special Prize, and 1 Technological Innovation Prize. The Gold Prize was awarded to Hansol Technics' PMD division's "3-in-1 business competitiveness promotion" project for over-achieving its KPI in terms of sales volume and ordinary profit. Projects leading cost saving for thermal paper and eco-packaging foamed containers won the Silver Prize, and the Special Prize and Technology Innovation Prize were awarded to IONES and PaperTech, respectively.

| 2023 Innovation Olympics Entry List |

Paper	Development of eco-friendly / differentiated products and promotion of fancy paper competitiveness by securing a wide variety of inventory
Paper (Janghang)	Cost saving achieved with thermal paper under-double technology
Technics	Expansion of 3-in-1 volume and stronger business competitiveness
PaperTech	Normalized production by securing wastewater recycling technology
Logismile	Created the groundwork for receiving orders utilizing the transportation database and algorithm
IONES	Securing new customers and the next-generation growth engine through business-
Eco Packaging	Cost saving through optimization of production and expansion of container supply capabilities by introducing new facility
PNS IT	Best practices of DX transformation through verification within the group

Hansol PNS

| Paper Distribution Division |

Grooup is Hansol PNS's online paper mall with a strong focus on maximizing customer experience. The online platform, which enables customers to easily purchase paper products with their PC and mobile phones, has provided customers with significant convenience by launching features such as comprehensive search, real time delivery notification, and shopping cart / re-order. Hansol PNS updates the company's website regularly to incorporate customer feedback and provides them with multiple benefits through various promotions. Our strategic approach is viewed as an effective method for expanding customer interaction and agilely responding to new markets. Grooup will continue to contribute to business expansion and stronger market leadership capability.



당신이 원하는 모든 종이


알아서 찾는 똑똑한 온라인몰

그루잉

 통합검색

 대체제품

 가상계좌

 카드결제

 도착지관리

 SNS 알림

 장바구니

 재주문

대표 문의전화 : 1899-2580

Securing New Growth Engines by Building a Global Network

Hansol Logistics

Based on unrivaled logistics competitiveness in the field of secondary batteries in the Asian region, Hansol Logistics improved its business structure for sustainable development and focused on expansion into the Americas and Europe. This strategy comes from the company's intention to discover opportunities in new markets based on the competitiveness in the field of secondary batteries. As a result, Hansol Logistics successfully advanced into new markets including the Americas and Europe while expanding the volume with existing large customers.

Tapex

Tapex has made an important investment decision to respond to the continuous increase in demand for secondary battery materials following the implementation of global environmental policies and rapid growth of the EV market. Tapex, a leader of functional tape for secondary batteries, has completed the year-long construction of the Saemangeum Factory located in the Saemangeum Industrial Complex at the end of 2023 to prepare for mid- to long-term demand increase. In addition, the Malaysian branch, which was opened together with a key secondary battery manufacturer in 2014, has doubled in size. Tapex has also opened a new office in Germany in 2024 to seize business opportunities in Europe where global car and battery manufacturers leading the world's automobile market are located. The company will start to review localization for overseas global customers more proactively. Meanwhile, Tapex's functional tape for secondary batteries has seen a significant increase in sales in eco-friendly electrical vehicles(EVs) in the last several years. The company has acquired IATF 16949, quality-management system certification for automobiles, to support such growth and enhanced product reliability. IATF 16949 is a standard well recognized in the global automobile manufacturing industry that was co-established by the institutions with major American car manufacturers such as the International Automobile Task Force (IATF) and the International Organization for Standardization (ISO). With the certification, Tapex secured trust from global customers by proving that the quality of batteries for EVs met the global standards, and has seen a steady increase in sales.

Sales Increase and Marketability

Hansol Chemical

Hansol Chemical has recorded remarkable growth in the market for hydrogen peroxide for industrial purposes. Although the use of hydrogen peroxide was traditionally limited to specific markets such as fiber and PCB production, new demand has started to emerge due to the growth of the secondary battery market and increased recycling of waste batteries. Hansol Chemical has achieved significant growth in the market for hydrogen peroxide for industrial use as the product is irreplaceable when recycling secondary batteries. The sales of the industrial hydrogen peroxide for recycling secondary batteries was KRW 4.4 billion in 2022, but then surged to KRW 8.4 billion the following year.

Creation of Open Innovation Ecosystem

Hansol Group

Hansol V Frontiers is an open innovation program that Hansol Group has managed jointly with Accelerator Bluepoint Partners from 2020. The goal of Hansol V Frontiers is to discover and nurture innovative startups with the potential to lead each industry and create a robust industrial ecosystem. The program, implemented as one of Hansol Holdings' ESG management activities, is dedicated to promoting the growth of startups and contributing to the innovation of the industry as a whole. The company value of the 21 startups that participated in the four Hansol V Frontiers programs increased by 6.5 times as of November 2023. These startups also attracted KRW 27.1 billion in follow-up investment.

Hansol PNS

The IT Service Division of Hansol PNS pursues open innovation with the goal of expanding its value chain through cultivation of a collaborative ecosystem. In 2023, Hansol PNS signed an MOU for nurturing an open innovation ecosystem with three startup incubators like the Incheon Center for Creative Economy & Innovation, Gyeonggi Center for Creative Economy & Innovation, and Seoul Business Agency. The division continues to pursue technological collaboration with startups with technological competence in 2024. The division hosted an open contest in collaboration with startups in the industrial safety, AI vision, and cloud sectors and successfully conducted a Proof of Concept (PoC).

Hansol V Frontiers Poster



Hansol PNS Posters



2. Promotion of Company Value Through Marketing and Advertising

Promotion of Brand Image by Participating in Exhibitions



Hansol Paper

Hansol Paper solidified its position in the global market by participating in the Label Expo held in Belgium in September 2023. The company also showcased various products and technologies at major exhibitions and expos in Korea, including Seoul Food in May, Nano Korea in July, COBE Baby Fair in September, and the Korea ESG Exhibition in October 2023. Furthermore, a variety of customer visit events were held to enhance customer engagement and communication. Hansol Paper held a signature briefing session with Magic Color in March, the Shinhan Card Little Picasso Art Festival in September, and an entertainment pictorial promotion in November.



Hansol HomeDeco

Hansol HomeDeco participated as an ESG cooperation company in the Zero Waste Pavilion at the Seoul Design 2023 event. The exhibition was held at DDP from October 24 to November 2 with the theme of "Sustainable future, life together". The Zero Waste Pavilion was set up as a pleasant and comfortable rest area for citizens, made of 100% recyclable or reusable materials. Hansol HomeDeco introduced Hansol Recycle MDF, made with 100% recycled materials and Hansol Storyboard, a furniture door product.

Promotion of Brand Image by Participating in Exhibitions

Tapex

To realize ESG values, Tapex has participated in Seoul Design 2023, an event that showcases the art of collaboration between domestic and overseas ESG leading companies and young designers. Tapex developed ESG-oriented products and brand in collaboration with Hanyang University's Department of Communication Design and displayed the results from October 24 to November 2, 2023 at the event, which was held under the theme of "Valuable Life." The products and brand were designed to foster and expand communication with various marginalized groups in modern society in connection with Uniwrap. The designs displayed are classified into five key elements based on sign language. The elements were produced as friendly characters on Uniwrap products such as nitrile gloves and sanitary gloves. These industry-academia cooperation projects have set forth a new vision and direction for ESG management, and will significantly contribute to securing designers and design developers of Uniwrap's eco-friendly kitchen tools packages.

Seoul Design 2023 Tapex x Hanyang University Exhibition |



| Seoul Design 2023 Tapex x Hanyang University - Creating Characters with a "Sign Language" Motif |

HANDEX FRIEND

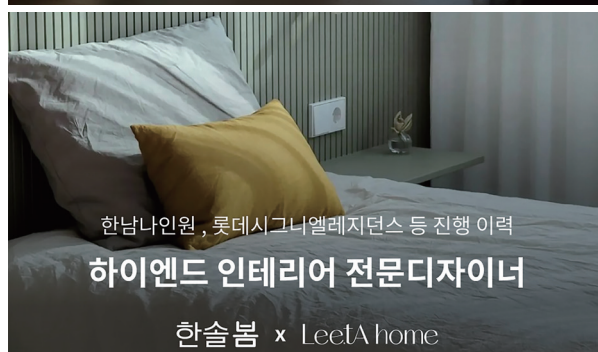
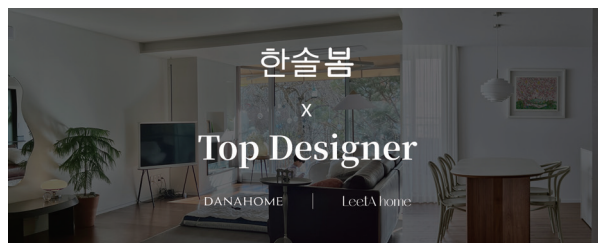
비장애인도 수화를 재미있고 친근한 언어로 느낄 수 있을까?
하는 궁금증에서 탄생한 핸덱스 프렌즈,
손과 손가락에서 볼 수 있는 도형을 귀엽고 위트있게 표현했다.
가지각색의 모양의 핸프는 '손'이라는 공통점을 갖고, 한데 모여 수화를 이룬다.

 Hani	 Adan	 Nia	 Dora	 EX
<p>사랑스러운 하니는 사랑스러운 손님을 누구보다 잘 포착한다</p>	<p>리더십 있는 아단은 이성적인 판단으로 올른 길을 안내한다</p>	<p>열정 넘치는 니아는 일하는 에너지로 빛나는 꿈을 응원한다</p>	<p>온화한 도라는 인내와 관에서 따스하게 감싸준다</p>	<p>계구쟁이 엑스는 재미있는 생각과 말로 행복과 즐거움을 준다</p>

Customer-tailored Marketing

MODU VHOM

Hansol MODU VHOM operates Hansol VHOM, an online total interior platform providing customized interior design options to satisfy customers. Customers receive consulting services from professional interior designers through the Hansol VHOM x Designer Package program, and can choose from various interior design, props, and furniture options according to their preference and lifestyle. In addition, Hansol MODU VHOM offers customers reasonable pricing compared to competitors through a direct management system.



Expansion of Information Disclosed to Stakeholders

Hansol Paper

Hansol Paper operates and manages various social media platforms to facilitate active communication with stakeholders. The company also focuses on promoting direct communication with consumers through the official Instagram account of INSUPER, Hansol's designer paper brand, and Hansol Paper's Instagram account. These platforms provide consumers with various contents, including product updates, eco-friendly technology releases, and news about the company, sharing useful information with stakeholders and consumers in a timely manner. Moreover, Hansol Paper promotes brand awareness by sharing video content on its product manual, environmental protection campaigns, and company events on its official YouTube channel. The channel encourages interest and participation from stakeholders by visualizing not only product details, but also the company's activities to promote sustainable growth and innovation.

Tapex

Tapex added more ESG-related content to its updated website and expands communication with stakeholders by sharing more diverse information with them in a transparent way. The company regularly updates the Sustainability Management menu of the website to add the latest data and information on ESG activities, and actively shares the commitment and performance of ESG management activities with shareholders. In particular, the company expanded the scope of key information disclosed relevant to ESG in different sections of the website, including Corporate Social Responsibility Management, Environmental Management, and Corporate Governance. The information disclosed includes exercising of voting rights at the general meetings of shareholders, mid- to long-term roadmap for occupational health and safety management, yearly target and performance for environmental indicators mid- to long-term objectives and strategies for energy consumption and greenhouse gas emissions, and local community environmental protection and carbon emissions reduction activities. Furthermore, the company added social contribution policies and mid- to long-term targets to the scope of information disclosure to help stakeholders' understanding of its strategic direction and corporate social responsibility activities.

3. Digital Transformation and Innovation

Digital Transformation and Work Efficiency

Hansol PNS

| IT Service Division |

The IT Service Division of Hansol PNS has begun the development of an MES-based integrated manufacturing solution based on the manufacturing system establishment and operation know-how accumulated over a long period of time. The solution centralizes key tasks in the manufacturing area, such as production, facility, quality, and safety management, providing a feature that supports effective execution. By analyzing the customer data collected, Hansol PNS creates an optimized model to support the efficient execution of manufacturing activities.

| Key Features of MES |

1

Web Standard-based MES

Provides an optimal environment for user-oriented scalability and flexibility, and supports WEB standard-based framework technology, Multilanguage, and web / mobile compatibility

2

Stable and Standardized Platform

Sets up a standard management system per factory and configures an environment identical to manufacturing sites

3

LOT Tracking

Integrates MES data collected from the site and Historian to provide features on production history, quality tracking, and analysis and enable forward and reverse search

4

Efficient Production Management

Performs execution and management features pertaining to production, including work performance and history management for maximizing production efficiency and inventory management

5

Promotion of Monitoring System

Provides dashboard features to provide real-time site support and help secure the consistency of data generated from production sites, timeliness and visibility

6

User-friendly UX

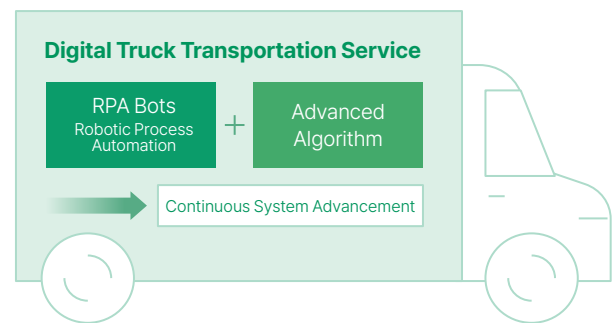
Supports a user-friendly UX environment with excel compatibility and feature to convert printout to digital files

Tapex

Tapex accelerated the speed of digitalization of the company's logistics process with the introduction of WMS in the first half of 2023. The Warehouse Management System is an inventory management system that enables accurate and swift control of inventory synchronizing inventory data using barcodes, scanners, and PDAs. The system not only helped find the accurate location of inventory within the warehouse and improve picking accuracy, but also significantly upgraded operational efficiency by reducing the picking time to below 20 minutes. The speed and accuracy of logistics activities were greatly improved as a result, and Tapex aims to apply the same system to the Saemangeum Factory in 2024. Furthermore the smart factory project, which began in 2020, has successfully been implemented at three business sites up to 2023 and optimized production. The production procedures were innovated as a result of improving accuracy through real-time data monitoring. The smart factory project, which was funded by the government, is a primary example of Tapex aiming to improve business circumstances and practice ESG management.

Hansol Logistics

Logismile, a subsidiary of Hansol Logistics, has launched an app-based digital truck transportation system using digital technology, bringing about innovation in the truck-transportation market. The system accelerates the transportation market's digital transformation by directly providing dispatch services across the nation. It is a TMS-type system that moves away from the traditional analogue method to support all procedures online, from assignment to settlement. The digital truck transportation service of Logismile continues to advance the system through Robotic Process Automation (RPA) bots and advanced algorithm.



Environment

TOWARDS SUSTAINABILITY

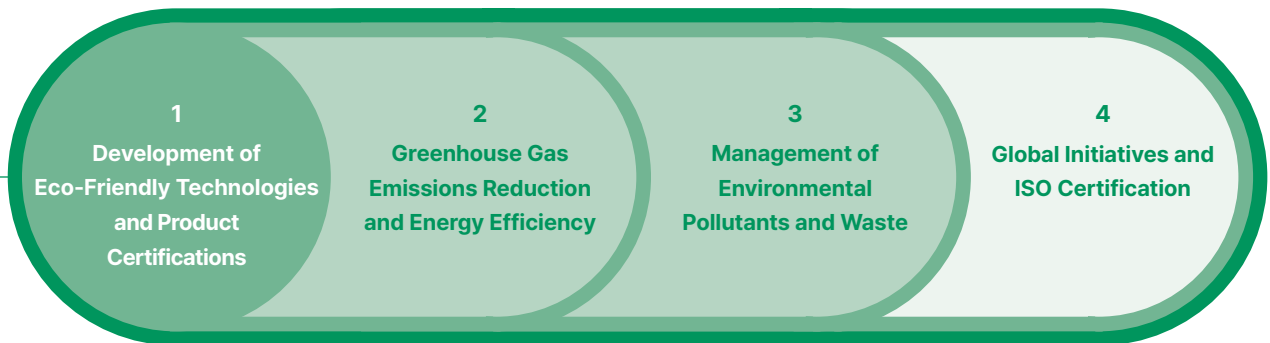
Hansol Group is committed to achieving market development and business expansion through development of eco-friendly products and technology. The company aims to secure new growth engines and sustainable growth as a result of R&D efforts. Hansol Paper and Hansol HomeDeco are the main drivers of business growth, with their eco-friendly products and technology. The eco-friendly materials developed by Hansol Technics and Hansol HomeDeco and utilization of renewable energy are also garnering much attention. Hansol will continue to make bold investments in the research and development of eco-friendly products and technology to lead the way in responding to climate change and creating a green business ecosystem. .

KEY SUSTAINABILITY ISSUES

KEY PERFORMANCE

Environmental Management and Climate Change Response

With growing concerns about the climate crisis, companies both at home and abroad have started to take active actions to achieve carbon net zero by 2050. Hansol Group is also dedicated to developing green technology and products, transition to renewable energy, and minimizing greenhouse gas emissions to reduce the negative impact of business activities on the environment and contribute to resolving the climate-crisis issue.



Hansol HomeDeco
Hansol Recycle MDF
renewable materials
Certified for using

100%

- **Hansol Paper** Grand Prize at the 12th Green Packaging Contest
- **Tapex** Uniwrap Eco and Uniwrap 9, reduced 0.43 tons of plastic
- **Tapex** Reduced PCR stretch film and waste plastics by 40%

Hansol Chemical
Jeonju and Ulsan Plants
reduced greenhouse
gas emissions by

10,260 tons

- **Hansol Paper** Solar power-generation facilities at Daejeon, Cheonan, and Sintanjin business sites
- **Hansol IONES** Reduced greenhouse gas emissions by 5% YoY

Hansol IONES
Reduced business
site-produced waste by

33%

- **Hansol PaperTech** Nano-filters, attracted KRW 650 million in investment
- **Hansol Technics** Methodology for hot water and boiler supply, KRW 834 million investment
- **Hansol Chemical** Reduced waste water generation by 10%
- **Tapex** Resource circulation, 2,486kgCO₂eq reduced

Hansol Group
19 business sites

ISO 14001
certified

- **Hansol Paper** Daejeon Plant and Cheonan Plant both UL ECV 2485 certified
- **Hansol PaperTech** FSC certified

1. Eco-friendly Product and Service Advancement

Expanding the Eco-Friendly Materials Market

Hansol Paper

Hansol Paper signed a memorandum of understanding with Shinsegae Food to develop eco-friendly packaging materials. According to the agreement, the two companies will expand the use of eco-friendly paper packaging materials and jointly develop flexible packaging technology and green packaging containers. In addition, the two companies have agreed to establish a close connection with one another through sharing of research infrastructure and R&D technology exchange. Shinsegae Food has already received a Grand Award at the 12th Green Packaging Contest with its eco-friendly cake packaging made with Hansol Paper's paper products. The two companies will now use paper products including Terravas and Protego to convert existing plastic-based food packaging into paper. Furthermore, Hansol Paper and Samsung Welstory also signed an MOU to develop eco-friendly paper packaging for ESG promotion. The green paper packaging will be jointly developed by the two companies and be applied to the take-out menus served across Samsung Welstory's cafeteria. In particular, Terravas, Hansol Paper's water soluble coating technology will be used for developing the products. Terravas is an eco-friendly material that can be used for various purposes, such as containers, cups, and straws because it is heat and water resistant and can be separately discharged as paper.



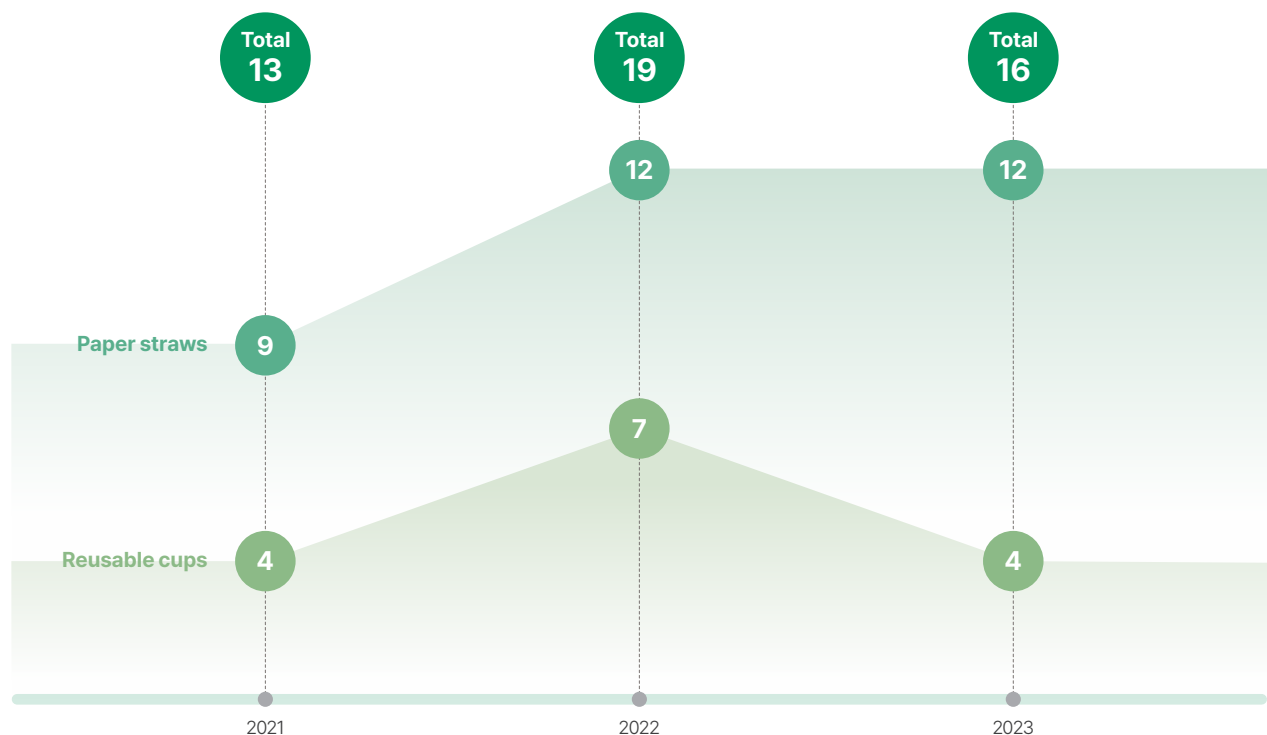
Tapex

Tapex has been supplying various consumer goods and developing eco-friendly products in response to the government's policies and regulations imposed on single-use plastics. Following the Ministry of Environment's announcement of its policy to reduce the use of disposable products, Tapex has increased sales by replacing the existing straws with paper straws, and distributing them to large franchise cafes and supermarkets. In addition, the company joined the Habit Eco Alliance, an ESG initiative, to participate in green programs together with SK Telecom, SK Happiness Connect, and Starbucks. Tapex consolidated its position further as an eco-friendly materials provider by developing reusable cups. In 2023, despite the government's grace period for its regulatory policy on

disposable goods, Tapex achieved continuous growth in sales, recording KRW 1.6 billion in the sales of paper straws and reusable cups. Maintaining a dominant market share for domestic plastic wrap for business use, Tapex launched Uniwrap 9 and Uniwrap Eco, an eco-friendly PO wrap product in the second half of 2023 in addition to its existing PVC wrap items. These products minimize environmental impact and use 30% less plastic than existing products as they are easy to recycle, do not release chlorine during incineration, and are thin. The sales of PO wrap products recorded KRW 4 million from September to December 2023 alone and reduced plastic usage by 0.43 tons.

| Sales of Paper Straws and Reusable Cups |

(Unit: KRW 100 million)



Development of Low-Carbon Products

Hansol PNS

The Paper Distribution Division of Hansol PNS has expanded its collection of eco-friendly products by successfully launching Sugar Pack and The Bamboo. Sugar Pack, made of 100% sugarcane byproducts, contributes to production of forestry and recycling of resources at the same time. The product does not lead to additional environmental harm since sugarcane is made by recycling byproducts left over from sugar manufacturing. Furthermore, environmental impact is minimized as Sugar Pack products, free from chemical treatment or bleaching get naturally degraded when buried in soil. Sugar Pack is used for various packaging purposes, from food, cosmetics, health functional food to even various printed materials including catalogs, shopping bags, and business cards. The Bamboo is the country's only non-timber, uncoated white paper that is biodegradable.

Hansol HomeDeco

Hansol HomeDeco has introduced Hansol Recycling MDF, the world's first product made using 100% renewables, bringing innovation to the green building materials market. The product leads to minimal environmental pollution, as it is a panel board made by molding fiber extracted from renewable resources such as wood under high pressure and high temperature. While domestic and overseas MDF manufacturers generally have a 35% to 60% renewable material mix, Hansol Recycling MDF is made from 100% renewables. It has a competitiveness edge in terms of profitability, productivity and quality. Hansol HomeDeco has enhanced the production quality of MDF by researching process conditions ideal for the properties of recycled timber materials and installed sorting equipment to remove impurities. The product is used for a variety of purposes, including pallets for packaging, interior materials, and wooden bobbins. The company aims to expand its use further by improving the surface quality.

Tapex

The PCR stretch film products of Tapex are made only with recycled materials, measuring up to the government's plan to reduce plastic waste by 20%. The company collects used stretch film, converts it to PCR-PE, and then uses 40% of it again for stretch film production. This activity reduces the use of plastic and incineration and contributes to the reduction of fine dust and greenhouse gas emissions. The company demonstrates stronger leadership skills in the market for green products by selling goods through the virtuous circle of value chain. In addition, Tapex has conducted research and development activities to apply aerogel, an insulation material known for being fire-resistant and effectively reducing energy consumption and greenhouse gas emissions to electric vehicles. The company applied for a patent for an aerogel sheet that was developed as of the end of 2023 to respond to thermal runaways of electric vehicles. Aerogel sheets are targeting mass production in 2026, and the product is expected to significantly contribute to Tapex's sales growth and expansion of the eco-friendly business, alongside the expected growth of the market for electrical vehicle insulators. The aerogel sheets developed by Tapex are certified for V-0 fire retardancy securing both safety and eco-friendliness.

Seminars for Sharing Eco-Friendly Ideas

Hansol Paper

In 2023, Hansol Paper hosted the Food and Packaging Seminar with client companies to introduce paper as an excellent alternative to plastic and discussed ESG management and sustainable packaging solutions. The seminar held this time targeted mostly businesses in the food industry, and the participants included over 80 packaging employees and executives from CJ Cheil Jedang, Lotte Wellfood, Dongwon F&B, and SPC. Through the session prepared by Hansol Paper, participants learned about the paper manufacturing processes and recycling procedures and also learned how paper waste that was separately disposed of gets reused.

Environmental Management Assessment of Qualified Contractors

Hansol Logistics

From the beginning, Hansol Logistics has selected maintenance of the environmental management system as a key assessment factor and conducted assessment of qualified contractors. The company carried out thorough safety and health management activities for contractors to prevent disasters and assessed their environmental management performance based on detailed standards, such as appropriateness of environmental goals, understanding of environmental policies and goals, appropriate assignment of responsibility and authority, sufficiency of education on the environment, implementation of assessment on environmental-regulation compliance, employees' understanding of relevant laws, and appropriate monitoring of environmental goals.

| Hansol Logistics and Eco-Friendly Environmental Management Assessment |

Maintenance of Environmental Management Systems

- ☒ Are the environmental goals appropriately set?
- ☒ Is the company well-acquainted with the environmental policies and goals?
- ☒ Are the responsibilities and authorities related to the environment appropriately assigned?
- ☒ Is the company providing education related to the environment appropriately?
- ☒ Was an assessment conducted on compliance with environmental laws and regulations applied to each division?
- ☒ Are the employees well-acquainted with the environmental laws and regulations applied to each division?
- ☒ Are the environmental goals monitored appropriately?

2. Greenhouse Gas Emissions Reduction and Energy Efficiency

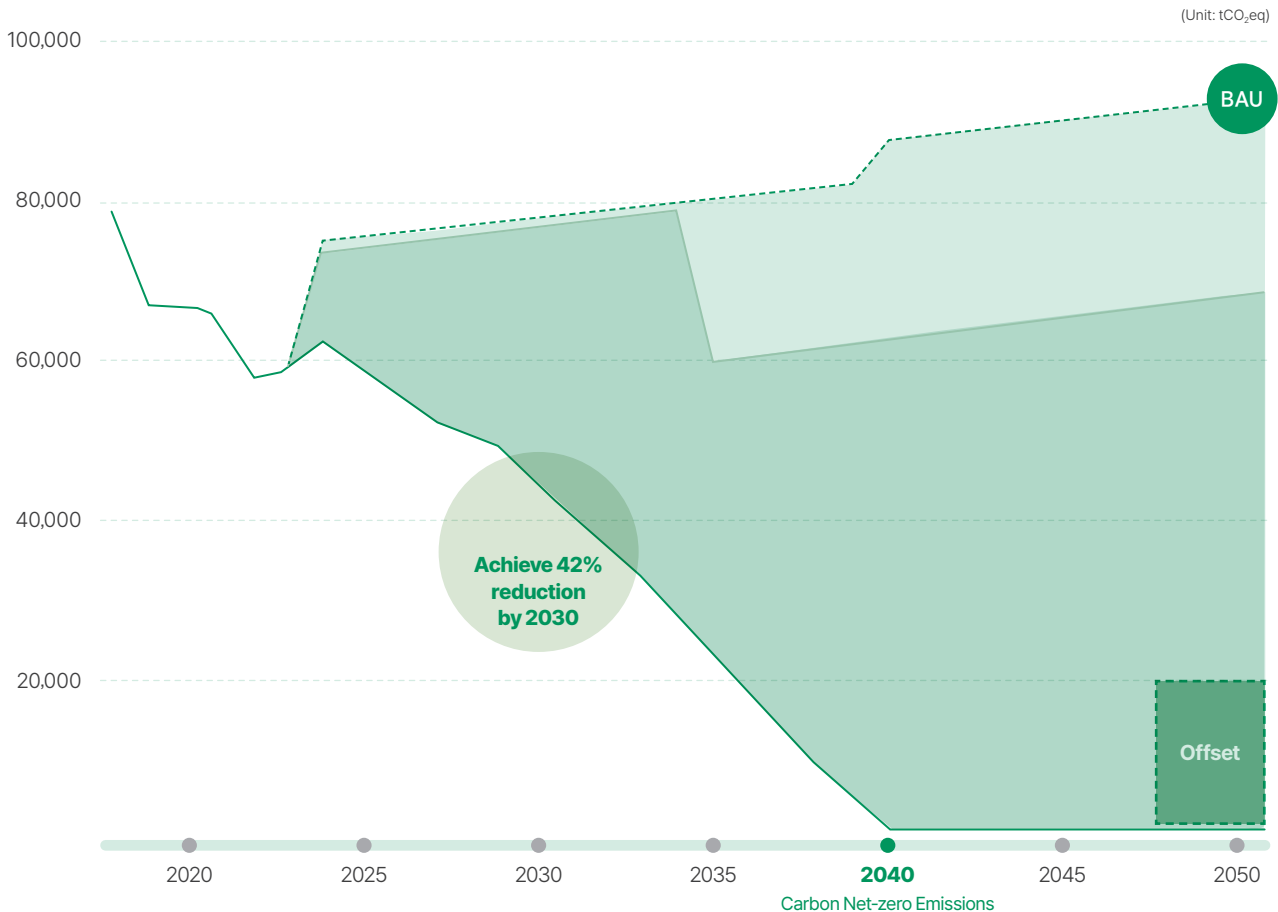
GHG Emissions Reduction Target and Implementation Roadmap

Hansol HomeDeco

Hansol HomeDeco has established a systematic implementation roadmap for achieving the goal of GHG emissions reduction. To that end, we have analyzed the total volume of GHG emissions and broken it down to various domains, including procurement, service, capital goods, logistics, and waste. We have identified in Scope-3 that the top-five categories, including products and services,

capital goods, logistics, and waste, generated 99% of all emissions. Hansol HomeDeco set a target to reduce SBTi Scope-1 and 2 emissions by 30,000 tons, or 42% by 2030 and reduce another 81,000 tons to achieve net-zero emissions by 2040. Investment in renewable energy and introducing electric cars were selected as short-term measures to achieve reduction of emissions.

Roadmap for Net-zero Emissions by 2040



Analysis on Climate Crisis

Hansol Technics

Hansol Technics reports its performance to respond to climate-change risks and promote ESG management activities. Climate change-related risks are categorized into transitional risks, which are associated with changes in policy, market, technology, and reputation, chronic and acute physical risks, and other risks pertaining to products and market circumstances. Through

categorization of risks, the company aims to strengthen the company-wide risk management system and prevent various risk factors. In addition, Hansol Technics adopted a swift decision-making process so that critical issues are notified to the management without delay. These efforts and activities put Hansol Technics in a position to preemptively respond to rapid changes in internal and external business environment.

| Climate-Change Risks and Response of Hansol Technics |

Category		Major Risks Identified	Potential Impact	Response
Transitional Risk	Policy / regulation	Stronger environmental laws and regulations	Increased risks related to fines and litigation from violation of environmental laws	<ul style="list-style-type: none"> Regular monitoring for legislation / modification of environmental laws Cross-checks between labor and management
		Transition to an eco-friendly economy	Climate change and request for eco-friendly activities for companies' sustainable growth	<ul style="list-style-type: none"> Establishment of mid- to long-term strategies for climate-change response Step-by-step roadmap and implementation
	Market	Environmental pollution before and after solar panel installation	Increased danger and risk of environmental pollution including installation and disposal cost	<ul style="list-style-type: none"> Technology for reducing disposal cost and increased use of green products
	Technology	Transition to eco-friendly low carbon technology	Increase in cost due to R&D and introduction of new technology	<ul style="list-style-type: none"> Monitoring research trends on eco-friendly technology and B/M
	Reputation	Changes in consumer behavior	Reduction in consumption due to solar panel waste-driven environmental pollution	<ul style="list-style-type: none"> Development of products that satisfy customer needs by expanding the use of green, reusable materials
Physical Risk	Acute	Growing intensity of climate change such as typhoons, floods, and wildfire	Preparation of climate-change responses by analyzing physical risk scenarios	<ul style="list-style-type: none"> Preparation of climate-change responses by analyzing physical risk scenarios
	Chronic	Changes in climate patterns such as rising sea levels and average temperature	Increase in recovery cost for business sites impacted from environmental change	<ul style="list-style-type: none"> Establishment of serious occupational accident response measures and review of implementation
Opportunity	Product / market	Customers showing more interest towards eco-friendly products	Demand and sales increase of eco-friendly products and services	<ul style="list-style-type: none"> Monitoring eco-friendly technology and research trends, and expansion of technology investment

GHG Emissions Reduction Through Energy Efficiency Improvement

Hansol Paper

Hansol Paper introduces solar-power generation facilities in order to reduce greenhouse gas emissions by improving energy efficiency. These activities are carried out to achieve the two important objectives of responding to the rising costs of electricity and ESG carbon neutrality. To meet the growing need for renewable energy, Hansol Paper aims to reduce power consumption and make a transition to renewable energy. In 2023, we replaced part of our existing power with solar power by installing solar-power generation facilities with a capacity of 3.7MW at Daejeon, Cheonan, and Sintanjin Plants. Hansol Paper reduces cost and greenhouse gas emissions at the same time by consuming the electricity produced within the company, achieving energy self-sufficiency. In addition, the company plans to install solar power generation equipment at the Janghang Plant in 2024.

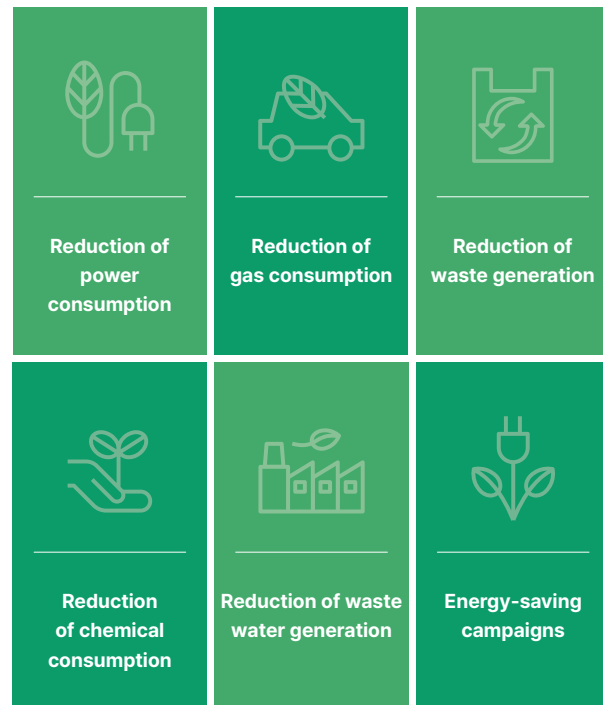
Hansol Technics

Hansol Technics has reduced energy consumption by fundamentally improving the hot water supply method and boiler operation method. The company invested KRW 27 million in replacing the existing steam heating system and installing individual electric water heaters in restrooms. Moreover, the old system air conditioner at Ochang Plant was replaced with a first class high-efficiency system. A centralized system for adjusting temperature was established by investing KRW 807 million to install 25 air conditioner indoor units, 5 outdoor units, and DMS. As a result, Hansol Technics not only saved energy, but also costs.

Hansol IONES

Hansol IONES reduced LNG consumption by resolving steam leakage by limiting the use of steam boilers and replacing outdated steam taps. The company also reduced LPG consumption by adjusting the hot water temperature during the summer season. In addition, a person in charge of energy saving was assigned to each department, and materials to promote energy saving were distributed within the company to raise environmental awareness. Furthermore, unnecessary power consumption was removed by optimizing the operation of HVAC systems and heaters at the headquarters and Balan Factory, and installing power-saving switches. Through these efforts, Hansol IONES reduced greenhouse gas emissions by 4.3% compared to the previous year.

| Hansol IONES and Key Actions for Improving Energy Efficiency |



GHG Emissions Reduction Through Energy Efficiency Improvement

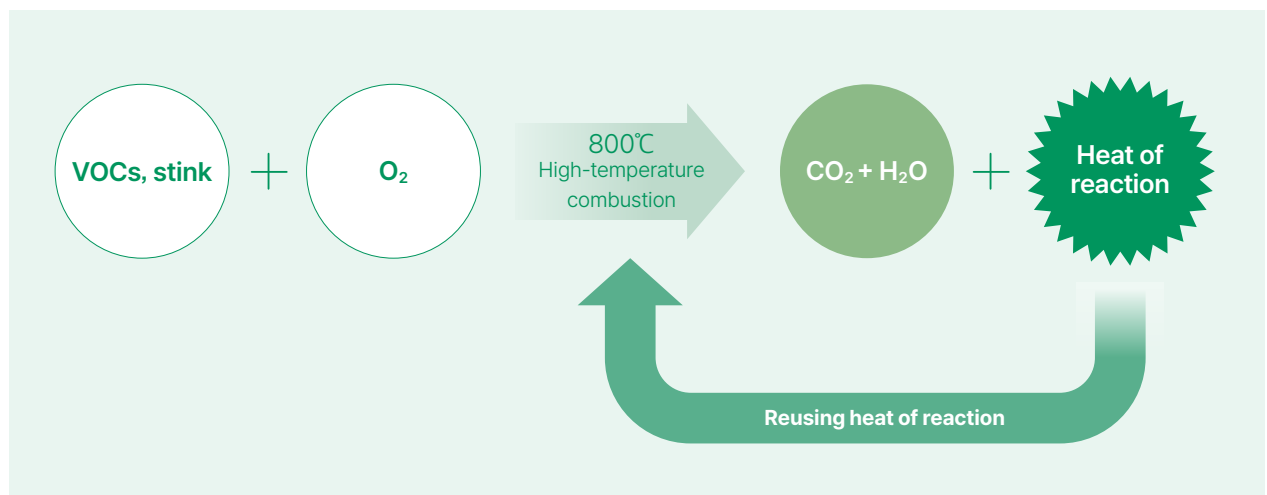
Hansol Chemical

Hansol Chemical's Jeonju and Ulsan plants increased the share of externally produced steam. The Jeonju Plant significantly curtailed consumption of LNG produced from the company's steam operations from 8,294,643Nm³ in 2022 to 3,595,691Nm³ in 2023. Through these improvement efforts, Hansol Chemical reduced approximately 10,260 tons of greenhouse gas emissions. The Ulsan Plant also decreased greenhouse gas emissions by around 1,000 tons by lowering LNG consumption from 834,504Nm³ in 2022 to 382,432Nm³ the following year. The efforts to reduce LNG consumption demonstrate that Hansol Chemical is taking substantial initiatives to reduce greenhouse gas emissions and contribute to a decrease in overall energy consumption and environmental impact.

Tapex

Tapex has applied the RTO waste heat recovery system used at Yanggam and Paltan Plants to the Saemangeum Factory constructed at the end of 2023 to reduce energy consumption and GHG emissions. The system contributes to reduction of GHG emissions by reusing the heat generated from processing VOCs gas and significantly decreasing LPG consumption. With the RTO waste heat recovery system, Tapex has reduced approximately 521 tons of LPG for Yanggam Plant Unit 7 alone in the year of 2023. Furthermore, as a partner company that is part of the supply chain for global EV and battery manufacturers, Tapex makes concerted efforts to fulfill carbon emission- reduction responsibilities, including expanding the system to all business sites producing tapes for secondary batteries.

| Tapex's RTO Waste Heat Recovery System |



3. Efforts to Minimize Environmental Impact

Establishment of Green Management System

Hansol Paper

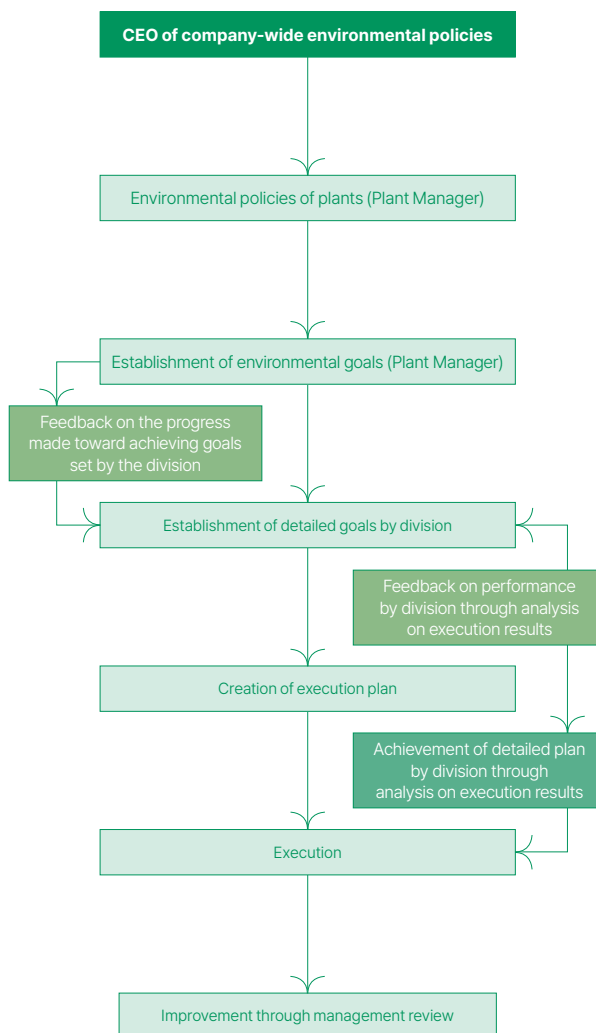
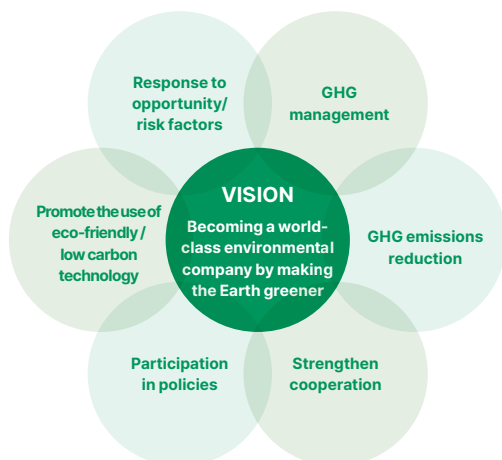
Hansol Paper has built the foundation for the green management system based on the vision for advancing as a global environmental company. Following the declaration of the Hansol Environmental Charter in 1993, Hansol has adopted ISO 14001, an environmental management system, to minimize environmental

impact and designated all establishments as green companies. In addition, the company publishes ESG reports for the internal and external disclosure of our green management vision, strategies, and environmental policies. The ESG reports are posted on the company website to transparently disclose such information to all employees, executives, and shareholders.

Hansol Paper's Green Management Vision



Hansol Paper's Green Management Strategy



Improvement of Waste, Wastewater, and Pollutant Management

Hansol PaperTech

Hansol PaperTech has invested a total of KRW 650 million in nano-filter facilities to enhance the efficiency of water usage and improve water quality. The investment, made for minimizing the company's impact on the environment, contributed to less water-consumption and improved quality of wastewater. In 2024, Hansol PaperTech plans to invest KRW 420 million in installing cooling towers and KRW 40 million in adding more compressors.

Hansol Technics

Hansol Technics conducts regular measurement of the contamination degree of specific hazardous substances found in wastewater to set the direction for wastewater treatment and improve quality.

Most hazardous substances were not detected in the wastewater as a result of self-inspection, substantiating the effectiveness of Hansol Technics' sustainable environmental management strategy to minimize environmental impact through efficient operation of the wastewater treatment system. In addition, the company assists the conservation of the local environment by cleaning the inside of the Nonpoint Pollutants Treatment Facility on a regular basis and preventing the influx of pollutants into rivers and streams. The Nonpoint Pollutants Treatment Facility at Jincheon and Ochang Plants has shown maximized efficiency by removing pollutants accumulated over time.

Hansol HomeDeco

| Details of Investment in Maintenance of Wastewater Recycling Facility and Effect |

Category	Description
Purpose of Investment	Using wastewater to reduce industrial water consumption and wastewater treatment cost due to decrease in discharged wastewater
Improvement Measure	Installation of additional high-efficiency filtering facility; improvement of reused water quality
Investment Details	Installation of high-efficiency filtering facility for reusing wastewater; reused as make-up water for MDF wet scrubber incinerator following the first round of filtering
Investment Cost	KRW 100 million in total
Investment Period	From December 2023 to January 2024 (two months)
Quantitative Impact	<ul style="list-style-type: none"> Reduction in industrial water consumption: 150tons /day, KRW 0.025 billion / year Reduction in wastewater: 150 tons / day, KRW1.04 million / year
Internal Rate of Return (IRR)	100.4%
Payback Period	One year

Improvement of Waste, Wastewater, and Pollutant Management

Hansol IONES

Hansol IONES has introduced an efficient process for reducing waste generation and promoting recycling efforts. The process minimizes waste generation and the use of raw materials by cleaning and reusing reusable consumables and introducing new ways of reusing them. These approaches to promoting sustainability management have played a key role in effectively reducing waste generation by 33% YoY (421 tons in 2022 → 279 tons in 2023). Furthermore, Hansol IONES manages and discloses the water intake and consumption levels for the efficient usage of water.

Hansol Chemical

The Ulsan Plant of Hansol Chemical has discharged a total of 144,901 tons of wastewater in 2023, a 10% reduction compared to the previous year, as part of its efforts to continuously improve processes and protect water resources. Hansol Chemical reduced the amount of wastewater discharged by a total of 45,000 tons over two years as part of its improvement measures implemented from 2021. The Ulsan Plant has recorded remarkable performance in terms of waste management at the same time. A total of 1,674 tons of waste was generated in 2023, which is a 15% decrease YoY. The reduction is attributable to efficient dehydration of sludge created during wastewater treatment, and reusing waste solvents and waste wood.

Water Intake and Consumption by Hansol IONES Business Sites

(Unit : m³)

Category	January	February	March	April	May	June	July	August	September	October	November	December	Sum
Headquarters	6,058	6,210	4,278	4,189	3,518	3,475	3,022	3,162	2,976	3,152	3,329	4,296	47,665
Balan R	4,357	4,493	4,745	3,779	3,886	3,629	4,008	3,102	4,429	4,562	3,398	3,702	48,090
Balan A	93	92	35	51	28	31	46	47	29	46	57	49	604
Dongtan	10	11	22	13	22	33	34	17	20	22	28	31	263

Tapex

Tapex has innovated environmental management by setting up a real-time monitoring system using IoT for air pollution prevention facilities across the entire company. The cutting-edge communication equipment monitors the appropriate treatment and emissions status of air pollutants such as fine particulate matters at business sites in real time. The equipment not only conducts monitoring activities, but also sends data to the control system of Korea Environment Corporation (KEC) through the VPN. Tapex has gradually installed the system across the Yanggam, Paltan,

and Uniwrap Plants, and the newly constructed Saemangeum Plant throughout 2023. The company is now capable of remotely monitoring the air pollution prevention facilities without site visit. In addition, to strengthen measures to manage chemicals, the company conducted systematic training for employees and executives handling such materials. The education program held both offline and online contributes to improving employees' competence in handling chemicals, and creating a safe and responsible chemical management system.

| Tapex and Education for Promoting Environmental Management |

Assessment Criteria	Theme	Period	Participants
Training on hazardous chemicals management	Hazardous chemicals management for managers	February ~ September 2023	Three persons
	Training on hazardous chemicals management for those handling such materials	January ~ December 2023	74 persons
	Training on hazardous chemicals management for those in the industry	January ~ December 2023	167 persons
Safety management of dangerous substances	Safety management of dangerous substances	August ~ September 2023	Six persons
Training on practicing environmental management	Responses to regulations on industrial wastewater and waste	September 2023	Two persons
	Noise and vibration management	May ~ June 2023	Two persons
	Training for waste generators	September ~ October 2023	Two persons
	Atmospheric environment management	October 2023	One person

Revitalization of Circular Economy

Hansol Paper

To promote a circular economy, Hansol Paper contributes to circulation of resources by producing new paper products from reprocessing thrown away aseptic containers into raw materials, and pursues the reuse of byproducts and reduction of carbon dioxide emissions through thermal recycling of waste. A technology to easily remove double-sided film coating was applied to improve the reusability of aseptic containers. The company makes concerted efforts to reduce environmental burdens by improving the foreign matter screening process to filter fine vinyl, and create economic value. These activities are part of the agreement signed with Korea Packaging Recycling Cooperative and 12 other domestic food, beverages, and household supplies manufacturers to create a circular system for using aseptic packaging containers. Hansol Paper has demonstrated an example of a circular economy, where the company fulfills environmental responsibility and achieves economic efficiency at the same time.

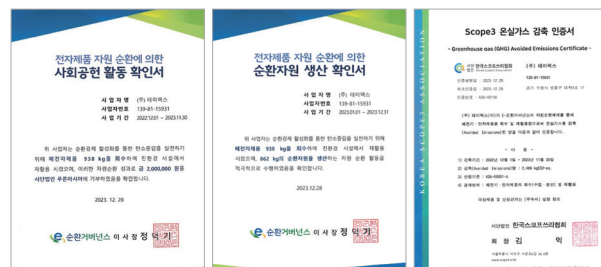


Hansol HomeDeco

Hansol HomeDeco has internalized recycled chip manufacturing facilities for realizing circulation of resources in response to unstable supply of raw materials and cost increase. The internalization happened based on the need to supply SRF and recycled chips, with the goal of stabilizing raw material supply, reducing costs, and promoting understanding of the waste wood market. The company is reinforcing the sales force of recycled chips through acquisition of existing facility, installation of additional facility and transition to consignment operations. Through such strategic investment, Hansol HomeDeco expects to lower the unit cost of SRF and recycled chips and achieve KRW 137 million in annual cost savings. The cost for investing in resource circulation facility is covered by usage fees. The qualitative effects achieved by the company include price suppression through stabilization of sourcing and maintaining a stable process and mixing ratio.

Tapex

Tapex has carried out a resource circulation campaign with the goal of utilizing sustainable resources and reducing GHG emissions. The purpose of the campaign is to encourage the circulation of resources by collecting and reusing the electrical and electronic equipment and mobile phones that employees are not using, and donating the proceeds. The campaign, jointly organized by the Korea Electronics Recycling Cooperative reduced carbon emissions by approximately 2,486kgCO₂eq by collecting 938kg of waste electronic and electrical equipment, contributing to 862kg of resource circulation. Furthermore, Tapex improved employees' ESG awareness through the campaign, as it included training on resource circulation. The campaign puts into practice the circular economy, which is moving away from procurement and negligence to recycling and giving back to society. The KRW 2 million of proceeds earned from selling waste mobile phones collected were donated to the Green Asia Foundation, fulfilling the company's social responsibility and serving the public interest.



Environmental Improvement Project

Hansol HomeDeco

In order to provide members with a positive experience and to incorporate ESG principles into daily operations, Hansol HomeDeco carries out companion activities. These activities are part of an environmental improvement project that is conducted on a bi-monthly basis at the Yeouido Saetgang Ecology Park to promote harmony among members and social values. The project which first started in 2023 carries out different activities including planting aquatic plants to improve water purification, creating a reusable wooden fence to create a protected area for otters, planting trees within the park and taking care of surroundings. These activities are focused on fulfilling Hansol HomeDeco's social responsibilities and promoting environmental management efforts in the sense that they bring members closer to nature, contribute to sustainable environmental protection, and practice and disclose ESG values to both internal and external stakeholders.

홈데코 동행

구성원의 긍정적인 경험 및 ESG 실천

구성원 화합 및 사회적 가치 향상 추구를 위한 홈데코 안전 활동 프로그램

장소	계곡생태생태공원
활동일시	계절 1회 월례주 금 / 시작일 : 4월 7일(금) 14:00~17:00
오입대상	본사 근무 중 희망자
신청방법	시작일 기준 일주일 전 HR팀 회신(-3/31 금)

활동명

수원정화원 개선	수물 보호구역 조성	나무 신기&가꾸기
수생식물 살기	나무 세밀물 보호	공원 내 나무살기 주변 가꾸기
2023년 계획프로그램		

Creation of a protection area for otters

Picking up wood

Water purification basin

Tapex

Tapex has engaged in beachcombing with Hwaeong City Hall on a regular basis to participate in efforts to resolve marine pollution including marine plastic waste. The project which began in September 2022, involves employees collecting trash around Maehyang-ri Beach, located near Tapex's factory in Hwaseong. The activity not only contributes to environmental conservation, but also to protection of biodiversity. Thirty employees participated in the environmental cleanup activity in October 2023 and collected a total of 280kg of marine trash around Maehyang-ri Beach throughout 90 cumulative hours



4. Global Initiative & Environmental Management Certification

Eco-Friendly Product Certification

Hansol Paper

Certification	Production Plant	Product Type	Product Name
FSC	Daejeon Plant	Industrial paper	Hi-Q AB Light, Hi-Q AB Premium, Hi-Q AB Plus, Hi-Q FSB
			Hi-Q ACB, Hi-Q SC, Hi-Q FAB, etc.
	Janghang Plant	Printing paper	Ensemble E Class, Cloud, colored wood free printing paper, New Wood Free Paper
			Hi-Plus, New Plus, Premium Textbook Paper, white coated paper, Hi-Q Duomatt
			Hi-Q Millennium Art, etc.
		Thermal paper	Green, Green HS, Green AFH
			CL, EL, SL,HB
			HL, PF, Pro, etc.
	Shintanjin Plant	Printing paper	Campus paper (S,J), New Classic, New Wood Free Paper, New Plus, Green Textbook Paper
			Premium textbook paper, Hi-Q Matt Premium, Hi-Q Mystic, Hi-Q Semi-kraft
			Hi-Q Duomatt, Hi-Q Millennium Art, etc.
		Thermal paper	Green HS, Green AFH, SL
			Green EL Slim, Green EL
			Green HB, Green, CL, etc.
	Cheonan Plant	Fancy paper	Fancy papers, green products, outsourced products, etc.
		Thermal papers	Green, Pro, etc.
		Inkjet paper	Inkjet sublimation papers
UL ECV 2485	Cheonan & Daejeon Plants		Protego S(EB Smart) 70g, Terravas Cup
GR Certification (Good Recycled)	Shintanjin Plant		Green Textbook Paper
Green seal	Cheonan Plant		INSPER_Smooth Shopping(E)PCW30, 90
Eco-label Certified Products	Janghang Plant		New Wood Free Blue, New Plus Blue, Hi-Duo Matt Blue
	Cheonan Plant	INSPER Signature Eco, AHC Willow, INSPER Aloe	
		INSPER Maic Comma, Dr. G_Cica Paper, INSPER Eco	
	Shintanjin Plant		Hi-Q Millennium Art, Premium Textbook Paper Blue=

Hansol PaperTech

Certification	Production Plant	Paper Type	Product Name
FSC	Hansol PaperTech	Surface paper	SK180, SK-H180, KLB125, KLB127, KLB141, KLB150, KLB160, KLB170 KLB190, KA180, KA210, SKC180
		Scrap paper	K2 180, KE180, TKLB125, TKLB140, TKLB150, TKLB160, TKLB170 HK180, HK170, HK125, K160, RFR180, TKLB-A125, TKLB-A140 TKLB-A150, TKLB-A200
		Fluting paper	S110, S120, B150, FS115

Hansol HomeDeco

Evaluation Criteria	Product Name	Description	New products
Eco-label, GR certification	E0 MDF of 35Mpa or more	Board constructed from recycled chips made with selected wood waste collected from construction sites (Transverse strength of 35Mpa and above)	
	E0 MDF 30	Board constructed from recycled chips made with selected wood waste collected from construction sites (Transverse strength of 30Mpa and above)	
GR certification	E0 MDF 25	Board constructed from recycled chips made with selected wood waste collected from construction sites (Transverse strength of 25Mpa and above)	New certification
Eco-label, GR certification	E0 MDF 20	Board constructed from recycled chips made with selected wood waste collected from construction sites (Transverse strength of 20Mpa and above)	New certification
GR Certification	E0 MDF 15	Board constructed from recycled chips made with selected wood waste collected from construction sites (Transverse strength of 15Mpa and above)	New certification
Eco-label	SPB	Board designed to replace particle boards with fiberboards in response to the trend of increasing particle board imports (Transverse strength of 20Mpa and above)	
Eco-label, HB mark, Indoor mark	Laminated flooring (dynamic)	12mm, 15mm thick, E0 grade non-glued flooring produced by attaching LPL to HDF and applying reinforcement treatment	New certification
	Laminated flooring (wood)	7.5mm thick E0 grade non-glued flooring produced by attaching LPL to HDF and applying reinforcement treatment	
Eco-label, HB mark, low-carbon	Ultra	7.5mm thick, E0 grade flooring made by attaching HPL to plywood	
Eco-label, HB mark	Story Wall	9mm-thick, E0 grade flame retardant wall made by bonding LPL to HDF	
Eco-label, HB mark, EDP	EB General (Edge / Stone)	6mm-thick, SE0 grade flooring made by attaching PP to SB core that is resistant to water and moisture	
	SB HPL (Edge / Stone)	6mm-thick, SE0 grade flooring made by attaching HPL to SB core that is resistant to water and moisture	
Eco-Label	SG Embo	6mm-thick, SE0 grade flooring made by attaching HPL to SB core that is resistant to water and moisture (texturized)	
Eco-label, HB mark, low-carbon	Ultra HPL	7.5mm-thick, SE0 grade flooring made by attaching HPL to SB core that is resistant to water and moisture	
HB mark	Well Stone	Semi-non-combustible grade product with excellent dimensional stability, water resistant and processability made by attaching LPL to inorganic rockwool material	
	Prium	10mm-thick SE0 grade hardwood flooring, made by applying UV coating to plywood	
Indoor mark	SBHPL Flooring	7.5mm-thick E0 grade flooring, made by attaching HPL to SB core that is resistant to water and moisture	New certification
	Collect Skin Floor	7.5mm-thick SE0 grade flooring, made by attaching PP to SB core that is resistant to water and moisture	New certification
	Ultra L HPL	7.5mm-thick SE0 grade flooring, made by attaching LPL to SB core that is resistant to water and moisture	New certification
HB mark	Collect Wall	7.5mm-thick flame retardant wall material made by attaching LPL to inorganic board	New certification

(Unit: KRW 100 million, based on standalone financial statements)

Type	2021	2022	2023
MDF (Green)	139	188	198
Flooring Products (Green)	654	654	693
Total	793	842	891
Total sales	2,575	2,819	2,955
Percentage of Sales of Eco-friendly Products (%)	30.8%	29.8%	30.2%

Green-Certified Products

Hansol Technics

Green-Certification	NO.	Product Name	Description
Verification of Solar Modules' Carbon Emissions	Level 1 (Under 630)	HSxxxWE-GHD10	Carbon emission intensity (572~625), 18 products
		HSxxxWE-GHD20	Carbon emission intensity (605~627), 8 products
		HSxxxWE-GHD30	Carbon emission intensity (556~628), 17 products
		HSxxxWE-GHD50	Carbon emission intensity (602~623), 16 products
		HSxxxWD-GHE10	Carbon emission intensity (609~622), 11 products
		HSxxxWE-GHE10	Carbon emission intensity ~615), 3 products
	Level 2 (630~670)	HSxxxUD-HH2	Carbon emission intensity (650~667), 3 products
		HSxxxWE-HH4	Carbon emission intensity (644~665), 4 products
		HSxxxWE-GHD	Carbon emission intensity (637~665), 8 products
		HSxxxWE-GHD10	Carbon emission intensity (630~668), 21 products
		HSxxxWE-GHD30	Carbon emission intensity (631~645), 3 products
		HSxxxXD-GHE10	Carbon emission intensity (667~669), 2 products
		HSxxxXE-GHE10	Carbon emission intensity (662~668), 2 products
	Level 3 (670~730)	HSxxxWE-HH4	Carbon emission intensity (726~727), 1 product
		HSxxxWE-GHD	Carbon emission intensity (670~727), 3 products
		HSxxxWE-GHD10	Carbon emission intensity (674~728), 7 products
		HSxxxWE-GHD30	Carbon emission intensity (681~708), 8 products
		HSxxxWE-GHD50	Carbon emission intensity (679~694), 12 products
		HSxxxXE-XHD20	Carbon emission intensity (709~725), 3 products
		HSxxxXD-GHE10	Carbon emission intensity (673~694), 4 products
		HSxxxXD-GHE	Carbon emission intensity (719~727), 2 products
		HSxxxXD-GHE10	Carbon emission intensity (673~701), 16 products
	Level 4 (730 and above)	HSxxxXD-XHE	Carbon emission intensity (689~703), 3 products
		HSxxxUD-AN1	Carbon emission intensity (777~822), 5 products
		HSxxxUC-HH2	Carbon emission intensity (739~760), 3 products
		HSxxxUD-AH2	Carbon emission intensity (751~802), 6 products
		HSxxxUD-HH2	Carbon emission intensity (735~791), 14 products
		HSxxxUD-JH2	Carbon emission intensity (750~791), 5 products
		HSxxxUD-THB	Carbon emission intensity (756~797), 5 products
		HSxxxUD-W02	Carbon emission intensity (772~783), 2 products
		HSxxxUE-AN1	Carbon emission intensity (793~825), 4 products
		HSxxxUD-GHB	Carbon emission intensity (744~763), 3 products
		HSxxxUE-AH2	Carbon emission intensity (754~802), 6 products
		HSxxxUE-AH3	Carbon emission intensity (752~788), 5 products
		HSxxxUE-WH3	Carbon emission intensity (765~793), 4 products
		HSxxxWE-HH4	Carbon emission intensity (734~759), 4 products
		HSxxxWE-THD	Carbon emission intensity (746~763), 3 products
		HSxxxWE-GHD	Carbon emission intensity (733~758), 7 products
		HSxxxWE-GHD10	Carbon emission intensity (733~742), 3 products
		HSxxxXD-GHE	Carbon emission intensity (733~756), 4 products

Carbon Footprint Verification and Evaluation

Hansol Paper

Hansol Paper's Protego is an eco-friendly paper-based packaging that can replace plastic and aluminum. This innovative material, which blocks oxygen and moisture through a special water-based barrier coating, has been applied to over 40 types of items as of the end of 2023, including food packaging materials, face masks, and acne patches.

The flexible packaging material made with Protego can be disposed of as paper, and it has been proven through the Life Cycle Assessment to emit approximately 30% less carbon than existing film packaging materials. Through these achievements, Hansol Paper received a Certificate of Green Technology, UL ECV 2485, a certificate for reusability and sustainable forestry management, and FSC certification.

Tapex

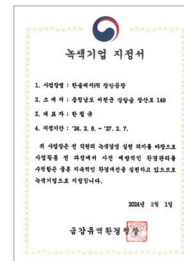
Tapex has upgraded the Life Cycle Assessment to evaluate its products' environmental impact across the product life cycle and verify reliability. Following the first application of LCA to secondary battery tapes used for ensuring the safety of EV batteries in 2022, Tapex expanded the scope to cover more items in 2023.

Tapex's LCA conducts quantitative evaluation on a product's potential environmental impact and reliability. It serves an important role in laying the foundation for expanding the company's global sales by satisfying the needs of client companies located in Europe and other regions with strict ESG regulations for eco-friendly supply chain management. It is also utilized as the basis for accurate self-identification of the products' impact on the environment and continuous improvement.

Green Technology Certification

Hansol Paper

Hansol Paper's technology for manufacturing paper that blocks moisture and gas received a Green Technology Certification, an acknowledgement for technological prowess in the green packaging market. The certification, introduced by the Ministry of Trade, Industry and Energy is granted to technologies that enable efficient use of energy resources and minimum GHG and pollutant emissions.



Social

TOWARDS SUSTAINABILITY

Hansol Group has amended and disseminated the Human Rights Management Guidelines across the entire group and conducted systematic training to protect the human rights of employees. The company is committed to creating a safe and enjoyable workplace and encouraging empowerment of employees through various education support programs. The group's major affiliates are ISO 45001 holders, and the assessment system was upgraded in 2023 based on the Hansol Safety Rating System introduced in 2022 to conduct safety and health management activities tailored to the characteristics of each business site.

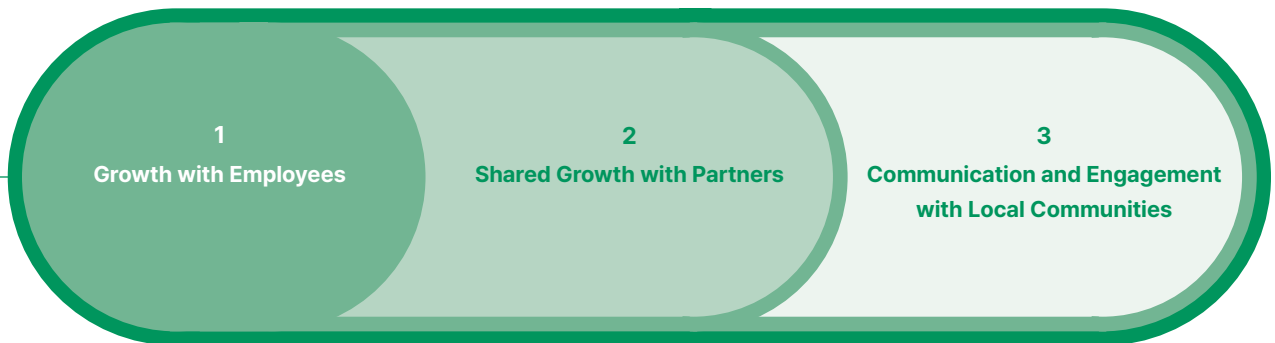
Hansol Group actively collects feedback from employees through the Labor Management Council and provides employees with fair performance-based compensation through salary-raise discussions and procedures. These efforts boost satisfaction and motivation levels. The group is committed to making continuous efforts to achieve sustainable development together with employees and executives, partner companies, and the local community.

KEY SUSTAINABILITY ISSUES

KEY PERFORMANCE

Sustainable Growth for All

Hansol Group is dedicated to carrying out stakeholder-oriented management through activities such as the LMS program, employee growth support program, and local community activities, and achieving sustainable growth with customers.



Seven affiliates of Hansol Group
(Hansol Holdings, Hansol Paper, Hansol PNS, Hansol Technics, Hansol Logistics, Hansol HomeDeco, Hansol Inticube)

Declaration of Human Rights Management

- **Tapex** Implementation of employee growth support programs for both mentor & mentee
- **Hansol IONES, Hansol Technics, Tapex** Smoking cessation programs and rewards
- **Hansol HomeDeco** "Change up Together", a program on organizational culture

Hansol Group
Rate of Health and Safety
Grievance Resolution of Partner
Companies

100 %

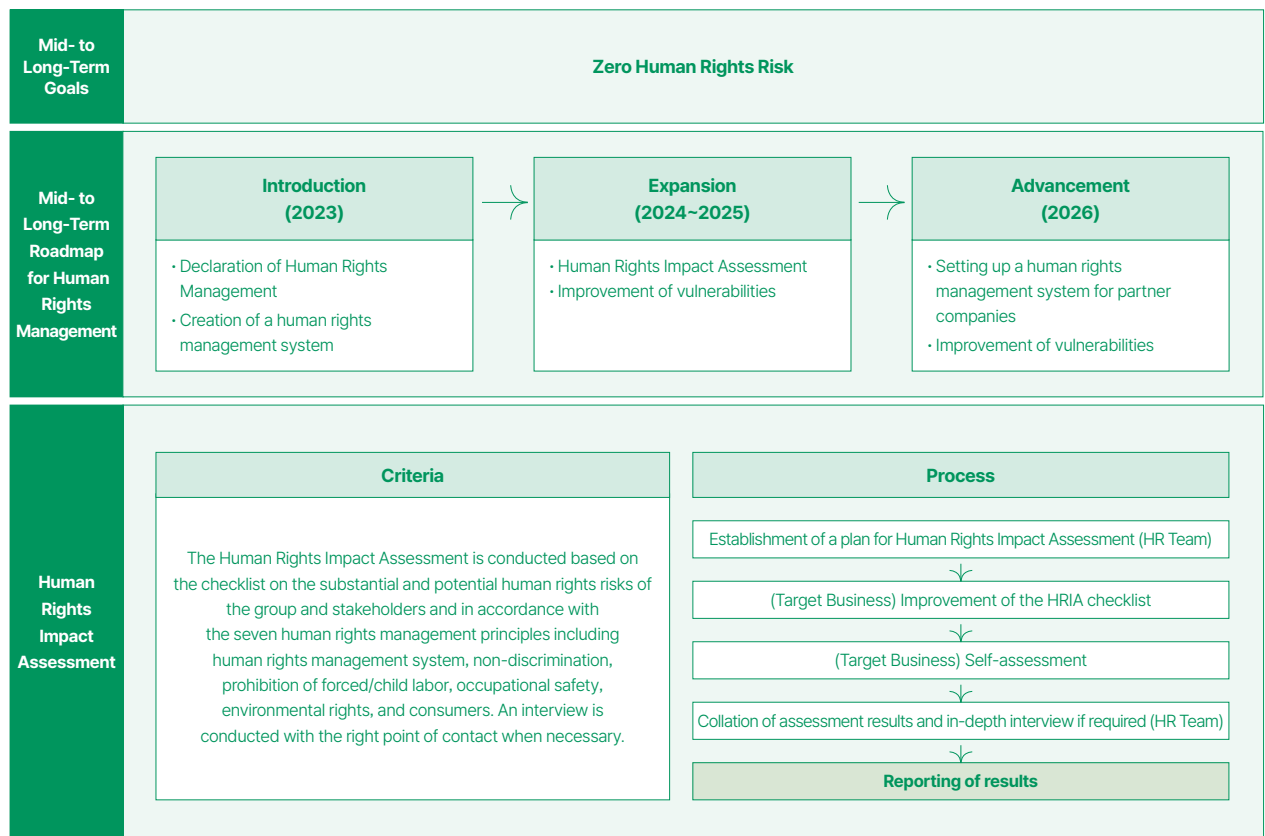
- **Hansol PNS, Hansol Technics** Zero safety accidents
- **Hansol IONES** Total of 89% of grievances resolved through the in-house grievance resolution system
- **Hansol Technics** Health and safety education, E.H.S. Day, hazard and threat identification, and safety slogan contest, etc.
- **Tapex** S Grade and top 34% among all sites in the metropolitan area as a result of PSM assessment conducted on Paltan Plant and Yanggam Plant, safety campaign, safety festival award

Hansol Technics
Oriental medicine volunteer work
for local residents in Deoksan-eup

Over **400** participants

- **Hansol Group** Virtual internship program "Hansol Dreamverse Company" with 290 participants
- **Tapex** Resumption of open recruitment for university graduates

Hansol Technics and Mid- to Long-Term Human Rights Management Roadmap



Hansol Logistics and Mid- to Long-Term Human Rights Management Roadmap

Activity	2024	2025	2026
Human rights management training	Employee training session held once a year	Employee training session held twice a year	Employee training session held twice a year
Establishment and posting of Human Rights Management Declaration and Guidelines	Disclosure of mid-to-long term goals on the website	Assessment and improvement of human rights violation remedies	Revision of the Human Rights Management Declaration and Guidelines
Human Rights Compliance Management	<ul style="list-style-type: none"> • One compliance inspection related to human rights 	<ul style="list-style-type: none"> • One compliance inspection related to human rights • Upgrading compliance inspection items related to human rights 	<ul style="list-style-type: none"> • One compliance inspection related to human rights • Upgrading compliance inspection items related to human rights

Human Rights Management Guidelines

Hansol Group

Hansol Group has reorganized its comprehensive counseling & therapy program to provide all employees and even their family members with access to professional counseling services. The program offers support for various issues, including human rights violations, work-related stress, workplaces conflicts, burnout

syndrome, interpersonal conflicts, and other problems that individuals experience. The new program improved accessibility for employees by guaranteeing anonymity and connecting them to professional counselors regardless of time and place via a mobile application.

Hansol Paper's Regulations for Implementation of Human Rights Management

[Party and Witness]

Counseling/ Reporting on Human Rights Violation

- Employees experiencing human rights violation or witnesses of such incidents * reporting to the division in charge of human rights management
- * On-site registration, phone, email, Groupware(Red Whistle)

[Human Rights Management Officer]

Confirmation of Receipt of a Report on Human Rights Violation

- Principle of real-name reporting(anonymity is applied when acknowledged by the Human Rights Management Officer)

[Human Rights Officer/ RM Team]

Review of Reports on Human Rights Violation

- Receipt of reports and review by Human Rights Management Officer
- RM team's input

[Human Rights Management Officer → RM Team]

Further Investigation of Case

- Human Rights Management Officer's judgment on whether further investigation is required
- May request the RM Team for further investigation

[Human Rights Management Officer → HR Team (personnel management)]

Deliberation and Decision

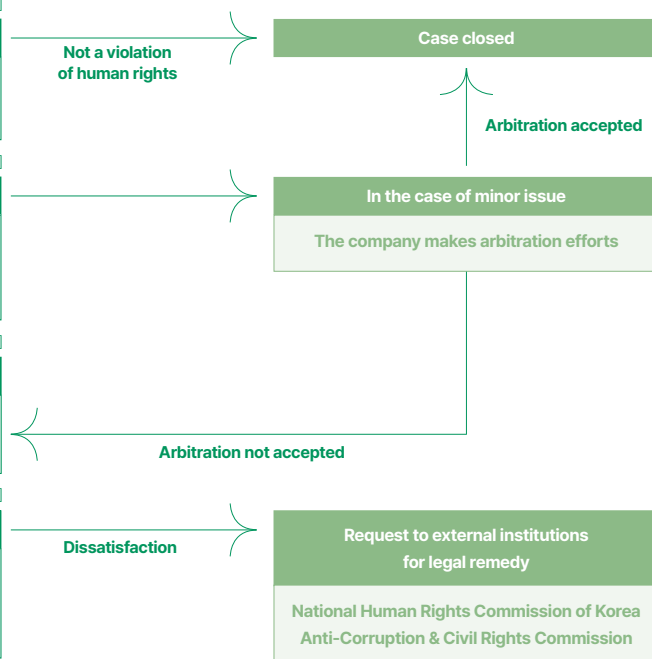
- Human Rights Management Officer's deliberation and decision on reported cases
- Written notification of decision to the reporter

[HR Team (personnel management)]

Disciplinary Action and Remediation

- Public/ private apologies, internal transfer, disciplinary action, etc.
- Disciplinary actions adhere to the HR policy
- Training on recurrence prevention, etc.

* Necessary measures are taken to ensure that the reporter does not suffer disadvantages



Employee Growth Support Programs

Hansol Group

Hansol Group's employee growth support strategy is designed to enhance individuals' expertise and ability to adapt to the organization through various training programs and systematic career development systems.

• FA(Free Agent) system

The FA system introduced in 2020 gives employees an opportunity to apply for different job positions after staying in the same function for a certain period of time. Eligible employees are given priority through regular job postings.

• Support for external MBA programs

The group nurtures future managers through recommendation of employees eligible for an internal MBA from each affiliate every year, and covers the entire tuition fees for intellectuals with excellent grades.

• Mentoring system

Through various mentoring programs, the group supports new hires so that they can adapt to the organization and grow

• Hansol's talent cultivation system

Hansol operates systematic training programs and supports employee growth by preparing training courses, such as customized online training, free cold-calling, and training by a third party.

• Respect leadership

Hansol emphasizes the importance of "respect leadership," one of the core values of HM, instilled in all leaders of the group, creating a corporate culture based on mutual respect and growth.

• Absolute evaluation

Our performance management system is centered on rewarding cooperation with stakeholders towards achieving a common goal, instead of internal competition.

• Team ground rules

Ground rules are implemented so that all teams of Hansol Group can create a customized work environment reflecting their unique characteristics and culture.

Hansol IONES

The systematic approach introduced by Hansol IONES to support employee growth involves identifying individual strengths and weaknesses and understanding the capabilities that require improvement. The company has set competency standards for each step, and performed the first competency assessment in November 2023. Individual employees established self-development plans based on the assessment results, and carry out learning activities for the improvement of individual weaknesses. Hansol IONES aims to support employees' sustainable self-development efforts and nurture talents.

Hansol Chemical

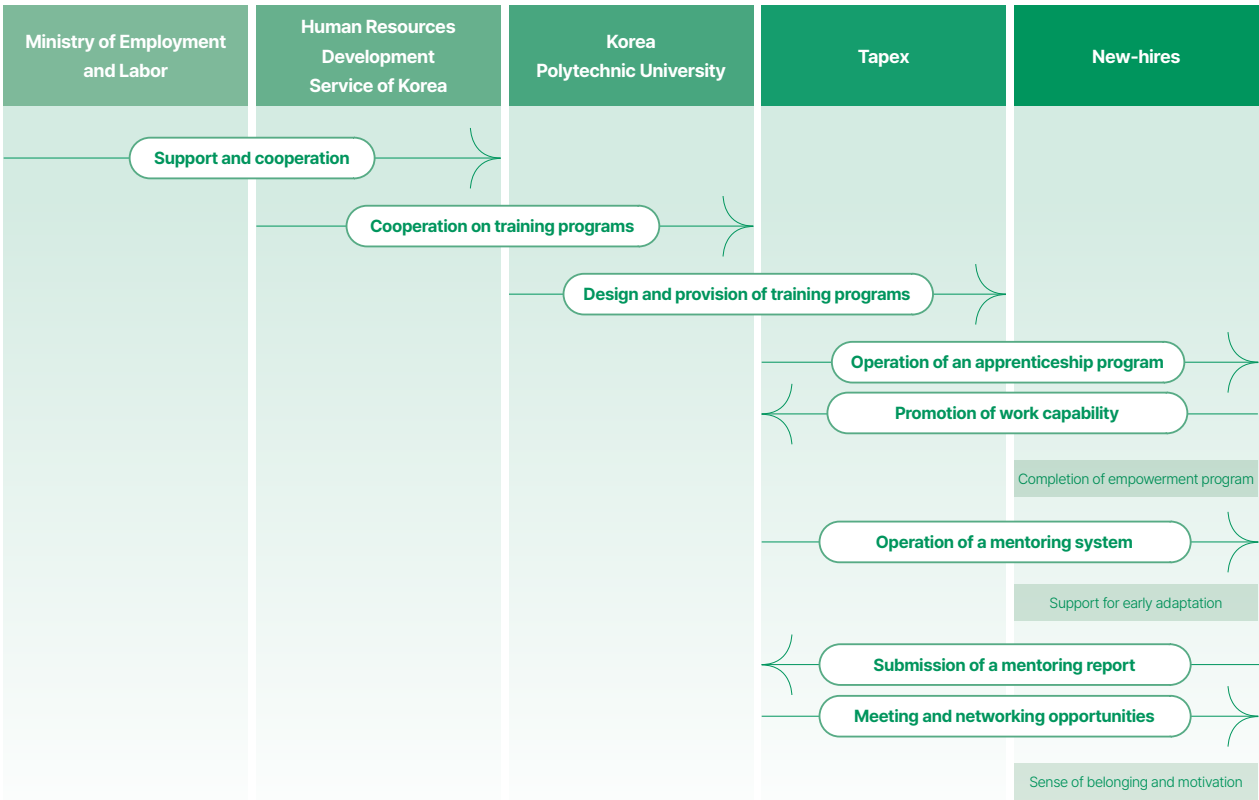
Hansol Chemical provides support for the master's and doctorate degree special camp program to enhance the expertise of employees in the production/ R&D domains and to promote capability development of skilled talents and loyalty. The company receives recommendations on employees to participate in the program every year, and fully covers their scholarships.

Employee Growth Support Program

Tapex

Tapex implements various systematic programs to help the early settlement and adaptation of new-hires and their empowerment. The mentoring system and the apprenticeship program introduced at the end of 2022 significantly help new-hires adapt to the corporate culture within a short period of time and grow into key talents. The apprenticeship program, jointly implemented with Korea Polytechnics, includes training sessions for enhancing work-related competency of new-hires, OJT, theoretical education, and a course for becoming a licensed industrial engineer. In 2023, five among nine participants completed the program, and two of them received the license. In addition, new-hires participating in the one on one mentoring system learn about the corporate culture,

work process, and production technology on a regular basis for six months and receive counseling support on difficulties. The program begins with an alliance ceremony with both the mentor and mentee two weeks after joining the company. Mentors are selected among those with a length of continuous service of at least 2 years. Mentees submit a mentoring report once a month and the company provided support for various internal and external activities and subsidy. Furthermore, the company is committed to cultivating an environment for new-hires to adapt fast to the organization and grow as key talents through efforts such as hosting a meeting for university graduates hired through open recruitment to instill a sense of belonging.



LMS Online Training System Based on Competency Assessment

Hansol Group

Hansol Group has introduced a curation system that provides personalized learning opportunities based on the competency assessment results of individual employees. The training curation system identifies individual improvement points based on competency assessment to establish Individual Development Plans and Career Development Plans. AI technology is used to

recommend learning resources such as customized learning courses, content, videos, and YouTube, based on individual learning needs and data analysis, and comprehensively manage learning resources and records. Hansol Group will continue to internalize a culture of voluntary learning within the organization, and support self-directed development of employees.

Performance of Employee Training Program

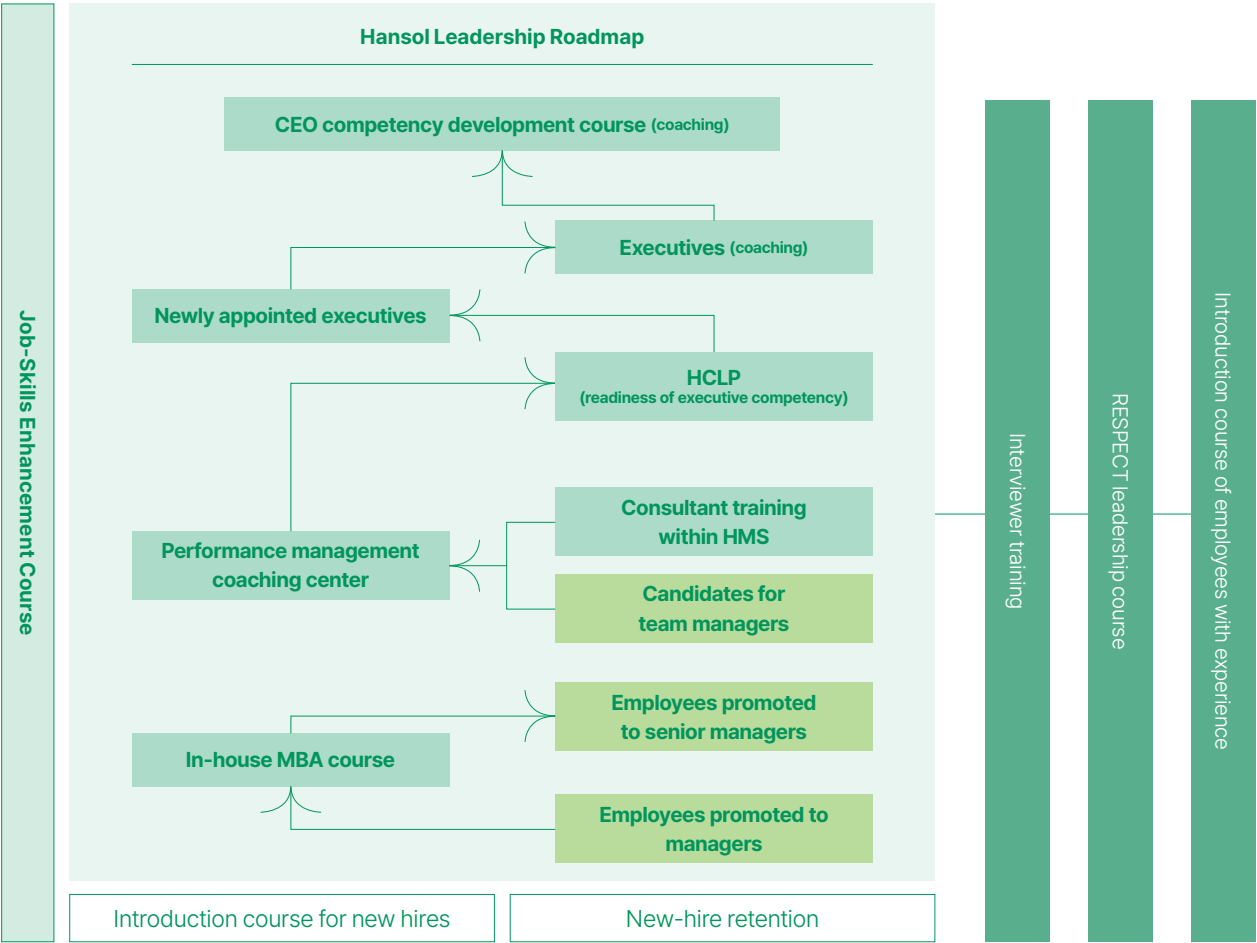
Affiliate	Performance of Self Development Plan		Self-directed Learning by Affiliates	
	Progress	Professional Competency Training	CoP	Mentoring
Hansol Paper	92%	<ul style="list-style-type: none"> Completed training of three functions, 31 training sessions 542 new-hires completed course on job training 	<ul style="list-style-type: none"> 30 organizations including the Master of Accounting 219 active participants 	<ul style="list-style-type: none"> New hires(nine persons),conducted 45 times in total Employees with experience(10 persons), conducted 30 times in total
Hansol PaperTech	47%	<ul style="list-style-type: none"> External job training(28 persons) 	-	<ul style="list-style-type: none"> Mentoring for newly hired production engineers Mentoring for sales managers in progress
Hansol HomeDeco	72%	<ul style="list-style-type: none"> Iasola Interior Academy Nurturing Biz Insighters(17 persons) Support for furniture and interior fairs 	<ul style="list-style-type: none"> Announcement of OPL production / quality improvement(119 persons) In-house library (Purchase of books, quarterly) 	<ul style="list-style-type: none"> Operation of a junior academy (Targeting new-hires at plants)
Hansol Technics	94%	<ul style="list-style-type: none"> R&D Technology Exchange Seminar PADS Designer, Layout training (12 persons) 	<ul style="list-style-type: none"> 114 active participants of 10 learning clubs including EOC, Python, and reading 	<ul style="list-style-type: none"> Mentoring performed from February ~ August for new-hires (six persons) Mentoring performed from May ~ July for newly-hired female workers (four persons) TV development mentoring (24 teams)
Hansol Logistics	86%	<ul style="list-style-type: none"> Seven training sessions completed (seven persons) Support for individuals' external job training (14 persons) 	<ul style="list-style-type: none"> upport for license acquisition including the 2024 Certified Professional Logistician course 	<ul style="list-style-type: none"> Trial run of the mentoring program in the third quarter(Competency improvement through actual site visit) Review of standards and eligibility for applying for the mentoring program
Hansol Inticube	96%	<ul style="list-style-type: none"> Internal sales seminar (once a month, 12 times in total) 	-	-
Hansol PNS IT Service Division	94%	<ul style="list-style-type: none"> Job-skills training course(166 persons) External learning opportunities (45 persons) 	<ul style="list-style-type: none"> Hansol Developer Festival Hansol SW Contest 18 participants in five teams 	<ul style="list-style-type: none"> Six new hires / eight employees with experience Frequent mentoring
Hansol PNS Paper Distribution Division	92%	<ul style="list-style-type: none"> Keeping the sales OJT training manual up to date 	<ul style="list-style-type: none"> Fostering communication among the community of lower-level employees Arrangement of meetings by level 	-

Hansol Management System

Hansol Group

Hansol Group is creating a roadmap for supporting the competency improvement of employees through the Hansol Management System. The system provides employees with training programs tailored to each level to support the growth of key human resources, the driving force of future competitiveness.

Talent Development Program



Hansol Group's HMS competency development model is structured so that the competency required of leaders gets accumulated as the level becomes higher. This means that leaders should become highly competent as they move on to higher job levels and positions. The purpose of HMS is to promote continuous self-development by identifying the current competency levels, strengths and weaknesses of individual employees, as well as improvement points.

Level	Job Level / Position *By Affiliate	Business Principle			Organizational Principle
		New Values	Customer-oriented	Better Ways	
4	CEO (Leading Business)	CEO	<ul style="list-style-type: none"> • Present vision / strategy • Business model innovation 	<ul style="list-style-type: none"> • Business networking • Market Sensing 	<ul style="list-style-type: none"> • Lead innovation / change management • Succession management • Job expertise
3	Business Leader (Leading Leaders)	Executive	<ul style="list-style-type: none"> • Present vision / strategy • Business model innovation 	<ul style="list-style-type: none"> • Business networking • Market Sensing 	<ul style="list-style-type: none"> • Lead innovation / change management • Succession management • Job expertise
2	Performance Leader (Leading Followers)	Team Manager (Part Leader, Head)	<ul style="list-style-type: none"> • Strategy development of division 	<ul style="list-style-type: none"> • Market Sensing 	<ul style="list-style-type: none"> • Performance management • Training team members • Decision making • Job expertise
1	Job Professional (Leading Self)	Senior Manager / Manager	<ul style="list-style-type: none"> • Strategic thinking 	<ul style="list-style-type: none"> • Embracing diversity • Mediation/ negotiation 	<ul style="list-style-type: none"> • Problem solving • Compliance management • Execution of innovation • Job expertise
		Senior Assistant / Assistant	<ul style="list-style-type: none"> • Demonstrating creativity 	<ul style="list-style-type: none"> • Interpersonal relationships 	<ul style="list-style-type: none"> • Innovative method • Demonstrating work efficiency • Compliance with basics • Work expertise

Employee-Health Promotion Program

Hansol IONES

Hansol IONES has implemented a smoking cessation program to promote a healthy lifestyle and discourage smoking. The program consists of customized non-smoking training, nicotine dependence, and individual smoking cessation counseling services for employees that want to quit smoking. The company measured the performance of the program by conducting a nicotine test on the participants three months and six months after starting the program. The program not only discouraged smoking, but also promoted employees' health and reduced the risks associated with indirect smoking of non-smokers by lowering the number of smokers overall. It played an important role in enhancing employees' quality of life and disease prevention, ultimately forming a basis for all members to work in a healthy and pleasant environment.

Hansol Technics

To encourage a healthy lifestyle, Hansol Technics introduced a smoking cessation program for smokers, walking exercises, and counseling services for individuals. The company operates a six-month smoking cessation program together with the local smoking cessation support center to discourage more employees to quit smoking within the company. The purpose of the program is to create a pleasant work environment and contribute to cultivating a healthy lifestyle and habits by reducing the risk of indirect smoking and discouraging smoking behavior. The program for encouraging walking habits is a program operated based on voluntary participation open to all employees and executives. The "Walking Challenge" organized as part of the program, promotes a healthy lifestyle, reduces obesity, and prevents diseases by encouraging employees to walk 10,000 steps every day throughout the duration of the program. The program also provides employees with personalized counseling services based on the health points to be improved compared to last year's results.

Tapex

Tapex operates a program with a health-management consultant to offer monthly health consultation services to employees. The program targets employees with health issues as a priority, but is available to all employees who are interested. In addition, Tapex is committed to not only promoting employees' health by operating a program that gives two rounds of rewards to successful quitters, but also to fostering a healthy workplace environment.

Hansol Chemical

Hansol Chemical conducts strict work environment monitoring beyond legal standards to minimize and improve employees' exposure to hazardous materials. The company expanded the inspection scope of substances handled at each process in accordance with legal standards to cover all materials and substances used across all business sites and processes. Measures to reduce the generation of hazardous substances are defined based on the analysis, contributing to a healthy workplace environment for employees. Furthermore, the company conducts health consultation twice a quarter and blood tests for requestors and persons with abnormal findings based on the health diagnosis results. Instead of only receiving health consultation services, employees receive information on harmful factors and consult with industrial physicians based on historical medical check-ups results. The program serves as a primary care source for promoting health of not only persons with abnormal findings, but also employees with health risks who were reluctant to go to the clinic, those who couldn't make time to visit the hospital because of work and employees that had health-related questions. The company also actively supports sports club activities to prevent musculoskeletal system and cardiovascular diseases. Tennis, bicycle, and futsal clubs offer an opportunity to participate in various sports activities and contribute to relieving stress and promoting health.

Establishment of Hansol Safety Rating System

Hansol Group

Hansol Group introduced HSRS in 2022 as an independent health and safety rating system reflecting business characteristics. The purpose of HSRS is to improve efficiency of health and safety management and promote a field-oriented management system. HSRS was developed with the objective of complying with reinforced domestic laws and regulations and verification of execution capabilities. To pursue continuous improvement in safety standards, Hansol Group upgraded the highest evaluation rating from Level 5 to 7, which is comparable to ISRS Level 7 in 2023. In particular, the manufacturing divisions, including Hansol Paper, Hansol HomeDeco, and Hansol PaperTech have set their target to achieving Level 7, leading efforts to strengthen safety and health competitiveness and foster a culture of safety. As a result, the number of safety accidents across the group in

2023 has decreased by approximately 60% compared to the three-year average, and there was no occurrence of serious accidents. Furthermore, the number of occupational accidents occurring among workers of partner companies decreased by 57% compared to the average over three years. Hansol Group has made significant progress in promoting safety across each affiliate and preventing disasters last year through occupational health and safety management. Among all affiliates, Hansol PNS and Hansol Technics demonstrated the most noticeable performance, and successfully arrived at and maintained zero accidents. By transparently disclosing information on industrial accident rate, frequency rate, rate of accidents that lead to working days lost, Hansol Chemical has upgraded its responsibility and commitment to safety and health management.

2023 Hansol Group's Handling of Safety and Health Grievances of Partners' Employees and Accident Rate

Company	Hansol Holdings	Hansol Paper	Hansol PaperTech	Hansol PNS	Hansol Technics	Hansol IONES	Hansol Logistics	Hansol HomeDeco	Hansol Inticube	Hansol Chemical	Tapex
Receipt of grievance reports	0	0	0	0	28	0	0	0	0	0	0
No. of grievance reports	0	0	0	0	28	0	0	0	0	0	0
Percentage of partner company workers that experience work loss due to accidents	0	0	0	0	0	0	0	0	0	0	0

2024 HSRS Rating

Level	Criteria for Level	Standard	Description of Standard	Remarks
Level 7	90 points on average (lowest score of 70 points) ↑	Progressive	A stage in which members show a high level of safety consciousness and the management sets an example	Newly added
Level 6	85 points on average (lowest score of 70 points) ↑	Preventive	A stage in which members at the site voluntarily analyze the pros/cons of the work and make continuous improvements	
Level 5	80 points on average (lowest score of 60 points) ↑	Active expression	A stage in which safety management led by safety officers and site managers or supervisors is working effectively	
Level 4	60 points on average (lowest score of 40 points) ↑	Passive	A stage in which all necessary systems are prepared, but members of the organization are not demonstrating active participation or responsibility	
Level 3	50 points on average (lowest score of 30 points) ↑	Calculative	A stage in which understanding of the key process for loss prevention is insufficient	
Level 2	40 points on average (lowest score of 20 points) ↑	Reactive	A stage in which members are only willing to demonstrate change in the event of an issue or incident	
Level 1	30 points on average (lowest score of 10 points) ↑	Indifference	A stage in which members do not recognize the need for a system and makes zero investment in improving safety behaviors.	

HSRS Evaluation Elements

Element		Description
1	Leadership	The system presents leadership requirements including promoting the health and safety management system at sites, legal compliance (Serious Accidents Punishment Act, Occupational Safety and Health Act, etc.), principles for Hansol Group's safety and health leadership, and R&R for HS performance, and carries out assessments.
2	System planning	The system presents principles for identifying and evaluating safety and health risks and opportunities, as well as principles for decision-making on the management tools. It also conducts evaluation of each business's overall process, activities, and risks associated with change, and presents ways for effective management.
3	HR management	The system presents the competency requirements of human resources that should be met for the effective execution of the HSRS, defines the R&Rs required of the management and the entire Production Division, and conducts assessments of the appropriateness of activities
4	Compliance	The system provides guidance on the safety and health laws applied to each site, rules, and principles for complying with customer requirements, identifies policies to adhere to, and specifies reporting system and compliance assessment.
5	Competence	The system clearly states the need for education and training for understanding and securing the level of competency required for driving safety and health outcomes, fosters safety and health professionals, sets forth policies on key competencies required of partner companies and mandatory training courses, and assesses if such activities are executed.
6	Communication	The system proposes principles for communication within and outside the organization, defines the scope of activity for all engagements, discussions, and communication related to health and safety within the company, and conducts assessments on execution.
7	Risk assessment	The system sets forth safety and health management activities to control and manage identified risks in a hierarchical structure, and conducts assessments on whether required actions were taken by the person(s) granted roles and responsibilities.
8	Risk control	The system clearly states the standard for facility and device maintenance and inspection, establishes a comprehensive standard of the potential safety and health risks in the event of change, and performs assessments on appropriate management.
9	Partner companies	The system performs evaluations on the safety and health management aspects of suppliers during the selection stage, evaluation of onboarded suppliers' health and safety activities, introduces standards for communication, and proposes management standards to encourage supplier engagement.
10	Emergency response	The system proposes standards to minimize losses caused by identification, response, training, and communication associated with internal and external emergencies, and conducts assessments of appropriate activities.
11	Lessons learned	The system defines standards for accident reporting and investigation, identification of near misses / potential nonconformities, investigation and analysis of incidents, and improvement activities through corrective preventive measures. The system also conducts evaluations of the appropriateness of tracking and management activities to prevent reoccurrence of such accidents.
12	System monitoring	The system reviews and evaluates the safety and health performance, effectiveness and efficiency of the monitoring function, effectiveness of its management function, and observation of the work and adequacy of internal audits, in order to evaluate the appropriateness of quantitative figures related to risk-management activities.
13	Performance review	The system compares safety and health goals against actual performance to derive improvements in the correlation between plans and actuals, and management of the process.

Guidelines on Occupational Safety & Health Management

Hansol IONES

Hansol IONES promotes awareness of safety and health by rewarding divisions and individuals showing the best safety-management performance every quarter. The company evaluates the achievements of divisions and individuals based on outstanding outcomes in diverse categories such as safety accident prevention, promotion of safety consciousness, self-inspection, and fire safety management. The key evaluation metrics used include reduction in the number of accidents, increase in participation in safety and health training sessions, and the impact of improvement activities. The purpose of the safety and health reward system is designed to encourage all employees to join the efforts to reduce safety accidents, and to motivate them to take part in active preventive activities. The company is creating an atmosphere for all employees to contribute to a safer work environment by including into evaluations all cases where individual employees identified near-miss accidents, and potential risks and achieved improvements.

Type	Division-level safety and health assessments	Individual-level safety and health assessments
Frequency of assessments	• Quarterly	• Quarterly
Awards	• Quarterly	• Quarterly
Assessment response	<ul style="list-style-type: none"> • Safety accidents • Safety awareness • Preventive actions • Self-inspection • Fire safety 	<ul style="list-style-type: none"> • Safety accidents • Safety awareness • Preventive actions • Opinions from the Head of Division
Reward details and time	<ul style="list-style-type: none"> • No. 1 division(KRW 500K) • Rewards by team and group • Awards at the health and safety committee meetings 	<ul style="list-style-type: none"> • Excellent performance (KRW 100K) • Award at the health and safety committee meetings
Remarks	<ul style="list-style-type: none"> • Worst-performing division's announcement on improvement measures (Divisions with a total score of 60 or under) 	<ul style="list-style-type: none"> • First round of assessment from business teams • Second round of assessment from the Health and Safety Group

Hansol Technics

Hansol Technics has reinforced systematic measures to actively adhere to the Serious Accidents Punishment Act and secure the safety of employees. The company set up a Safety Management Team directly reporting to the CEO, and appointed a CSO and safety officers to carry out various activities, including risk assessments, management's site tours, and management of the safety and health management system. The team prepares emergency countermeasures and response plans, assesses implementation of laws and regulations, and updates changes in laws to satisfy all legal requirements. In addition, efforts to protect the safety and health of employees, including regular training, the E.H.S. Day Event, hazard and threat identification, safety slogan contest, quarterly safety and health events, and introduction of the LOTO system are carried out. Hansol Technics makes concerted efforts to foster a safe workplace environment by establishing safety procedures for third-party vendor management and installation of facilities, and setting up an accident-prevention system through AI-based video analytics solution, contributing to a reduction in industrial accidents and improved wellbeing of employees.

Occupational Safety and Health Management Activities

Hansol IONES

Hansol IONES conducts training programs on a regular basis to promote the safety and health awareness of supervisors and managers at production sites. The focus of these training programs is to select a new theme every month, ensure that supervisors and managers come prepared, enhance their understanding of safety and health, and effectively share health and safety related issues occurring within the company. More than half(54%) of targeted employees participated in the training sessions in 2023, and Hansol IONES aims to establish diverse strategies to encourage the participation of more employees.



Tapex

Tapex has reinforced the safety and health management system overall in line with the enforcement of the Serious Accidents Punishment Act. Following the Yanggam Plant receiving an "S" rating for the first time in the PSM assessment conducted to evaluate the company's process safety management system in 2022, the Paltan Plant's grade was upgraded from "M+" to "S" in the regular assessment in March 2023. The two sites in scope for PSM assessment both received Grade S(Satisfactory) in 2023 for being within the top 34% of all companies in the metropolitan area. In addition, Tapex has implemented upgraded safety and health management procedures from 2022, and expanded the coverage of the safety campaigns conducted for employees and partner companies in 2023 to promote workers' safety awareness. The company also identifies risk factors on a regular basis by introducing events such as the Safety Festival and discusses safety issues through biannual environmental safety meetings. As a result, a response system that corresponds to the purpose of the Serious Accidents Punishment Act was introduced.

| Safety Campaign Activities(2023 Q4) |



Hansol Chemical

Hansol Chemical carries out various activities to promote safety and safety compliance to prevent serious accidents in the workplace and serious industrial accidents. Safety promotion programs required at industrial sites are designed and implemented based on the results of the safety standard evaluation conducted every year. Monthly safety campaigns are conducted for the purpose of safety awareness; themed field training by division; internalization of risk assessments and process risk assessments (identifying harmful factors and improvement activities); stronger site management of supervisors through one-time joint site inspections; and to enable continuous implementation and execution of the safety and health system at sites through compliance with the process safety management system and ISO 45001. Other efforts to prevent occupational accidents and prioritize safety include improving employees' motivation to comply with health and safety policies through feedback from employees and taking action, zero hazard campaigns, and safety and health management assessments by division.



Improvement of Process for Talent Recruitment

Hansol Logistics

Hansol Logistics hires talented intellectuals by adding a recruitment process of turning an internship into a full time job to verify the applicants' competencies and histocompatibility. The company is reviewing the option of adding a culture-fit interview step for verifying AI job competency skills and histocompatibility also of experienced workers. Hansol Logistics is also committed to securing and nurturing "hunters," the key sales talent needed for advancing into new markets. A Free Agent system is used to reassign talented intellectuals, strengthen job expertise, and nurture key intellectuals through external hiring. Hansol Logistics is also dedicated to promoting the sales competencies of the company through efforts such as publishing the "Sales Tip Book" to share with employee's know-how on sales operation.

Hansol HomeDeco

Hansol HomeDeco uses the Birkman Method Questionnaire as a tool to understand the company's goals and directions. The Birkman test was conducted on 30 new-hires and existing employees to identify their motivation factors and strengths.

Hansol IONES

Hansol IONE has signed an industry and university collaboration agreement with Kyonggi University based on its commitment to foster talented intellectuals for the advancement of the semiconductor industry. Through the agreement, the master's students majoring in Advanced Materials Engineering at Kyonggi University grow into customized intellectuals whom companies need by completing the training course prepared by Hansol IONES and gaining hands-on work experience.

Tapex

Tapex operates various channels for securing intellectuals to achieve sustainable growth. As part of these efforts, we introduced an internal referral system, and resumed the open recruitment of college graduates, which was ceased in 2013.

Program Utilizing the Birkan Method

Program Name	Participants	Program Description	Time
Workshop per division	Team leaders and members (by team)	(1) Debrief based on group report results (analysis of the average value of team leaders and members) (2) Deciding communication rules by division based on LSG indicators (3) Establishing team ground-rules based on ORG indicators	1~2H
Coaching / feedback strategy	Evaluator (Team leader and P/L)	(1) Analysis on counselees' report and consultation (LSG and ORG indicator, concerns, etc.) (2) Debrief on the average value of members' LSG and ORG indicators (3) Precautions on giving feedback and coaching by type	1.5H
Individual consultation	All employees	(1) Debriefing based on individual report results (2) Identifying individual motivation factors and strengths (3) Explanation on other Birkman Method indicators	1H

Birkman Assessment Debrief Certification



Promotion of Diversity in Employment

Hansol Group

Hansol Group is making active efforts to expand the recruitment of persons with disabilities across major affiliates by introducing a solution platform provided by Vdream, a company specializing in supporting the employment of persons with disabilities. The affiliates that introduced the platform include Hansol Logistics, Hansol PNS IT Service Division, Hansol Inticube, Hansol Chemical, Hansol Technics and Tapex. Persons with disabilities hired by these affiliates support tasks such as management of documents and materials and article clipping and enjoy the same welfare benefits as existing employees, including tuition, medical expenses, and medical checkups. These efforts contributed to promotion of diversity in employment and the employment rate of persons with disabilities, and concrete financial performance, such as reduction of the handicapped employment levy.

In-house Grievance Handling System

Hansol IONES

Hansol IONES manages and operates an in-house grievance handling system called “Aureum Connect” to effectively management resolve workplace grievances. The employee grievances reported through the system are reviewed and handled together with a labor-management officer through the “Aureum Council.” Problems that are not solvable within 30 days are tabled as a regular agenda and discussed transparently. Employees are notified of the results via either a company announcement or through individual feedback. Since it was first launched in July 2023, the Aureum Connect system has received a total of 193 grievance reports, and has provided feedback and solutions in good faith for 171 of them. As such, the company makes concerted efforts to resolve all issues, regardless of the size and severity

Category	No. of cases
Grievances reported	193
Cases closed	171
Cases open	22



Strengthening Communication Among Generations

Hansol Technics

Hansol Technics introduced various programs to promote communication between different generations. An exchange session is held twice a month for employees of different levels and ages to meet and enhance understanding of one another. In addition, to invigorate the organization, Hansol IONES is promoting communication and a sense of belonging among employees, regardless of their division, level, and age — by conducting training for all job positions in the first half of the year, and training for the Technical team members in the latter half of the year.

Revitalization of the Organization

Communication Among Different Levels and Ages



Hansol Chemical

Hansol Chemical has conducted training for junior production technology team members in 2022 and training for mid-level and senior employees of the same team in the following year to promote communication among different generations and levels and leadership of managers. The purpose is to achieve revitalization of the organization as a whole by empowering employees of different levels for intergenerational communication and future growth.

Hansol IONES

Hansol IONES carries out diverse CEO-led communication programs for promoting intergenerational communication. The company expanded the working-level meeting held per job group across the entire group to collect feedback from business teams in 2023; and in 2024 introduced the “Empathic Communication Meeting” for managers experiencing difficulty in managing their team, taking into consideration generation mixes within the teams. The meeting served as a platform for sharing the leadership theme emphasized by the CEO. On a separate note, the “Communication Relay Meeting” was held, led by executives of each division with a focus on strengthening communication and cooperation within the organization, to discuss various topics, from personal issues, organizational culture, and company vision with a wider group. This multi-layered approach aims to revitalize the overall organization through stronger communication among employees of different levels and generation.



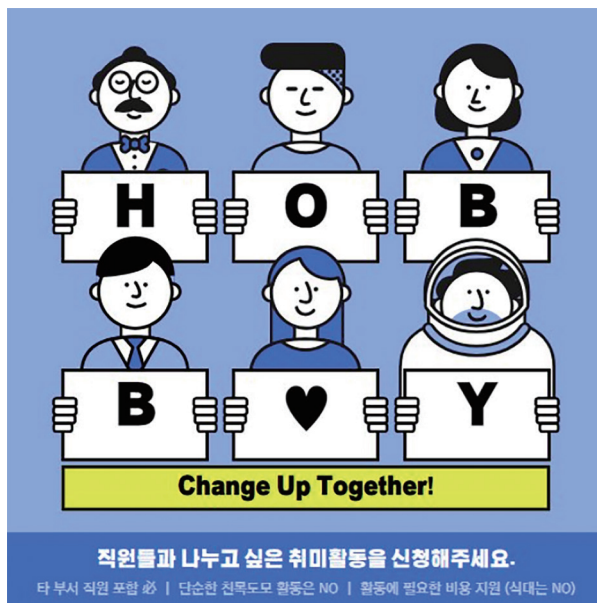
Promotion of Intergenerational Communication

Hansol HomeDeco

The “Change Up Together” organizational culture program launched in 2024 aims to establish stronger ties among employees by sharing hobbies and to cultivate a positive company culture. The program selects activities that fit each month’s theme, and provides members with the time and expenses required to participate in activities. Furthermore, it collects feedback from participants through surveys to promote communication and cooperation within the organization and encourage immersion.

Monthly Themes of the Program

March	April	May	June	July
Arts / crafts	Games	Cooking	Photos	Travel
August	September	October	November	December
Workouts	Reading	Baking	Music	Sports



Tapex

Tapex has made concrete efforts to strengthen the leadership skills of managers and promote active communication among generations. Following the hosting of meetings by level in 2022, the company held a workshop for all team managers in the organization at the Saemangeum Plant in November 2023. The workshop consisted of communication skills, mindset, organizational management, and capacity-building of individuals. It served as an opportunity for team leaders to not only derive better performance by the team, but also acquire the leadership skills needed for building a mature organizational culture.



Hansol IONES

Hansol IONES has implemented a number of activities to improve the company culture and internalize the employees' way of working. In the first half of 2023, the company placed the slogans of "immersion," "transparency," "speed," and "respect," in various places in the office so that employees could share and practice the unique values of Hansol IONES. In the second half of the year, the "Basic Compliance and Workplace Etiquette Campaign" was conducted on a monthly basis to uphold basics and principles and strengthen the organization's ethical values, covering everything from basic etiquette and attire, to mutual respect, language use, company dinners and drinking culture. In addition, programs to reinvigorate the organization, such as the Aureum Table Tennis Competition, are held to boost employee morale and create a vibrant company culture, fostering a workplace environment that is enjoyable and motivational.



Flexible Work System

Hansol PNS

Hansol PNS' Paper Distribution Division operates a "For Me" system where employees have the option of flexible work arrangements. This program basically refers to "Fridays for me." Employees can take three days off to refresh after working for four consecutive days. Furthermore, employees are given a total of 24 days off, including 16 days of annual leave and eight additional days off, which is the same as having Fridays off every other week. The second and fourth Fridays are set as holidays, which can be spread out according to the team's and individuals' schedules. The flexible work system offers employees an opportunity to recharge their energy and encourages work and life balance.

Hansol Chemical

Hansol Chemical also operates a selective working-hours system and a flexible work system. The system helps research centers, which work on long-term development projects, arrange their working hours flexibly to refresh and promote their level of concentration and efficiency.

Tapex

Tapex has introduced the flexible working hour system in July 2023 for a better balance between work and life. The system has helped enhance employee satisfaction and reduce costs. Employees can submit and approve requests for flexible work arrangement using their mobile phones and PCs, and can use their personal time more effectively by setting their work hours flexibly every two weeks. In particular, the system has shown positive financial achievements in that it saved KRW5 million in late-night and holiday transportation expenses. Moreover, the company upgraded the welfare benefits provided to employees, including increasing support for kindergarten expenses for employees' children, increasing birthday welfare points, rewards for long-term service, and extending the age limit for medical checkups. These measures encourage employee loyalty and long service by making employees more satisfied with their workplace environment.

Efforts to Improve Workplace Environments for Employees

Hansol Technics

Hansol Technics is committed to reinforcing the facilities at the Suwon establishment and welfare benefits to improve employees' workplace environments. To that end, the company has started interior renewal of the corridors and research lab located on the 6th, 7th, and 8th floors, and added rest areas to enhance the convenience and efficiency of the overall research center.



Family-Friendly Workplace Environment

Hansol Group

Hansol Paper, Hansol Chemical, and Tapex are companies certified by the Ministry of Gender Equality and Family Affairs after completion of the Family Friendly Management Evaluation. The affiliates received certification for receiving positive feedback for operating childbirth and childcare support programs, flexible work system, leaving work at noon on Fridays, family-friendly programs, family care leave, and family-friendly workplace culture. Hansol Technics also introduced policies for encouraging leave before and after childbirth and childcare leave. The company is also building a family-friendly company culture where male employees can take childcare leave. It is Hansol Group's goal to improve working conditions and build a family-friendly system to motivate and retain top talent.

Win-Win Between Labor and Management

Hansol IONES

Hansol IONES has reformed the labor / management committee in January 2023 based on the spirit of seeking a win-win relationship between labor and management, and renamed it the “Aureum Committee” through employee votes. The committee, held on a quarterly basis, receives feedback from various establishments based on mutual respect and cooperation to promote communication. A site inspection is regularly conducted ahead of the committee meetings to listen to the employees’ opinions and present them as agenda items at the regular committee meetings. In 2024, Hansol IONES has appointed new committee members according to increased number of establishments, gathering feedback from a wider range of plants.

| Feedback Collected from Hansol IONES Employees in 2023 |

Type	Submitted	Regular meeting agendas	Applied	To be handled	To be reviewed	Not applicable
Q1	Site inspections not conducted					
Q2	54	4	14	3	12	21
Q3	43	3	25	3	12	21
Q4	39	1	13	1	9	15
Total	136	8	52	7	33	57

Tapex

Tapex has been selected for the “Labor-Management Partnership Program,” hosted by the Ministry of Employment and Labor and the Korea Labor, and Employment Service in 2023 and has designed and implemented various programs for promoting harmony between employees and the company. Tapex has improved the harmony between labor and management and employees’ satisfaction levels by carrying out various activities through the program, including welfare benefit meetings, external training, benchmarking outstanding companies for workplace innovation, Culture Night events, and the occupational safety and health committee meetings to create a safer workplace.

| Welfare Benefit Meetings |



| External Training |



2. Shared Growth with Partners

Shared Growth Programs




Hansol Paper

Hansol Paper operates various shared growth programs with 40 partner companies and other business partners to secure competitiveness across the supply chain and establish a stable, long-term relationship based on trust and that benefits both sides. In addition, Hansol Paper has created a Supplier Code of Conduct for partner companies to adhere to Hansol Paper's ESG principles and philosophy. Partner companies are given guidance to voluntarily implement the Code of Conduct in areas such as ethics and fair trade, respect for human rights, safety and health, and environmental management. These principles play a vital role in achieving sustainable development and reinforcing a company culture based on shared growth.

Tapex

Recognizing the importance of the environment and safety within the value chain, Tapex has begun to implement environmental safety and health management risk diagnosis and assessment on key partner companies in 2023. The company encourages partner companies to make continuous improvements by reflecting the assessment results in the supplier-selection process. Tapex conducted assessments on one OEM product provider and 15 existing construction companies in 2023 to reduce the negative ESG impact and risks within the value chain, and contributed to the enhancement of their environmental safety and health management capabilities. Going forward, the company will expand the scope of such partner companies and provide them with more support to enhance their capabilities.

| 2023 Hansol Paper Shared Growth Meeting Operation Plan |

 Technological cooperation	Technological cooperation Idea contest and joint-development projects Technological exchange Exchange of test devices and technology of working-level employees
 Financial support	Win-win fund Shared growth fund(KRW 6 billion) Monetary support Early payment for holidays including Lunar New Year's Day and Chuseok
 Training support	Capacity building Design Thinking Day(problem-solving and innovative methodology, etc.) Professional lectures Hansol Cyber(Online) training support
 Stronger communication	Meetings CEO / working-level meetings Invitation day events Exchange event with partners

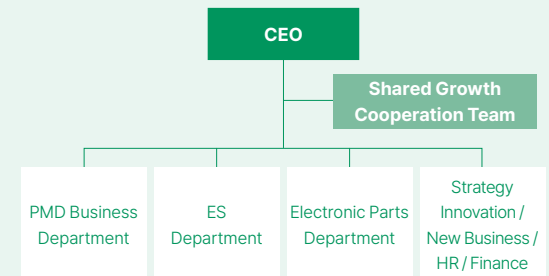
Hansol Technics

Hansol Technics has established the Shared Growth Cooperation Team to directly report to the CEO, in order to continuously pursue mutual growth and fair trade with suppliers. Recognizing the importance of shared growth with partners, the company has taken bold steps to eliminate the unfair trade elements that have become a practice. We support technological exchanges and provide consulting and training services to foster a collaborative environment, and enhance the job- satisfaction level of partner company employees by sharing our welfare system. A total of 12 meetings were held in 2023 for communication and shared growth with partner companies. Hansol Technics aims to strengthen the foundation for shared growth with partners by establishing sustainable cooperative relationships with them. Furthermore, the company launched a Subcontracting Committee under the Board of Directors to review the appropriateness of the management of subcontracting transactions and partner companies, and to mediate disputes with partners.

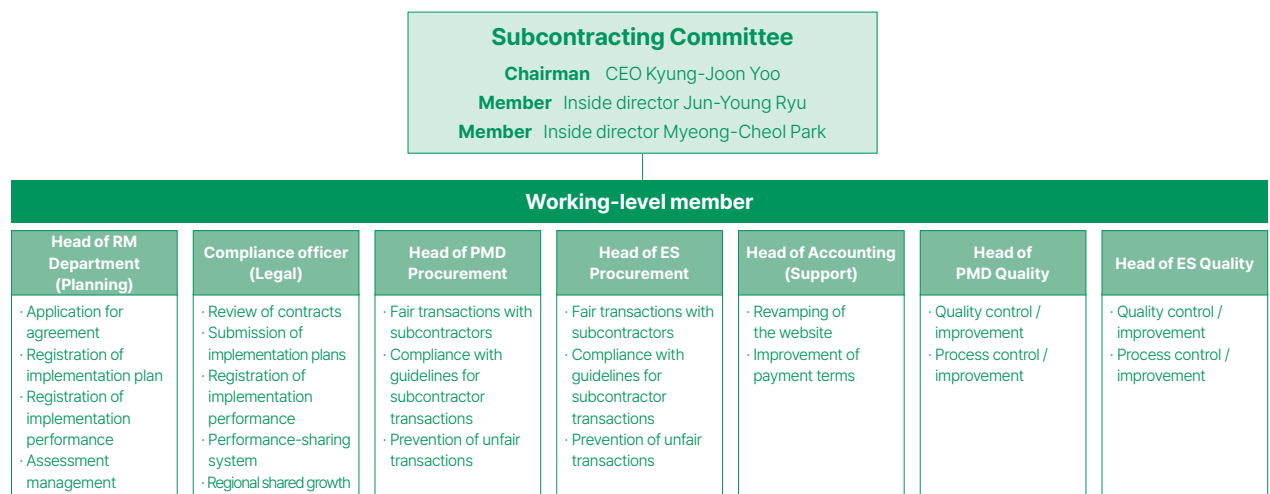
Hansol Technics' Shared-Growth Promotion System

Key Activities in 2023

- ① Support for patent applications
- ② Two patent training sessions
- ③ Support for technology assignment system
- ④ Early payment
- ⑤ Participation in purchase-consultation meetings
- ⑥ Performance-sharing system
- ⑦ Support for in-house ventures
- ⑧ Support for solar-power supply projects
- ⑨ Safety and energy-saving consulting
- ⑩ Support for improving manufacturing processes
- ⑪ Recreational facility support
- ⑫ Support for long-term retention of key personnel
- ⑬ Dissemination of new systems and laws
- ⑭ Support for cultural life



Hansol Technics Subcontracting Committee Composition



3. Communication and Engagement with Local Communities

Promotion of Social Values through Shared Growth with Local Communities

Hansol Group

Hansol Group and its affiliates implement various social contribution activities and make donations to pursue shared growth with the local community. These activities have a positive impact on the local community, improve the company's image, and contribute to promoting social values by providing substantial support and emphasizing the importance of social responsibility.

Hansol HomeDeco and Green City Iksan



Tapex's Social Contribution Activities



Key Social Contribution Activities of Hansol Group Affiliates

Company Name	Key Activities	Beneficiaries
Hansol Holdings	Visiting and volunteering at Angels' Haven in Eunpyeong-gu, Seoul	Angels' Haven
Hansol Paper	Charity work involving sharing briquettes / side dishes and scholarship support	Local residents near Janghang, Daejeon, and Cheonan Plants
Hansol PNS	Scholarships and donations to the local community development fund	Hanjae Elementary School, Youth Association and Sports Council at Daejeon-myeon, Damyang-gun, Southern Village
Hansol HomeDeco	Donations to Green Iksan City	Green Iksan City movement headquarters
Hansol Technics	Donation of solar cell modules and other donations for shared growth with local communities	Social enterprises in Iksan City and local welfare centers
Hansol Logistics	Environmental cleanup in the local community	Yeongnam local community
Hansol IONES	Contributions to the local community of Gosam-myeon, Anseong-si	Local community of Gosam-myeon, Anseong-si
Hansol Chemical	Various donations and social contribution activities	Diverse beneficiaries and social contribution projects
Tapex	Strategic planning of activities to enhance effectiveness and quality of social contribution	Beneficiaries near Hansol establishments (Somang House, Kyeongdongwon), Green Asia Network (Mongolia Forest For All), Korea Childhood Leukemia Foundation (young patients with childhood cancer)

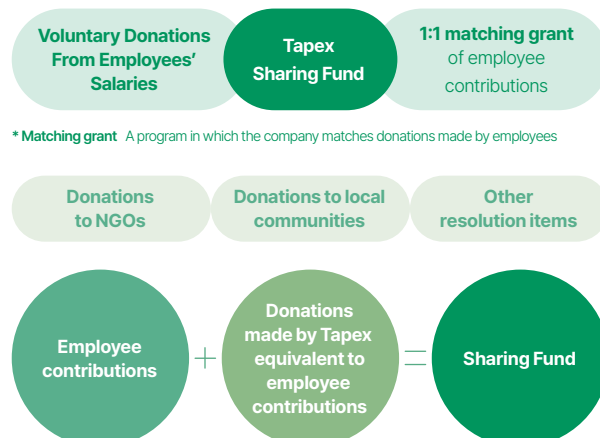
Establishment of Social Contribution Policies and Mid- to Long-Term Goals

Tapex

Tapex has established a new policy with basic principles and directions for social contribution with the purpose of actively practicing CSR activities and achieving sustainable growth. The policy aims to promote the development of the local community through social contribution activities, practice sustainable sharing by encouraging employees' voluntary participation and pursue shared growth with the local community. In addition, the policy states that expenditures are made in an efficient and fair way according to objective standards. Tapex has established mid- to long-term implementation goals based on established policies, and enabled stronger communication with stakeholders by disclosing such information on the website. The company will continue to make concerted efforts to strengthen social-responsibility management across all domains, including human rights, labor and safety, improve the local community, and minimize environmental impacts.

| Sharing Fund |

Tapex operates a matching-grant program where employees voluntarily make regular donations to a charity through their salary. The Sharing Fund is donated to fundraising projects through a partnership with the Green Asia Network, an NGO organization. The donations are mainly used for restoration of areas around the world most severely affected by climate-change and desertification, and also used for other areas that need assistance based on decisions of the local community and employees.



Corporate Social Responsibility Management

Tapex understands that recognizing the importance of social responsibility and taking appropriate actions accordingly is the key for realizing sustainability management. Based on this belief, Tapex continues to manage and improve key social-responsibility management activities such as human rights, labor practices, ethics, fair trade, and shared growth with local communities.

Social Contribution

Tapex aims to create a better world through innovation achieved by win-win relationships between the company and employees.
We are communicating actively with the local community and pursuing social contribution activities to create a better tomorrow.

Tapex's Social Contribution Policies

Basic Principles

- Promote development of the local community and company image through active social contribution activities
- Practice sustainable sharing through voluntary employee participation and pursue shared growth with the local community
- Performance of social contribution activities is recorded and managed with appropriate proof based on facts, and financial resources are managed and allocated in an efficient and fair manner by objective standards.

Fulfillment of Companies' Social Responsibility

Tapex continues to make investments in corporate social responsibility to fulfill its responsibilities and mission.

Companies' Social-Responsibility Management Strategy

- Goal** Our goal is to fulfill our social responsibility to minimize negative impacts on our society and environment, and carry out charity and volunteering work for the underprivileged in the local community, and for environmental issues.
- Directions**
- ① Fulfill responsibility as a member of the local community that meets social expectations and requirements
 - ② Fulfill social responsibilities by taking an active interest in resolving local environmental and climate issues that impede sustainable development

Resolving Social Issues and Spreading Positive Impact

Hansol Group

| Hansol Dreamverse Company |

With Comento, Hansol Group launched Hansol Dreamverse Company, a virtual internship program that helps unemployed youth develop job competencies and plan their future careers in an enhanced online environment. As part of the Future Tomorrow Job Experience project sponsored by the Ministry of Employment and Labor, Hansol Dreamverse Company provides the youth an opportunity to gain hands-on work experience and offer practical support in line with companies' growing demand for hiring employees with work competence. A total of 290 university students participated in the three rounds of internship programs held from 2023, and gained work experience in the fields of technological development, production management, overseas sales, brand strategy, HR, and environmental management at Hansol Holdings and affiliates. Hansol Group will continue to fulfill its social responsibility in 2024 by providing job-seeking youths with practical work experience and contribute to the nurturing of intellectuals through the Hansol Dreamverse Company program.



| Volunteering for Wall Painting |

Employees hired through the 32nd open recruitment program of Hansol Group participated in the wall-painting volunteering session held as part of a retention program. Over 100 new hires — from Hansol Paper, Hansol PNS IT Service Division, Hansol Technics, Hansol IONES, Hansol Logistics, Hansol HomeDeco, Hansol Inticube, and Hansol Chemical — drew paintings on the walls of Balgok Elementary School located in Uijeongbu, built a stronger sense of camaraderie, and practiced social responsibility. Through the activity and gaining work experience, the youths identified ways to contribute to the local community and learned the value of cooperation within the company culture.



Resolving Social Issues and Spreading Impact

Hansol Paper

| Donation of Paper |

Hansol Paper provides its high-end printing paper to students majoring in Visual Design preparing for their graduation exhibition with INSPIER. In line with our efforts to assist university students who are the future leaders of the design industry with paper very year, we provided support to Youngsan University in October 2023 and Kaywon University of Art and Design in January 2024. INSPIER is our flagship fine paper brand that receives rave reviews from designers. Hansol Paper also hosts the INSPIER Award, the first paper design award in Korea.

Hansol IONES

| Blood Donation Campaign |

Hansol IONES held a blood-donation campaign in August 2023 to encourage employees to join efforts to save lives, and to strengthen corporate social contribution activities. The company shared the significance of donating blood to the 86 campaign participants in advance and placed bloodmobiles within the establishment to reduce employees' visit time. Starting with this campaign, Hansol IONES will conduct regular activities every year, and will continue to instill a blood donation culture and resolve the issue of blood shortages.

Hansol Technics

| Oriental-Medicine Volunteer Work for Local Residents in Deoksan-eup |

Hansol Technics has held an Oriental medicine volunteering activity for local residents of Deoksan-eup, Jincheon-gun, Chungbuk. Experts including doctors of Korean medicine and hairstylists and volunteers participated in the program and provided over 400 local residents with acupuncture treatment, physiotherapy, haircuts, and legal consultation services. The volunteers contributed to the revitalization and building of a healthy local community by providing medical services at the site, using bloodmobiles. The event ended successfully with the active cooperation and participation of Hansol Technics' employees and local residents. Hansol Technics will take this opportunity to continue striving for shared growth with the local community and carry out various programs to improve the health and welfare of local residents.



Governance

TOWARDS SUSTAINABILITY

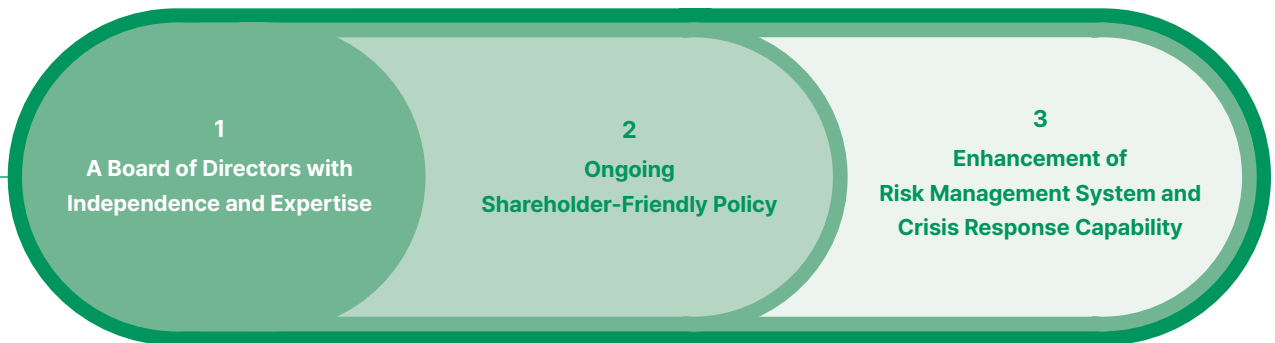
Hansol Group's Board of Directors(BOD) is the highest decision-making body that appoints skilled directors of diverse backgrounds to ensure transparent and independent decision-making. The BOD carries out efficient management through checks and balances. The BOD of Hansol Holdings is composed of seven directors, including four inside directors and three outside directors who are responsible for the decision-making and overseeing of key management agendas. Hansol Group's CEO also holds the position of Chairman of the BOD. The Head of Finance is a member of the BOD for the efficient implementation of the internal accounting control system, and the BOD has started to report the results of the ESG materiality assessment and risk management assessment in 2023. In 2023, Hansol Holdings, Hansol Paper, Hansol Chemical, Hansol PNS, Hansol Technics, and Tapex paid dividends in accordance with the shareholder return policy. It was a milestone event for Hansol Technics, beginning dividend payouts for the first time in 12 years. Hansol Group actively addresses ESG information disclosure; and Hansol Holdings and six other affiliates(Hansol Paper, Hansol Technics, Hansol Chemical, Hansol HomeDeco, Hansol Logistics, and Hansol PNS) disclose corporate governance reports. Hansol Holdings has established an ESG index management system and manages and improves the risk-management procedure for all affiliates through comprehensive risk assessments. By establishing an RM Team as an independent organization directly reporting to the CEO, Hansol Technics aims to achieve ethical management, compliance management, anti-corruption and risk management. The company is committed to building an order of fair and transparent transactions through supplier visits and anonymous surveys.

KEY SUSTAINABILITY ISSUES

KEY PERFORMANCE

Transparent Governance and Shareholder-Friendly Management

A robust governance structure serves as the basis for the company's sustainable growth and fulfillment of social and environmental responsibilities. Transparent and sound governance is key to the company's preparedness for the future and continued growth. Hansol Group's BoD is dedicated to ensuring balanced decisions for all stakeholders, including customers, shareholders, and partner companies based on independence, expertise, and diversity.



Seven affiliates of Hansol Group
(Hansol Holdings, Hansol Paper, Hansol Technics,
Hansol PNS, Hansol Logistics, Hansol HomeDeco,
Hansol IONES)

ESG Working Council participation

- **Tapex** Winner of the 12th Taxpayers' Rights Prize
- **Hansol Group** Voluntary disclosure of corporate governance reports by Hansol Logistics, Hansol HomeDeco, and Hansol PNS
- **Hansol Chemical** Disclosure of reports submitted and handled throughout the past two years

Hansol Holdings
2023 Dividend Payout Ratio

56.5%
(Consolidated basis)

- **Hansol Chemical** Payout ratio of 21.7% in 2023
- **Hansol Logistics** Dividend per share of KRW 100, and payout ratio of 15.0% in 2023

Tapex holds the information-security management standard across all establishments

ISO 27001
certified

- **Hansol Holdings** Establishment of the Risk-Management Team in March 2024
- **Hansol Paper** Reporting of non-financial risks to the BOD in August 2023

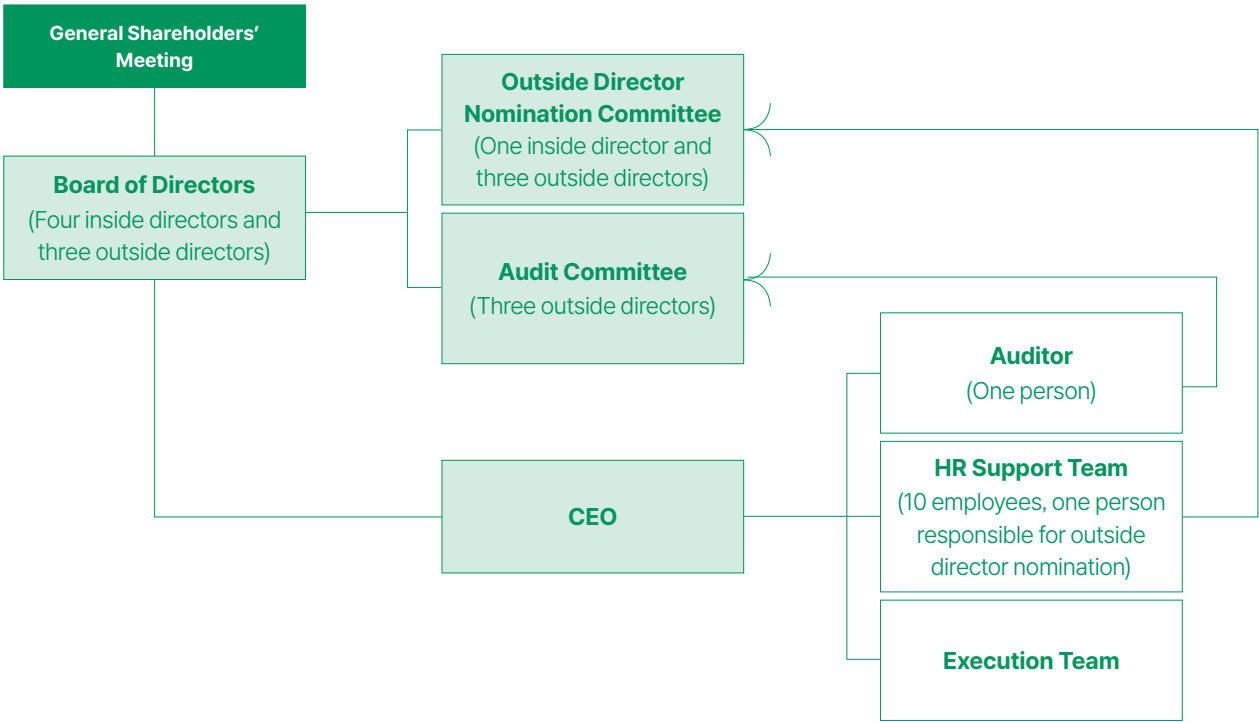
1. Sound Governance and Ethical Management

A Board of Directors with Independence and Expertise

The Board of Directors of Hansol Holdings is authorized to take decisions and control key management agendas of the company in accordance with relevant laws and regulations and the Articles of Incorporation. Seven directors, including four inside directors and three outside directors are responsible for making business-related decisions and performing monitoring and supervision. The term of outside directors is restricted to six years according to relevant laws and regulations. In addition, the CEO of the company also holds the position of Chairman of the BoD for efficient decision-making and stronger competitiveness. Hansol Holdings has included the Finance Head as a member of the BoD to enhance transparency and to efficiently establish and operate the internal accounting control system. For upgraded ESG management practices, Hansol Holdings has started to report ESG materiality assessment results and risk management system and inspection results to the BOD from 2023.

Board Composition

* As of May 2024



By installing and operating various committees within the BoD based on expertise and diversity, Hansol Holdings ensures swift and efficient decision-making. Hansol Holdings appoints those who possess an advanced level of expertise and in-depth experience in the relevant domain of work as inside directors, and refers to the relevant laws and regulations and guidelines introduced by the Korea Institute of Corporate Governance and Sustainability when appointing outside directors, ruling out individuals that compromise shareholder rights and independence, and nominating individuals who can contribute to growth, support compliance activities, and offer management advice. As such, Hansol Holdings sets a solid foundation for protecting shareholder value, offering advice on management activities, and ensuring compliance. The BOD and its composition play a critical role in realizing transparent and responsible management.

| BOD Composition Status |

* As of April 2024

Category	Name	Position	Date of appointment	Duration	Background
Inside Directors	Jo Dong-gil	CEO, Chairman	1994.02.25	2024.03.31 ~ 2027.03.30	B.A in Economics, Yonsei University (Current) Chairman of Hansol Group
	Lee Myung-gil	President / CEO	2024.03.26	2024.03.26 ~ 2027.03.27	Master's degree in Business Administration, Seoul National University (Current) President of Hansol Holdings
	Jeon Hoon	Director	2019.03.26	2022.03.30 ~ 2025.03.29	Master's degree in Business Administration, Seoul National University (Current) Director of Finance at Hansol Holdings
	Go Min-hyuk	Director	2020.03.30	2023.03.30 ~ 2026.03.29	MBA at Helsinki School of Business (Current) Director of HR Support at Hansol Holdings
Outside Director	Kim Jong-il	Director, Audit Committee member	2024.03.26	2024.03.26 ~ 2027.03.27	(Current) Professor of Business Administration at the Catholic University of Korea
	Won Chang-yeon	Director, Audit Committee member, Outside Director Nomination Committee member	2023.03.29	2023.03.29 ~ 2026.03.29	Master's degree at Yonsei University Law School (Current) Attorney at law at Dongin Law Firm
	Lee Nam-Woo	Director, Audit Committee member, Outside Director Nomination Committee member	2020.03.30	2023.03.30 ~ 2026.03.29	Master's degree of Business Administration at Chicago University (Current) Visiting professor at Yonsei University Graduate School of International Studies and Advisor to the Career Development Center

Establishment of Sound Governance

Hansol Holdings

Hansol Holdings has established a systematic governance structure to enhance the values and rights of shareholders — and promote the growth, transparency, and stability of the company. To that end, the operating procedures of the Board of Directors and the Audit Committee are disclosed on the company website to give stakeholders better access to information. In addition, internal checks and balances are put in place through clear delegation of authority between the BoD and the management, and the right to access and right to request advisory opinion granted to outside directors ensure independence of operation. The Audit Committee, installed within the BoD and the external auditors, plays a key role in maintaining sound corporate governance as it is independent from the company's management and key shareholders. The governance structure serves as the foundation for Hansol Holdings' transparent and responsible management practices.

Tapex

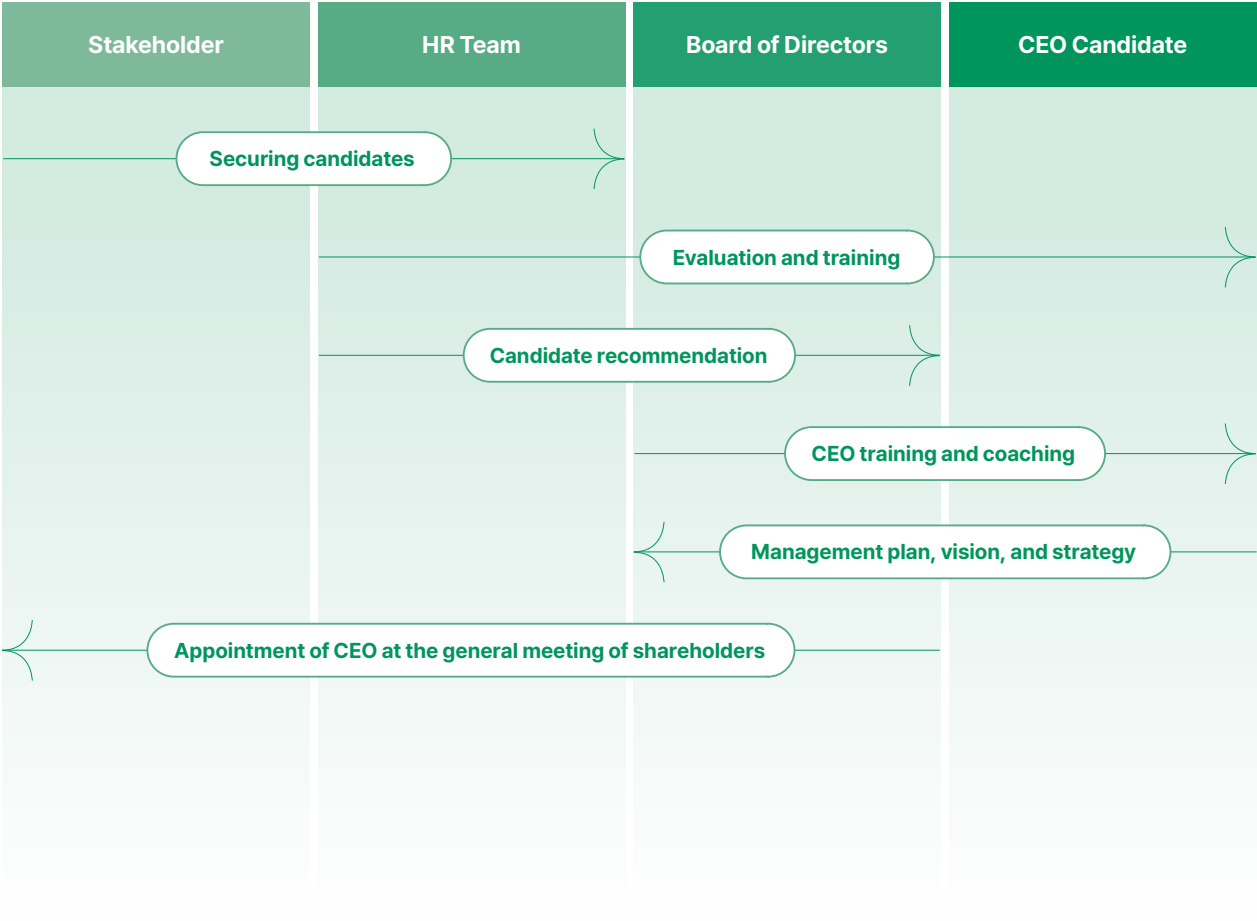
Tapex has received the honor of winning the 12th Taxpayers' Rights Prize in recognition of faithful tax payment in response to increased profit. The award is a result of the company achieving continued growth without compromising tax payment in good faith based on fairness and transparency. Winners of the award were selected based on significant contributions to taxpayer rights in the seven categories of legislation, tax system, media, tax payment, etc. Other standards applied for nomination include maintenance of an objective sense of balance, values of liberal democracy, universal standards, and equal provision of benefits to all taxpayers. With this opportunity, Tapex will continue to fulfill social responsibilities through tax payment and serve as an example for all striving to promote rights and interests.

| Tapex Wins Taxpayers' Rights Prize |



CEO Succession Policy

Hansol Group is committed to securing and nurturing talents who can grow into becoming CEOs with outstanding leadership skills in various business aspects. To that end, the group has established a systematic candidate nomination process, and advanced strategy for securing and nurturing promising intellectuals. Candidates with various background, expertise, and experience are selected on a quarterly basis, evaluated, and nurtured for prompt response to changing business circumstances and prevent CEO vacancy issues.



Ensuring Diversity and Expertise of the Board of Directors

Hansol Group

Affiliates within Hansol Group such as Hansol Holdings, Hansol Paper, Hansol Technics, Hansol Logistics and Hansol PNS have conducted a systematic training program for outside directors and members of the Audit Committee to enhance the expertise of the Board of Directors. A training session on understanding of digital transformation and business model innovation was held for outside directors in May. Furthermore, Hansol Holdings, Hansol PNS, Hansol Technics, and Hansol IONES have amended the Articles of Incorporation at the 2024 general meeting of shareholders to enhance the BoD’s efficiency and to strengthen its monitoring function. The amended Articles of Incorporation includes an article that extends the deadline for notices sent to shareholders for convening general meetings from no less than two days prior to the date of the meeting to seven days. The change has been made to ensure that directors have sufficient time to review and discuss the agenda items, encouraging prudent and effective decision-making. By making such changes, Hansol Group aims to maximize profits for the company and shareholders, and ultimately enhance the value of the company.

Hansol Chemical

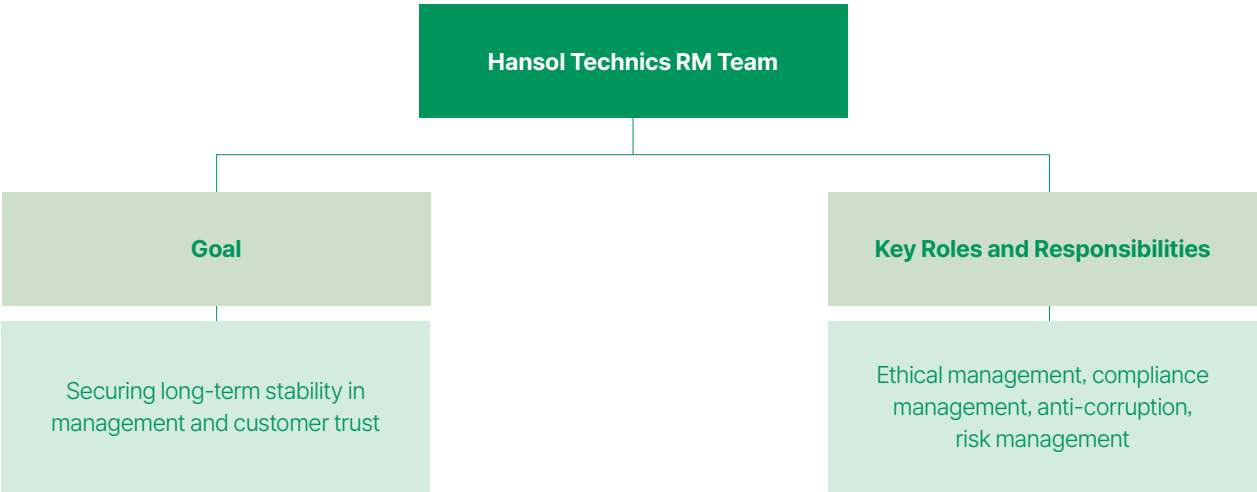
Recognizing the importance of ensuring diversity within the BoD, Hansol Chemical seeks to achieve a balanced representation of men and women through the Articles of Incorporation. This represents Hansol Chemical’s commitment to reflecting various perspectives and experiences in the management of the company. In addition, a systematic training program was conducted for outside directors to enhance their level of expertise. A training session on prevention of employee embezzlement through internal controls was conducted in April, followed by a session on ESG management practices of domestic and overseas companies in July.

| Status of Hansol Chemical’s Outside Director Training |

	April 24	July 19
Training Service Provider	KPMG	Korea Chamber of Commerce and Industry
Outside Director Participants	Kim Sol, Lee Won-jun, Park Jin-won	Kim Sol, Lee Won-jun, Park Jin-won
Description of Program	Embezzlement prevention through internal accounting control system	ESG management practices of domestic and overseas companies

Establishment of a Compliance Organization

In 2022, Hansol Technics established the RM team as an independent organization reporting directly to the CEO, and aims to achieve long-term stabilization of management and secure trust from the market and customers. The RM team is responsible for important tasks such as ethical management, compliance management, anti-corruption, and risk management. In particular, the team goes beyond carrying out compliance activities and internal controls, to actively communicating with suppliers, including visiting them in person and collecting feedback. In addition, the team ensures fair and transparency in transactions by conducting anonymous surveys and makes concerted efforts to stay compliant with laws and regulations and eradicate corruption. These efforts contribute to building a strong compliance culture and a sound business environment within the company.



Operation of an Outside Director Nomination Committee

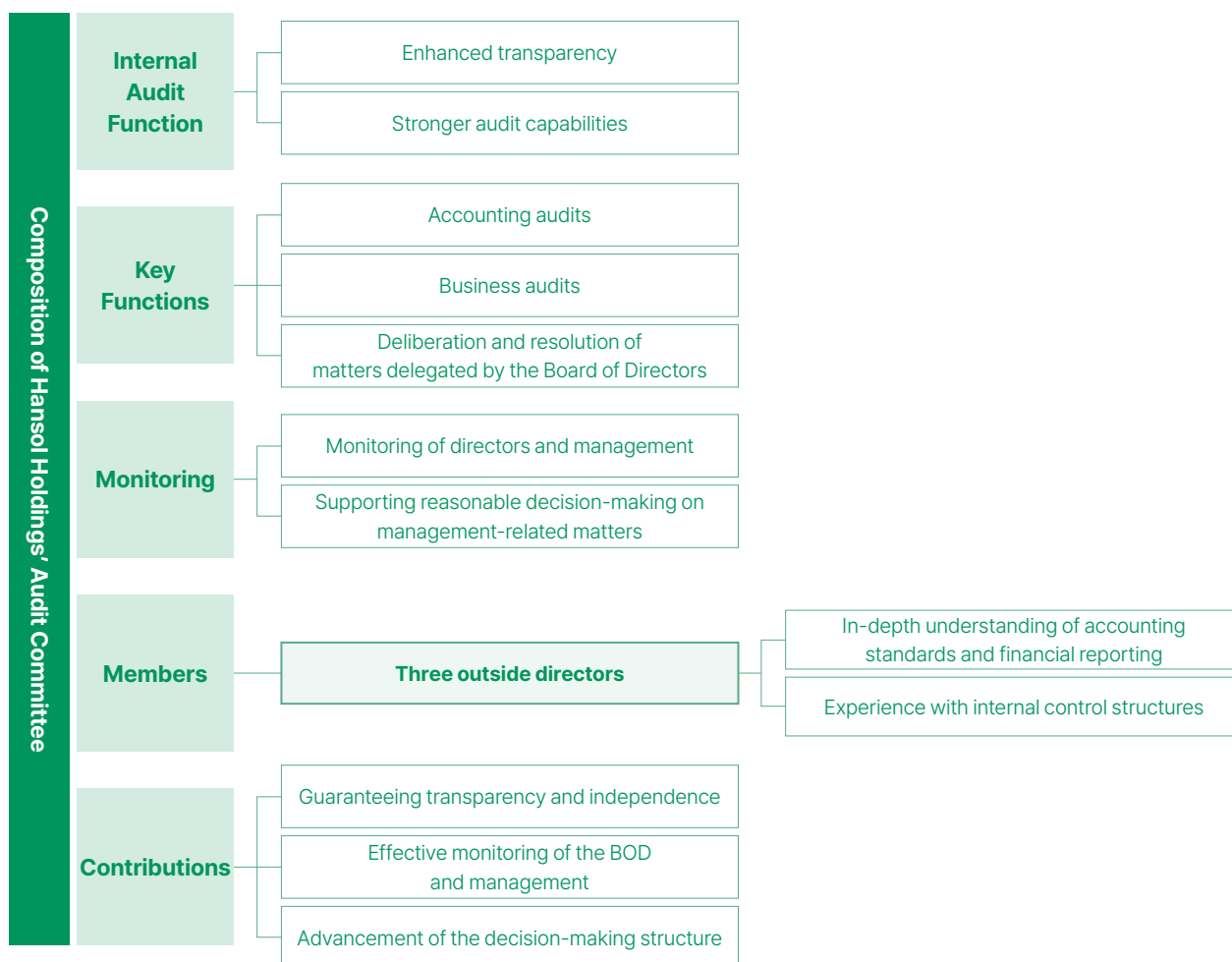
Hansol Holdings has established an outside-director nomination committee to promote governance and expertise within the Board of Directors. The committee comprises at least three directors, most of whom are outside directors, to ensure an independent perspective in the company’s decision-making processes. The committee is responsible for nominating outside director candidates prior to the general meeting of shareholders, and conducts a review of candidates based on recommendations from key shareholders, executives, and external institutions. The procedure has been designed to ensure transparency, reflect shareholders’ opinions in the outside-director nomination process, and promote independence of management activities. Hansol Holdings secures expertise and independence of the BOD through the strict candidate nomination criteria of the outside- director nomination committee. The company promotes shareholder engagement through the shareholder director nomination system, and pursues a fair and transparent decision-making structure.

| Key Agendas of the Hansol Holdings Outside-Director Nomination Committee |

1 Status of Outside-Director Recommendation	2 Implementation of Shareholder Director Nomination System for Outside Director Candidates
3 Outside-Director Appointment Plan	4 Review of Outside-Director Candidates

Operation of an Audit Committee

With the goal of achieving stronger corporate governance and transparent management, Hansol Holdings has voluntarily established the Audit Committee to perform internal audit functions. The committee has expanded its role to cover accounting and business audits, as well as deliberation and resolution of matters delegated by the Board of Directors. It supports reasonable decision-making on management-related matters and closely supervises the directors' and management's execution of duties. The three outside directors with expertise and independence constituting the committee provide independent opinions to Hansol Holdings' audit procedures based on their in-depth knowledge of accounting standards, financial reporting, and the internal control structure. The 2024 general meeting of shareholders — including Hansol Holdings, Hansol Paper, Hansol Technics, and Hansol IONES — has approved the amendment of the company's Articles of Incorporation to have the Audit Committee comprised entirely of outside directors, thus further upgrading its efficiency and expertise.



Establishment of a Compliance Management System

Hansol Group has been striving to strengthen the compliance management system to practice compliance management. The assessment of the compliance management system has been conducted since 2021 to systematically measure and analyze each affiliate’s compliance status and to drive implementation tasks. The scope of the assessment includes compliance leadership, planning, execution and support, internal inspection, and complementary and improvement measures. The assessment methodology was updated in 2023 to be more granular, and was expanded to eight affiliates including Hansol Paper, Hansol Technics and other key organizations, spreading the significance of compliance management across the entire group. The assessment results produced at the affiliate-level play a critical role in strengthening the compliance management process going forward, and promoting employees’ compliance awareness. The compliance management system also represents Hansol Group’s continued efforts to reduce legal and regulatory risks. Six major affiliates have put specific tasks into action in order to enhance compliance management and mitigate legal and regulatory risks. Each affiliate has selected actionable legal compliance tasks, taking into consideration their respective risk factors and urgency. This is a step leading up to preparation of concrete and substantial improvement methods with the goal of cultivating a company-wide compliance culture and promoting risk-management capabilities. The efforts made by each affiliate will contribute to building a stronger compliance management system for the Hansol Group.

Hansol Paper	Subcontractor risk management
Hansol Technics	Improvement of the risk-management system related to environmental regulations and trade secrets
Hansol HomeDeco	Design and improvement of internal audit process for addressing compliance risks
Hansol PNS	Safety accident-related risk management in the Paper Distribution Divison
Hansol PNS/ Inticube	Establishment and training of operational guide for complying with IT industry specific laws
Hansol Logistics	Improvement of subcontractor selection process

Operation of ESG Working-Level Committee

Hansol Holdings has set up an ESG Working-Level Committee and hosted committee meetings on a quarterly basis from February 2024 to discuss ESG issues with ESG officers from the holdings company and affiliates. The purpose of the committee is to support the work of ESG officers of affiliates and promote their capabilities. The officers share the improvement tasks and achievements of each affiliate and discuss ways to respond to ESG assessment results. Committee meetings are held with seven affiliates, including Hansol Holdings, Hansol Paper, Hansol Technics, Hansol PNS, Hansol Logistics, Hansol HomeDeco, and Hansol IONES — and sometimes with business teams depending on the agenda or theme.

Disclosure of Governance

Since 2024, companies listed on the securities market with assets of KRW 500 billion or more are required by law to disclose corporate governance reports. Accordingly, four affiliates including Hansol Holdings, Hansol Paper, Hansol Technics, and Hansol Chemical, are impacted by the new policy. At the same time, Hansol Logistics, Hansol HomeDeco, and Hansol PNS have voluntarily disclosed their corporate governance reports, even though not subject to disclosure obligation — an expression of their commitment to further enhance the transparency of the group's management system. Hansol Group has made continuous efforts toward enhancing the transparency and advancement of the governance structure, including voluntary disclosure of the corporate governance reports from 2018. As a result of persistent efforts, Hansol Holdings has maintained high ESG scores in external ESG assessments. These activities demonstrate Hansol Group's deep understanding and dedication to fulfilling corporate social responsibility and sustainability, going beyond simply satisfying legal requirements.



Prioritizing the practice of ethical management, Hansol Chemical has made continued efforts to further enhance transparency and responsibility. By disclosing the number of reports filed per type, including acceptance of money and entertainment, embezzlement, leakage of confidential information, and violation of reporting obligations and the volume of cases handled during the past two years, Hansol Chemical demonstrates the company's ethical standards and executive ability to all stakeholders in real time. The disclosure transparently shows the company's response to ethical issues and conveys a strong message of ethical management to resonate within and outside the company.

2. Ongoing Shareholder-Friendly Policy

Guarantee of Shareholder Rights

Hansol Holdings has made multifaceted efforts to protect shareholders' rights and promote their voting rights. As such, shareholders are offered various methods of exercising their voting rights, including in-person at the general meeting, by proxy, or by proxy solicitation. The 58th general shareholders' meeting was held on March 29, 2023, avoiding the concentration day to encourage more participation from shareholders and facilitate exercising of voting rights. In addition, Hansol Holdings is also committed to investor relations activities, disclosing quarterly IR reports and business performance on the website after each quarter's earning call to give shareholders and stakeholders in the market access to the latest information. In the event of a major change to the company, Hansol Holdings provides shareholders and stakeholders with information through appropriate disclosure, and aims to protect their rights and interests by incorporating their feedback into resolutions at the general meeting of shareholders.

| Hansol Holdings' General Meeting of Shareholders |

Category	56th General Meeting of Shareholders	57th General Meeting of Shareholders	58th General Meeting of Shareholders
Concentration day	2021.03.26	2022.03.25	2023.03.24
	2021.03.30	2022.03.30	2023.03.30
	2021.03.31	2022.03.31	2023.03.31
Regular general meeting of shareholders	2021.03.31	2022.03.30	2023.03.29
Regular general meeting of shareholders held avoiding concentration day	No	No	Yes
Written resolution	No	No	No
Electronic voting	Yes	Yes	Yes
Proxy solicitation	Yes	Yes	Yes

Implementation of Mid- to Long-Term Shareholder Return Policy

Hansol Holdings actively implements its mid- to long-term shareholder return policy to promote shareholder value and improve the predictability of its dividend policy. To that end, information related to the shareholder return policy including cash dividend payout is disclosed on the company's website, and included in the IR report issued on a quarterly basis and posted on the website to ensure regular communication with shareholders. On May 2022, the Board of Directors of Hansol Holdings resolved to maintain the existing "2019~2021 Shareholder Return Policy" throughout 2024, and announced this decision through fair disclosure. Furthermore, the BOD resolved in February 2024 the plan for implementing retirement of treasury stock to stabilize stock prices and promote shareholder value.

| Three-year Performance of Hansol Holdings Shareholder Return Policy |

Category	2021	2022	2023
Dividend per share – common stock	KRW 120	KRW 120	KRW 100
Dividend yield- common stock	3.4%	3.5%	3.3%
Total dividends	KRW 5 billion	KRW 5 billion	KRW 4.2 billion
Dividend payout ratio	23.3%	10.5%	56.5%

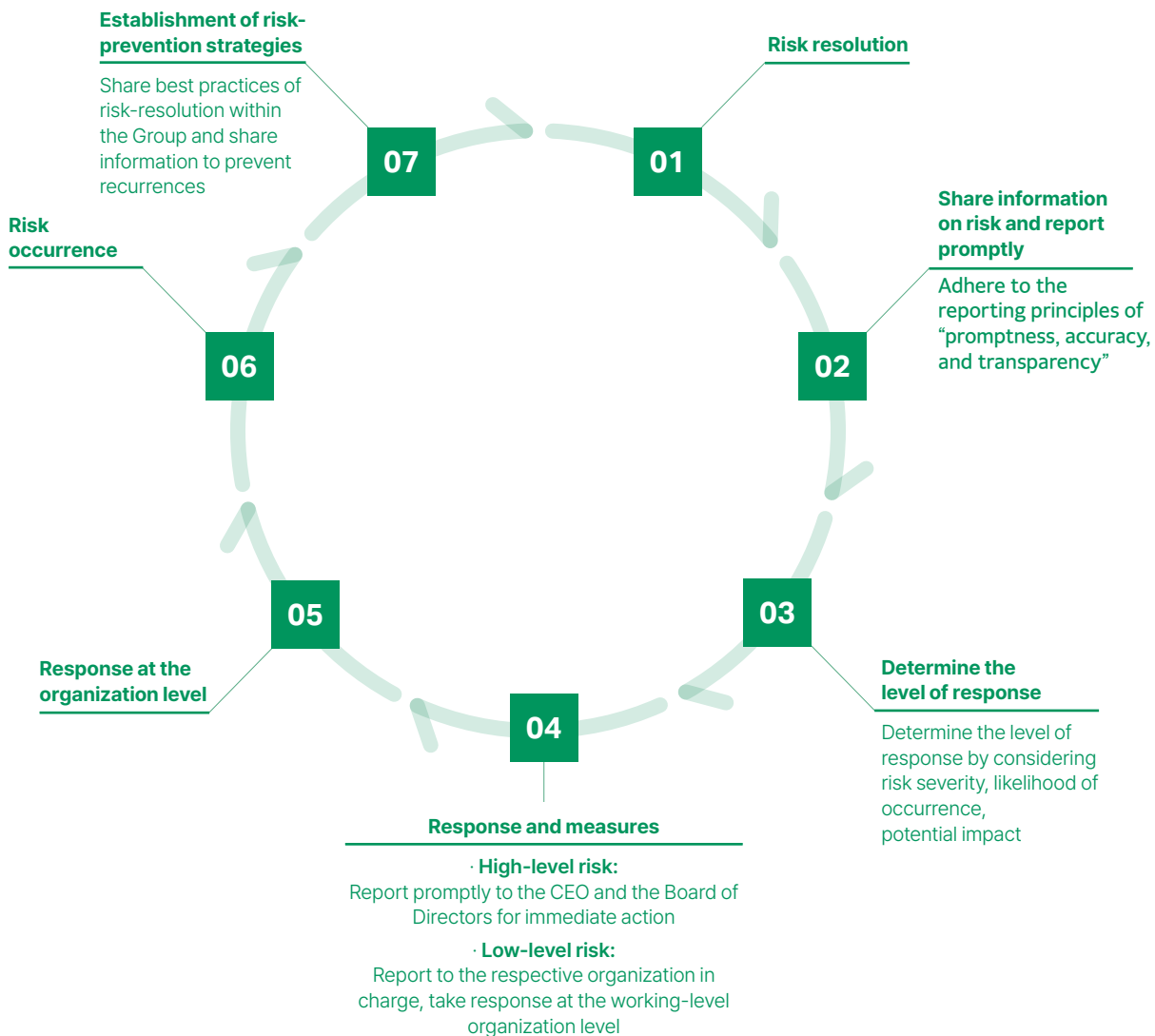
Returning to Shareholders Through Dividends

Hansol Group is dedicated to promoting shareholder value by continuing to implement stable and predictable dividend policies. In particular, the Articles of Incorporation were amended in March 2023 to set the dividend record date to after the passing of the resolution by the Board of Directors so that shareholders can confirm the dividend amount to be paid out and make informed investment decisions. Hansol Group will continue to implement shareholder-friendly policies at the group level to promote shareholder value and achieve sustainable profit sharing.

3. Enhanced Comprehensive System Management and Crisis-Response Capabilities

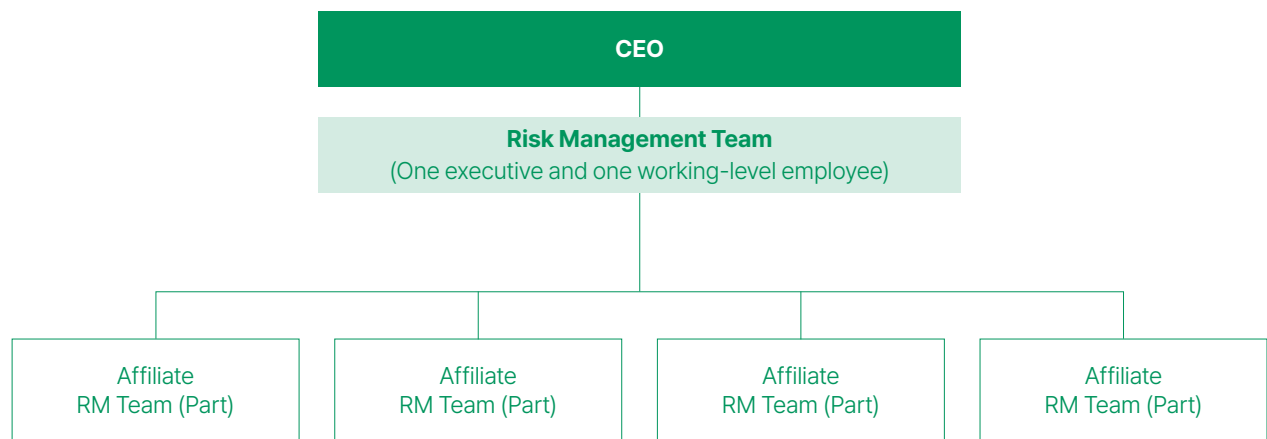
Group Risk Response Process

Hansol Group maintains a systematic risk management process to effectively manage potential risks. We respond immediately through swift sharing of information in the event of a risk occurrence, and identify and separately manage risks that have a significant impact on operations. In addition, Hansol Group establishes recurrence-prevention measures following thorough risk analyses; and as a holding company, conducts a comprehensive assessment of risks across all affiliates. The risk-recurrence prevention strategy includes taking immediate action through cooperation with affiliates when necessary. The risk-response process serves as the foundation for Hansol Group's sound business operations and an approach essential to achieving sustainable growth and promotion of company value.



Group-level Risk Reporting Process

As a holding company, Hansol Holdings has established the RM team to directly report to the CEO in 2024 for regular inspection of risks and prompt action, effectively responding to changing business environment both within and outside the company.



Management Process

1 Comprehensive risk management implementation <ul style="list-style-type: none"> · Periodic assessment of risk-management status(quarterly) · Annual updates including additions, improvement, and deletion of the risk- classification system · Joint inspection of risks with affiliates in the event of investments and orders exceeding a certain threshold or risk level 	2 Risk-Management Team's reporting of material issues to the BoD	3 Risk-management scope and target <ul style="list-style-type: none"> · Target: All affiliates (including subsidiaries) · Scope: All areas with potential risks, including business, external communication, finance, compliance, and operation
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* (Affiliates) Monitoring of changes in the internal and external business environment and periodic / ongoing risk assessment

Group's Risk-Classification System

Category		Level 1	Level 2	Level 3
Financial risks	Business	Market / customer	Trends (PESTEL)	Political / Legal
				Economic
				Social
				Technological
				Environmental
		Equity investment	Business model	Business model verification
				Scalability and vision establishment
			System	Laws and regulations
		Orders	Project	Project structure
				Civil complaints
				Poison pills
				Construction and delivery timeline
				Quality / performance assurance
		Property rights	Infringement of intellectual property	Patent / trademark
	Finance	Market	Exchange rate	-
			Interest rate	-
		Liquidity	Financing	-
			Profit and loss	-
		Tax	Tax	-
Non-financial risks	Compliance	Environment / safety	Environment	Climate change, carbon emissions
			Safety	Safety accidents
				Laws
		Compliance	Corruption	-
			Disclosure	-
			Unethical conducts	-
	Operation	Security	-	-
		HR / labor	-	-
		Supply chain	-	-
		Quality / certification	-	-
		Receivables management	-	-
	External communication	Crisis response	Brand	Risk to image and reputation
		Brand	Undermining the value of brand assets	CI abuse and misuse
		Market / shareholders	IR	-

Inspection of Risk-Management System and Implementation of Improvement Plans

Hansol Group has conducted a comprehensive risk inspection on all affiliates using the Group Risk Classification System to understand their risk-management status, and defined processes for improvement. Hansol Holdings' Risk Management Team, Business Support Team, and Finance Team, in collaboration with affiliates, will be reviewing individual investments and orders that could have potential risks. Hansol Group will continue to conduct regular inspections on a quarterly basis to keep the list of risks that need to be added, improved, and deleted up to date to prevent the probability of risks and promote sustainable management.

Information Protection System

Tapex has acquired ISO 27001 to enhance the reliability of information-security management and business stability. Becoming ISO 27001 certified in 2023 has enabled Tapex to systematically manage information security risks and meet international standards, contributing to enhancement of the company's information security capabilities. Tapex has achieved the certification as a result of meeting various requirements including systematic planning, implementation, inspection and improvement of information protection policies, physical and technological security management, and information-access control, providing stakeholders with reliability. The certification, acquired by the headquarters and all establishments represents an important milestone for Tapex's establishment of an information-protection system. The consulting and examination period was from July 25 to December 15, 2023, and the certification was acquired on November 17, 2023. The certification's expiration date is November 16, 2026. The certification, issued by German Cert, reduces risks pertaining to information protection litigations and serves as the foundation for sustainable management of the company.

Certified establishments	Headquarters, Yanggam Plant, Paltan Plant, Saemangeum Plant
Consulting and examination period	2023.07.25. ~ 2023.12.15
Acquisition of certification	2023.11.17
Certification expiration date	2026.11.16
Certification service provider	German Cert

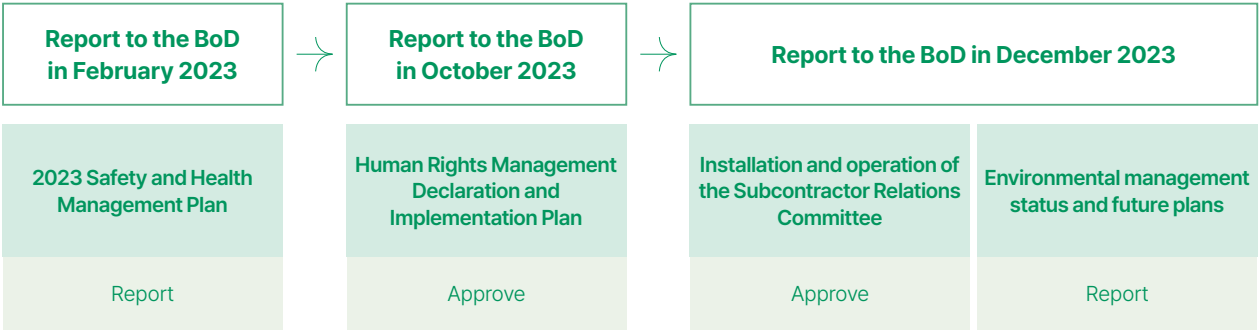
TAPEX(G2) Certification Status |



Management and Response to Non-financial Risks

Hansol Group and its affiliates have established risk-management and response strategies as part of its efforts to practice ESG management across its business domains. In November 2023, the Board of Directors of Hansol Holdings thoroughly reviewed the ESG materiality assessment results, and analyzed the impact on non-financial risks on the company’s long-term values and operation. With an aim to systematically manage the risks, Hansol Paper began regular reporting of non-financial risks to the BoD from August 2023, opening a new chapter for strengthening risk management and sustainable business activities within the organization. The approach covers in-depth management assessment of seven non-financial risks derived as a result of the materiality assessment, including compliance, human rights, safety and health, climate change (carbon neutrality), information security, environmental regulations on products, and supply chain — thereby contributing to a stronger risk-management and response strategy at the company level. Hansol Technics effectively manages company-wide risks through quarterly risk management and inspection activities, and reports on the risk management status to the BoD biannually. In 2023, updates on activities carried out to mitigate non-financial risks and issues were reported through a resolution of the BoD, including safety and health management plan, Declaration of Human Rights Management and implementation plan, and installation and operation of the Subcontractor Relations Committee.

Hansol Technics’ Reporting of Non-financial Risks to the Board of Directors



Seven Non-Financial Risks of Hansol Paper and Response

Category	Selection Background	Risk Impact	Response
Compliance	<ul style="list-style-type: none"> Transparent management of the company and fulfillment of social responsibility 	<ul style="list-style-type: none"> Administrative sanctions and compensation due to violation of regulation Cost of legal disputes 	<ul style="list-style-type: none"> Reporting of the 2023 safety and health management plan
Human Rights	<ul style="list-style-type: none"> Prevention of labor and employment discrimination and human rights violation protection 	<ul style="list-style-type: none"> Damage to company reputation due to violation of human rights Costly labor disputes 	<ul style="list-style-type: none"> Human Rights Management Declaration and implementation plan Human rights violation prevention training and implementation of relief procedures
Safety and Health	<ul style="list-style-type: none"> Safety accidents occurring within establishments lead to negative impacts on the environmental safety and health of workers and the local community 	<ul style="list-style-type: none"> Liability for damages and damage to reputation in the event of a safety accident Serious impact to the company's sales activities including conflicts with the local community 	<ul style="list-style-type: none"> Establishment of an emergency response system at each establishment and operation of a regular safety training program
Climate Change (Net Zero)	<ul style="list-style-type: none"> Increased limitations to operation of establishments and movement of goods in logistics due to climate-change caused extreme weather conditions Key global agendas Stronger regulations on energy consumption and greenhouse gas emissions 	<ul style="list-style-type: none"> Cost for purchasing carbon credits Probability of penalties and fines Border carbon tax and risks to exports 	<ul style="list-style-type: none"> Establishment of a climate-change response system Setting mid- to long-term GHG emissions-reduction target and monitoring of performance
Information Security	<ul style="list-style-type: none"> Increased security threats related to hacking and smashing attacks on individual and company information Information leakage prevention 	<ul style="list-style-type: none"> Damage to intellectual property rights and goodwill due to leakage of key information Disputes due to personal information leakage 	<ul style="list-style-type: none"> Compliance with information-security policies, encryption of documents and reinforcement of security systems
Environmental Regulations on Products	<ul style="list-style-type: none"> Increased demand from the global market for green-certified products Stricter environmental regulations 	<ul style="list-style-type: none"> Sluggish sales of products that fail to meet environmental standards and weak quality competitiveness 	<ul style="list-style-type: none"> Establishment of company-wide goals for development and application of eco-friendly technology, and expansion of such research Expansion of green-certified products
Supply Chain	<ul style="list-style-type: none"> Increased instability of the supply chain for raw materials Mutual growth with partner companies 	<ul style="list-style-type: none"> Price instability stemming from raw material supply issues Supply chain issue from cutting off transactions 	<ul style="list-style-type: none"> Management of a pool of alternatives to original raw materials Mid- to long-term supply-chain management, eco-friendly purchasing, and stronger mutual growth

APPENDIX



3

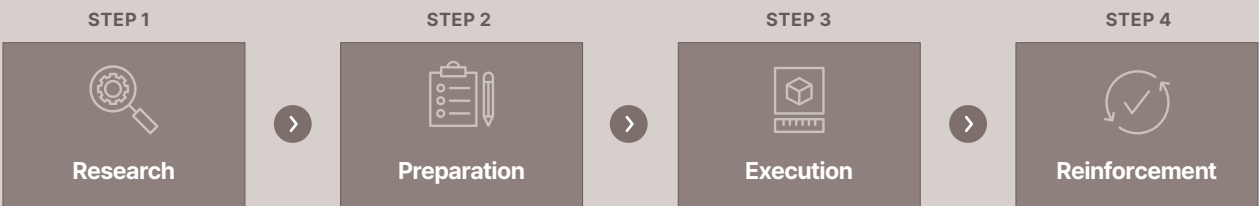
Materiality Assessment	120
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GRI Standard Index	146
UN Sustainable Development Goals	150
Independent Assurance Statement	151
Affiliates and Certifications	154
Awards	155
Local Business Sites	156
Association Memberships	157

Materiality Assessment

Hansol Group selects key issues by analyzing the interests of major stakeholders, both at home and abroad, and their impact on business. The materiality assessments are conducted comprehensively taking into consideration international sustainability management standards, social issues exposed on the media, and the sustainability-management trends found in the same industry.

Materiality Assessment Process

We have conducted a materiality assessment pursuant to the reporting principles of the Global Reporting Initiative, a guideline for global sustainability reporting, to make decisions on the information to be included in the sustainability report and identify sustainability-management issues that need to be managed thoroughly. The process consists of the following four steps:

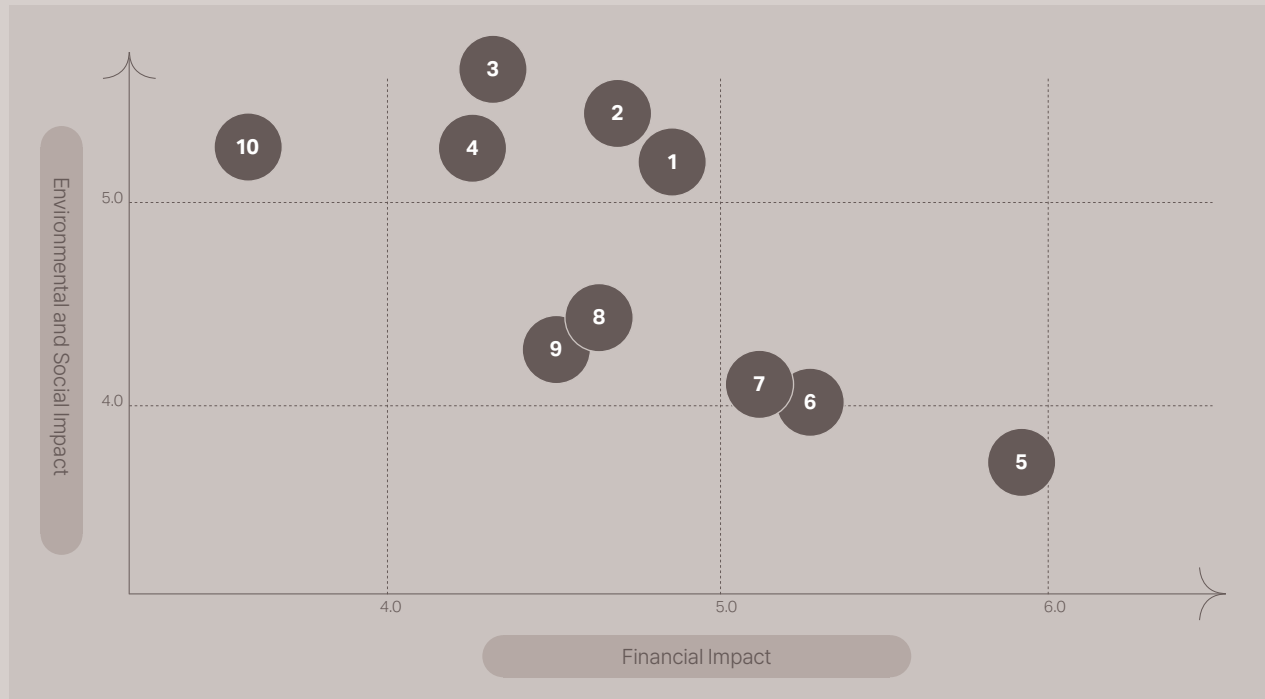


Stage	Purpose	Method		Result	
Step 1. Research	Deriving sustainability management topics	1. Analysis of the issue pool from the previous year		Creation of a basic issue pool	
		2. Industry benchmarks			
		3. Media research			
		4. GAP analysis			
Step 2. Preparation	Quantification of stakeholder evaluation	Survey of internal and external stakeholders		Create final issue pool	
Step 3. Execution	Measurement of risk level	Overview	Applying an appropriate weight based on the materiality inspection methodology, importance of the target of assessment, and reliability		Prioritization of double materiality based on assessment results
		Type	Financial significance (Financial Materiality)	Environmental and social significance (Impact Materiality)	
		Key Analysis	a. Survey on internal stakeholders b. Company vision and strategy c. International standard	a. Survey of external stakeholders b. Media analysis c. Benchmarking	
Step 4. Reinforcement	Creation of double-materiality assessment metrics	Creation of materiality metrics based on assessment results		Double materiality assessment metrics	

Channels of Communication with Stakeholders

Stakeholders	Communication channel			
Employees	• Communication board • Communication with management • Employee satisfaction survey	• Labor-management council • Employee training	• Investor relations • In-house broadcasting	• Employee portal • Workshop
Partner companies	• Meetings • Mutual growth council	• Survey	• Mutual growth workshop	• Mutual Growth Day
Shareholders and investors	• General shareholders' meeting • Investor meeting • Corporate governance report	• Disclosure, business performance presentation • Sustainability Report	• Sales brochure • Shareholder nomination system for outside directors	• Business report
Government and local governments	• Ministry of Environment • Collaborative program	• Ministry of Economy and Finance	• FSC, ISO	• Participation on policy research
Customers	• Website • Brochure • Exhibitions and fairs	• Blog • Marketing video	• Facebook • Customer satisfaction survey	• YouTube • Customer event
Local community-NGO	• CSR activities	• Communication with local communities near business sites, Sustainability Report		

Materiality Assessment Results



Category	Key Issues	GRI CONTENT INDEX	Report Details	Page No.
Environment	① Climate-change response activities	3-3, 305-1, 305-2, 305-3	GHG emissions-reduction and improvement of energy efficiency	34, 35, 50-52, 54-57
Governance	② New business (new market) development	3-3, 2-6	New business and market development	30, 31, 40-42
Environmental	③ Energy consumption	3-3, 302-1	GHG emissions reduction and improvement of energy efficiency	32, 33, 56, 57
Social	④ Employment and talent development	3-3, 401-1, 404-2	Growth with employees	26, 27, 73-77
Governance	⑤ Improvement of governance transparency	3-3, 2-9, 2-10, 2-11	Sound governance and ethical management	28, 29, 100-109
Social	⑥ Occupational safety and health management	3-3, 403-1	Growth with employees	81-83
Social	⑦ Respect for human rights	3-3, 405-1	Growth with employees	70-72
Social	⑧ CSR activities for giving back to the local community	3-3, 413-1	Communication and engagement the local communities	94-97
Governance	⑨ Ethical and anti-corruption management	3-3, 205-1	Sound governance and ethical management	105, 108
Governance	⑩ Creation and distribution of economic value	3-3, 201-1	New business and market development	40-47

DATA CENTER

Hansol Holdings

Economic

Classification	Unit	2021	2022	2023
Income statement	Sales	29,323	34,361	34,554
	SG&A expenses	16,019	18,082	19,284
	Operating income	13,304	16,279	15,270
	Financial income	964	1,470	2,788
	Financial expenses	407	1,037	1,381
	Other income	2,233	248	234
	Other expenses	63	2,769	5,454
	Net income before tax	16,031	14,190	11,457
Balance sheet	Assets			
	Current assets	64,779	73,919	85,077
	Non-current assets	386,883	382,738	379,151
	Liabilities			
	Current liabilities	9,394	10,299	15,301
	Non-current liabilities	7,373	6,566	5,118
	Capital			
	Controlling company Shareholders' equity	434,896	439,792	443,810

(Based on standalone financial statements)

Social

Classification			Unit	2021	2022	2023
Total number of employees			Persons	50	46	55
Employee status	Executives	Total	Persons	10	8	9
		Female		0	0	0
		Male		10	8	9
	Full-time employees	Total		39	36	44
		Female		9	10	10
		Male		30	26	34
	Non-regular employees	Total		1	2	2
		Female		0	1	1
		Male		1	1	1
	Outsourced workers			0	0	0
Employee status (by work type)	Full-time	Persons	47	44	55	
	Part-time		3	2	0	
Employee status (by location)	Domestic	Persons	47	44	55	
	Overseas		3	0	0	
Employee diversity	No. of male employees		Persons	41	35	34
	Ratio of male employees		%	82	76	78
	No. of female employees		Persons	9	11	10
	Ratio of female employees		%	18	24	22
	No. of male executives		Persons	10	8	9
	Ratio of male executives		%	100	100	100
	No. of female executives		Persons	0	0	0
	Ratio of female executives		%	0	0	0
	No. of male managers (manager level or higher)		Persons	33	30	32
	Ratio of male managers (manager level or higher)		%	97	91	97
	No. of female managers (manager level or higher)		Persons	1	3	1
	Ratio of female managers (manager level or higher)		%	3	9	3
Employee diversity	Hiring of social minorities	No. of employees with disabilities	Persons	0	0	0
		Ratio of employees with disabilities	%	0	0	0

1) The method for calculating the ratio of female managers (manager level or higher) has been updated.

Classification			Unit	2021	2022	2023
Employee diversity	Hiring of social minorities	No. of senior employees (55 years of age or more, excluding executives)	Persons	0	5	6
		Ratio of senior employees	%	0	11	10.9
		No. of foreign employees	Persons	3	2	2
		Ratio of foreign employees	%	6.0	4.3	4
		No. of employees with high school degree	Persons	1	2	1
		Ratio of employees with high school degree	%	2	4	2
		No. of veterans	Persons	0	0	0
		Ratio of veterans	%	0	0	0
	Employees Composition	No. of employees (Under 30 years of age)	Persons	0	1	1
		Percentage (Under 30 years of age)	%	0	2	2
		No. of employees (30–50 years of age)	Persons	36	35	39
		Percentage (30–50 years of age)	%	72	76	78
		No. of employees (50 years of age or more)	Persons	14	10	10
		Percentage (50 years of age or more)	%	28	22	20
	New hires	Male		11	6	3
		Female		3	2	0
By age		Under 30 Years	Persons	0	1	0
		30 – 50 years		13	7	3
	Above 50 years		1	0	0	
Employee compensation	Base salary and remuneration by gender	Average salary of male employees	KRW million	139	196.1	188.77
		Average salary of female employees		75	67.59	70.18
		Ratio of base salaries of female to male employees	%	-	34	37.18
		Average salary of male executives	KRW million	-	446.43	434.11
		Average salary of female executives		-	0	0
		Ratio of base salaries of female to male executives	%	-	0	0
		Average salary of male full-time employees	KRW million	-	117.21	109.62
		Average salary of female full-time employees		-	71.9	71.1
		Ratio of base salaries of female to male full-time employees	%	-	61	64.86
		Average salary of male non-regular employees	KRW million	-	82.54	78
	Average salary of female non-regular employees		-	24.7	61	
		Ratio of base salaries of female to male non-regular employees	%	-	30	78.21

Classification		Unit	2021	2022	2023
Job security	Average years of service	Years	9	9.7	9.1
	Total employee turnover	Persons	-	13	13
	Voluntary turnover ²⁾	%	-	19.6	3.6
	Non-voluntary turnover ²⁾	%	-	8.7	20.0
Talent development	Beneficiaries of training	Persons	50	46	50
	Total training expenses	KRW million	17	20	36
	Training costs per employee	KRW 1,000	358	433	720
	Total training hours	Hours	1794	1098	2421
	Average training hours per employee	Hours	49	23.9	48.42
Industrial accidents	No. of industrial accidents	Cases	0	0	0
	Industrial accident rate	%	0	0	0
	No. of deaths	Persons	0	0	0
	No. of injuries	Persons	0	0	0
	Lost work hours	Hours	0	0	0
Fair trade	No. of fair trade law violations	Cases	0	0	0
	Fines	KRW million	0	0	0
No. of information-security breaches	Customer data leakage, theft, and loss	Cases	0	0	0
Workplace discrimination	No. of complaints filed related to workplace discrimination	Cases	0	0	0
Parental leave	Employees who have taken parental leave ³⁾	Total	-	1	1
		Male	-	0	0
		Female	-	1	1
	No. of employees who have returned to work after parental leave	Total	-	1	1
		Male	-	0	0
		Female	-	1	1
	Percentage of employees who returned after parental leave	%	-	100	100
	No. of employees who continued to work after parental leave	Total	-	0	1
		Male	-	0	0
		Female	-	0	1
Human rights policy and procedure	Duration of training on human rights (per employee)	Hours	1	1	0
	No. of employees who have completed the human rights training course	Persons	50	46	0
	Ratio of employees that completed the human rights training course	%	100	100	0
	Duration of education for workplace bullying prevention		49(1)	46(1)	55(1)
	Duration of education for sexual harassment prevention	Total hours (per employee)	49(1)	46(1)	55(1)
	Other training (Human rights education for persons with disabilities, etc.)		49(1)	46(1)	55(1)
CSR	Investment in CSR (including donations)	Total amount	10	10	0
		Cash donations	10	10	0
		Non-cash donations	0	0	0
		Business expenses	0	0	0
	Total volunteer hours	Hours	480	564	360
	Average volunteer hours per employee	Hours	9.6	12	9
	Direct and indirect beneficiaries of the support programs	Persons	250	406	58

2) The method for calculating voluntary turnovers and non-voluntary turnovers has been updated.

3) The total number of employees and female employees that went on parental leave in 2022 was inaccurately reflected in the previous report.

4) The method for calculating the percentage of employees who continued to work after parental leave has been updated.

Governance

Classification		Unit	2021	2022	2023
Board of Directors	No. of Board meetings	Times	7	6	6
	Agendas	Ea.	15	13	13
	Preliminary deliberation	%	100	100	100
	Reported agendas	Ea.	8	8	11
	Amended resolutions		0	0	0
	BoD participation rate		100	100	100
	Non-executive attendance rate	%	100	100	100
Board diversity	Male	Persons	7	7	7
	Female	Persons	0	0	0
	Ratio of female directors within the BoD	%	0	0	0
	No. of outside directors ⁵⁾	Persons	3	3	3
	Ratio of outside directors	%	42.86	42.86	42.86
Anti-corruption of business sites	Total no. of business sites		1	1	1
	No. of business sites that conducted corruption-risk assessments	Ea.	0	0	0
	Ratio of business sites that conducted corruption-risk assessments	%	0	0	0
Anti-corruption policy and procedure	Duration of ethics training	Hours (per employee)	1	1	1
		Persons			
	No. of employees who signed the ethics pledge	Persons	47	46	55
	Ratio of employees who signed the ethics pledge	%	94	100	100
Anti-corruption violations	No. of anti-corruption violations identified (persons)	Ea. (persons)	0	0	0

5) The number of outside directors for 2021 was not correctly reflected in the report for the previous period.

Hansol Paper

* Hansol Paper's quantitative data was created based on the 2023 Sustainability Management Report of Hansol Paper.

Economic

Classification		Unit	2021	2022	2023
Income statement	Sales		1,834,224	2,457,953	2,194,103
	Gross profit		361,179	572,466	355,925
	SG&A expenses		300,451	442,241	308,681
	Operating income		60,728	130,226	47,244
	Financial income	KRW million	4,090	12,561	14,990
	Financial expense		28,022	45,852	60,287
	Other income		16,429	48,250	44,650
	Other expenses		24,479	49,357	44,075
	Net income before tax		28,746	95,828	2,522
Balance sheet	Current assets		663,678	1,007,797	866,343
	Non-current assets		1,224,155	1,202,218	1,208,065
	Current liabilities		727,426	1,082,342	881,742
	Non-current liabilities	KRW million	481,074	385,130	468,565
	Controlling company Shareholders' equity		679,292	742,419	723,867
	Non-controlling company		41	125	234
	R&D	Total R&D expenses for the current period	KRW million	6,321	8,769
	R&D expenses / sales	%	0.48	0.36	0.42
	No. of R&D personnel	Persons	49	55	54

(Based on consolidated financial statements)

Environmental

Classification			Unit	2021	2022	2023
Consumption of raw materials	Amount of raw materials consumed		Tons	1,222,487	1,211,504	1,079,328
Consumption of recycled materials	Amount of recycled materials (reused raw materials) consumed		Tons	587,022	562,309	494,065
	Ratio of recycled materials (reused raw materials) consumed		%	48	46	46
Consumption of energy	Total energy consumed	Total energy consumed		16,488	16,968	16,204
		Scope 1 Energy consumption	TJ	2,347	2,176	1,476
		Scope 2 Energy consumption		12,861	13,405	13,210
		Energy intensity	TJ / KRW 1 billion	10.2	6.9	7.4
Water consumption (Amount of water consumed, based on domestic data)	Total water consumption	Total water consumption		26,733,756	30,530,836	25,849,173
		Total amount of water consumed		7,276,014	6,181,350	6,226,477
		Total amount of underground water consumed	Tons	199,624	253,947	199,165
	Water reuse	Amount of water reused		9,442,230	9,780,699	9,478,676
		Ratio of water reused	%	35	32	37
GHG emissions	Emissions	Direct emissions (Scope 1)	tCO ₂ eq	296,456	303,070	274,044
		Indirect emissions (Scope 2)		626,738	725,892	727,828
Emission of air pollutants	Emissions	SOx		0.8	15.0	9
		NOx		74	8,982	139
		POP		0	0	0
		VOC	Tons	0	0	0
		HAP		0	0	0
		PM		15	184	12
		PFC		0	0	0
Emission of water pollutants	Emissions	BOD		8.0	27.4	5.0
		TOC		-	34.9	27.7
		COD	ppm	31.0	74.1	21.5
		SS		11.0	95.1	10.3
		TN		24.5	45.1	10.0
Waste	Total amount of waste (Waste treatment volume, based on domestic data)	Amount of waste generated		235,754	346,280	319,318
		Waste discharged by business sites	Tons	220,428	323,015	298,740
		Designated waste		2,172	5,317	5,737
		Domestic waste		13,154	17,947	14,840

Classification			Unit	2021	2022	2023
Waste	Waste- recycling rate	Recycled amount		94,230	134,559	105,564
		Waste discharged by business sites	Tons	220,428	323,015	298,740
		Designated waste		2,172	5,289	5,737
		Domestic waste		13,154	17,947	14,840
		Ratio of waste recycled	%	40.0	40.0	33.0
Hazardous (chemical) substances emission	Amount of hazardous substance emitted		Tons	13	11,526	975
	No. of emissions		Ea.	0	0	0
	Emissions amount		Tons	0	0	0
Violation of environmental laws and regulations	Fines		KRW million	4	2	0.5
Environmental expenses and investments	Investment in environmental protection	Environmental investment	KRW million	5,995	1,488	5,390
Sales of green products	Sales of green products and services		KRW	4,291	4,930	4,663
	Total sales		100 million	18,342	24,580	21,941
	Ratio of sales related to green products		%	23.4	20.1	21.3

Social

Classification	Unit		2021	2022	2023		
Total no. of employees	Total no. of employees	Persons	1,202	1,657	1,658		
Employee status (by employment type)	Executives	Total	24	24	25		
		Female	0	0	1		
		Male	24	24	24		
	Permanent	Total	1,186	1,575	1,603		
		Female	99	129	134		
		Male	1,077	1,447	1,469		
	Non-regular	Total	16	64	36		
		Female	4	14	11		
		Male	12	50	25		
	Outsourced workers		Male	0	0		
Employee status (by work schedule)	Full-time	Persons	1,186	1,575	1,658		
	Part-time		0	0	0		
Employee status (by location)	Domestic	Persons	1,192	1,639	1,620		
	Overseas		10	18	19		
Employee diversity	No. of male employees	Persons	1,089	1,514	1,512		
	Ratio of male employees	%	90.6	91.4	91.2		
	No. of female employees	Persons	113	143	146		
	Ratio of female employees	%	9.4	8.6	8.8		
	No. of male executives	Persons	24	24	24		
	Ratio of male executives	%	100	100	96		
	No. of female executives	Persons	0	0	1		
	Ratio of female executives	%	0	0	4		
	No. of male managers ¹⁾ (manager-level or higher)	Persons	549	656	349		
	Ratio of male managers (manager-level or higher)	%	98.4	98.5	97.2		
	No. of female managers ¹⁾ (manager-level or higher)	Persons	9	10	10		
	Ratio of female managers (manager level or higher)	%	1.6	1.5	2.8		
	Employee diversity	Hiring of social minorities	No. of employees with disabilities	Persons	34	43	41
			Ratio of employees with disabilities	%	2.8	2.9	2.5
			No. of senior employees (55 years of age or more, excluding executives)	Persons	77	100	145
			Ratio of senior employees	%	6.41	7	8.85
No. of foreign employees			Persons	0	0	0	
Ratio of foreign employees			%	0	0	0	
No. of employees with high school degrees			Persons	726	738	801	
Ratio of employees with high school degrees			%	60.4	51.7	48.9	
No. of veterans			Persons	25	24	22	

1) The method for calculating the number of managers has been revised.

Classification			Unit	2021	2022	2023
Employee diversity	Composition	No. of employees (Under 30 years of age)	Persons	176	254	249
		Percentage (Under 30 years of age)	%	15	15	15.2
		No. of employees (30~50 years of age)	Persons	702	917	850
		Percentage (30~50 years of age)	%	58	55	51.9
		No. of employees (50 years old or more)	Persons	324	486	540
		Percentage (50 years of age or more)	%	27	29	33
New hires	Male		114	211	159	
	Female		14	26	22	
	By age	Under 30 years	Persons	89	124	128
		30 ~ 50 years of age		43	75	53
		Above 50 years of age		2	0	0
Employee compensation	Base salary and remuneration by gender	Average salary of male employees	KRW million	73	90	76.8
		Average salary of female employees		49	64	55.88
		Ratio of base salaries of female to male employees	%	0.67	72	72.75
		Ratio of base salary				
		Average salary of male executives	KRW million	-	338	530.12
		Average salary of female executives		-	0	0
		Ratio of base salaries of female to male executives	%	-	0	0
		Average salary of male full-time employees	KRW million	-	61	73.52
		Average salary of female full-time employees		-	48	54.71
		Ratio of base salaries of female to male full-time employees	%	-	78	74.42
		Average salary of male non-regular employees	KRW million	-	43	42.56
		Average salary of female non-regular employees		-	26	26.09
		Ratio of base salaries of female to male non-regular employees	%	-	61	61.3
		Job security	Average years of service	Years	17.5	15.8
Total employee turnover	Persons		111	182	197	
Voluntary turnover ²⁾	%		6	8.8	9.90	
Talent development	Beneficiaries of training	Persons	1,202	1,657	1,658	
	Total training expenses	KRW million	986	1,226	1,179	
	Training expenses per employee	KRW 1,000	820	740	719	
	Total training hours	Hours	63,249	84,376	88,506	
	Average training hours per employee		53	51	54	
Industrial accidents	No. of industrial accidents	Ea.	5	3	4	
	Industrial accident rate	%	0.57	0.28	0.31	
	No. of deaths	Persons	0	0	0	
	No. of injuries		5	3	4	
	Lost work hours	Hours	2,096	9,336	11,328	
Fair trade	No. of fair trade law violations	Ea.	0	0	0	
	Fines	KRW million	0	0	0	
No. of information security breaches	Customer data leakage, theft, and losses	Ea.	0	0	0	
Workplace discrimination	No. of complaints filed related to workplace discrimination	Ea.	0	0	0	

Classification		Unit	2021	2022	2023	
Parental leave	Employees who have taken parental leave	Total	2	4	9	
		Male	1	0	3	
		Female	1	4	6	
	No. of employees who have returned to work after parental leave	Total	Persons	6	4	8
		Male	1	0	2	
		Female	5	4	6	
	Percentage of employees who returned after parental leave		%	100	80	100
	No. of employees who continued to work after parental leave	Total	6	4	6	
		Male	Persons	1	0	2
		Female	5	4	4	
Percentage of employees who continued to work after parental leave		%	100	100	100	
Human rights policy and procedure	Duration of training on human rights (per employee)		Hours	3.08	5.82	3
	No. of employees who have completed the human rights training course		Persons	-	-	1639
	Ratio of employees that completed the human rights training course		%	-	-	100
	Duration of education for workplace bullying prevention			1202(1)	1788(1)	1658(1)
	Duration of education for sexual harassment prevention		Total hours (per employee)	1202(1)	1732(1)	1658(1)
	Other training (Human rights education for persons with disabilities, etc.)			1202(1)	1620(1)	1658(1)
	CSR	Investment in CSR (including donations)	Total amount	KRW million	336	328
Cash donation			-	324	476	
Non-cash donation			-	-	1.5	
Business expense			-	4	23	
Total volunteer hours		Hours	115	230	430	
Average volunteer hours per employee			2.88	4.04	1.95	
Direct and indirect beneficiaries of the support programs		Persons	360	700	680	

Governance

Classification		Unit	2021	2022	2023
Board of Directors Operation	No. of Board meetings	Times	8	11	9
	Agendas	Ea.	30	36	30
	Preliminary deliberation	%	100	100	100
	Objections from outside directors and amended resolutions	Ea.	-	1	0
	BoD participation rate		100	100	92.59
	Non-executive attendance rate	%	%	100	-
Board diversity	Male	Persons	8	8	8
	Female		0	0	1
	Ratio of female directors within the BoD	%	0	0	11.11
	No. of outside directors	Persons	3	3	5
	Ratio of outside directors ²⁾	%	37.5	37.5	55.56
	Total no. of business sites		6	6	6
Anti-corruption of business sites	No. of business sites that conducted corruption-risk assessment	Ea.	6	6	6
	Ratio of business sites that conducted corruption-risk assessment	%	100	100	100
	Anti-corruption policy and procedure	Duration of ethics training	Hours (per employee)	3.3	3.3
No. of employees who signed the ethics pledge		Persons	1,139	1,657	1,639
Ratio of employees who signed the ethics pledge ³⁾		%	95	100	100
Anti-corruption violations	No. of anti-corruption violations identified (persons)	Ea. (persons)	0	0	0

2) The ratio of outside directors as of 2022 was incorrectly reflected in the report issued in the previous period.

3) The ratio of employees who signed the ethics pledge in 2022 was incorrectly reflected in the report issued in the previous period.

Hansol PaperTech

Economic

Classification		Unit	2021	2022	2023
Income statement	Sales		134,802	130,363	108,020
	Gross profit		15,954	16,222	8,180
	SG&A expenses		9,840	10,814	11,380
	Operating income		6,113	5,408	-3,200
	Financial income	KRW million	127	194	146
	Financial expense		359	336	345
	Other income		322	1,011	553
	Other expense		854	526	1,537
	Net income before tax		5,350	5,751	-4,383
Balance sheet	Assets				
	Current assets		27,362	29,294	26,205
	Non-current assets		48,115	49,235	50,581
	Liabilities				
	Current liabilities		25,948	22,512	24,420
	Non-current liabilities	KRW million	2,170	1,726	1,570
	Controlling shareholders' equity		47,358	54,290	50,796
	Non-controlling shareholders' equity		-	-	-

(Based on stand-alone financial statements)

Environmental

Classification		Unit	2021	2022	2023
Consumption of raw materials	Amount of raw materials consumed	Tons	333,932	292,719	261,697
	Amount of recycled materials (reused raw materials) consumed		332,722	270,925	237,893
Consumption of recycled materials	Ratio of recycled materials (reused raw materials) consumed	%	99.6	92.6	100
Energy consumption	Total energy consumed		1,235	1,449	1,393
	Scope 1 Energy consumption	TJ	450	352	-
	Scope 2 Energy consumption		785	1097	-
	Total water consumption		1,969,116	1,433,016	1,730,465
Water consumption (Amount of water consumed, based on domestic data)	Amount of water consumed		5,475	9,227	17,615
	Amount of underground water consumed	Tons	230,372	1,152,055	267,488
	Consumption of seawater		1,458,720	271,734	910,585
	Reuse of water		274,549	38,449	543,850
	Ratio of water reused	%	13.90	2.68	45.5
GHG emissions	Direct emissions (Scope 1)	— tCO ₂ eq	38,275	75,061	77,731
	Indirect emissions (Scope 2)		37,554	35,059	34,270
Emission of air pollutants	SOx		3.9	2.16	5.9
	NOx		39.32	26.77	32.29
	POP		-	-	-
	VOC	kg	-	-	-
	HAP		-	-	-
	PM		2.25	1.56	1.27
	PFC		0	245,736	0
Emission of water pollutants	BOD		15.4	1.8	0
	TOC		-	20.2	11.3
	COD	ppm	-	-	-
	SS		5.2	4.075	3.7
	TN		5.5	4.459	4.8
Waste	Waste Total amount of waste (waste treatment volume, based on domestic data)		18,902	11,665	15,658
	Waste discharged by business sites	Tons	Amount of waste generated	9,935	13,479
	Designated waste		2,130	1,730	2,179
	Domestic waste		0	0	0
Waste	Recycled amount		3,100	3,147	1,881
	Waste discharged by business sites	Tons	16,772	9,935	1,873
	Designated waste		2,130	1,730	8
	Domestic waste		0	0	0
	Ratio of waste recycled	%	16.4	26.9	12.01

Classification		Unit	2021	2022	2023
Hazardous (chemical) substances emission	Quantity of hazardous substances emitted	Tons	-	0	0
	No. of emissions	Ea.	-	0	0
	Emissions amount	Tons	-	0	0
Violation of environmental laws and regulations	Fines	KRW million	-	0	0
Environmental expenses and investments	Investment in environmental protection		543	931.5	712
	Environmental management costs	KRW million	4,756	6,248	0
Sales of green products	Sales of green products and services	KRW million	-	296	2,059
	Total sales		134,802	130,363	108,020
	Ratio of sales related to green products	%	-	0.23	1.91

Social

Classification		Unit	2021	2022	2023
Total number of employees	Total number of employees	Persons	142	143	145
Employee status (by employment type)	Total		5	4	3
	Executives		0	0	0
	Female		5	4	3
	Male		124	124	127
	Regular employees	Persons	4	4	5
	Female		120	120	122
	Male		11	13	15
	Non-regular employees		0	0	0
	Female		11	13	15
	Male		2	2	1
	Outsourced workers		142	143	145
	Full-time	Persons	0	0	0
Employee status (by work type)	Part-time		142	143	145
Employee status (by location)	Domestic	Persons	0	0	0
	Overseas		142	143	145
Employee diversity	No. of male employees	Persons	136	137	140
	Ratio of male employees	%	95	97	96.6
	No. of female employees	Persons	6	4	5
	Ratio of female employees	%	5	3	3.4
	No. of male executives	Persons	5	4	3
	Ratio of male executives	%	100	100	100
	No. of female executives	Persons	0	0	0
	Ratio of female executives	%	0	0	0
	No. of male managers (manager-level or higher)	Persons	-	26	17
	Ratio of male managers (manager-level or higher)	%	-	96	94
	No. of female managers (manager-level or higher)	Persons	1	1	1
	Ratio of female managers (manager level or higher)	%	1	4	6
	No. of employees with disabilities	Persons	3	3	3
	Ratio of employees with disabilities	%	2	2	2.07
	No. of senior employees (55 years of age or more, excluding executives)	Persons	25	30	28
	Ratio of senior employees	%	18	21	19.31
	No. of foreign employees	Persons	0	0	0
	Ratio of foreign employees	%	0	0	0
Hiring of social minorities	No. of employees with high school degree	Persons	69	62	60
	Ratio of employees with high school degree	%	49	44	41.38
	No. of veterans	Persons	0	0	0
	Ratio of veterans	%	0	0	0

Classification			Unit	2021	2022	2023	
Employee diversity	Composition	No. of employees (Under 30 years of age)	Persons	-	19	13	
		Percentage(Under 30 years of age)	%	-	13	8.97	
		No. of employees (30~50 years of age)	Persons	-	75	83	
		Percentage(30~50 years of age)	%	-	53	57	
		No. of employees (50 years of age or more)	Persons	-	47	49	
		Percentage (50 years of age or more)	%	-	33	34	
New hires	Male		11	15	19		
	Female		0	0	1		
	By age	Under 30 years	Persons	5	3	5	
		30 ~ 50 years of age		4	8	10	
Employee compensation	Base salary and remuneration by gender	Average salary of male employees	KRW million	55	70	67.09	
		Average salary of female employees		47	56	50.2	
		Ratio of base salaries of female to male employees	%	85	79	74.83	
		Average salary of male executives	KRW million	-	363	291	
		Average salary of female executives		-	0	0	
		Ratio of base salaries of female to male executives	%	-	0	0	
		Average salary of male full-time employees	KRW million	-	71	69.33	
		Average salary of female full-time employees		-	56	50.2	
		Ratio of base salaries of female to male full-time employees	%	-	79	72.41	
		Average salary of male non-regular employees	KRW million	-	52	48.4	
		Average salary of female non-regular employees		-	0	0	
		Ratio of base salaries of female to male non-regular employees	%	-	0	0	
		Job security	Average years of service	Years	11.5	9	9.5
			Total employee turnover	Persons	-	13	15
			Voluntary turnover	%	-	7	6.9
			Non-voluntary turnover	%	%	2	3.4
Talent development	Beneficiaries of training	Persons	143	141	145		
	Total training expenses	KRW million	203	90	200		
	Training expenses per employee	KRW 1,000	1,420	638	1,380		
	Total training hours		-	9,306	9,570		
Industrial accidents	Average training hours per employee	Hours	66	66	66		
	No. of industrial accidents	Ea.	1	0	3		
	Industrial accident rate	%	0.7	0	1.5		
	No. of deaths	Persons	1	0	0		
Shared growth	No. of injuries		0	0	3		
	Lost work hours	Hours	0	0	2,016		
	Supplier status	Total no. of partner companies	Ea.	1	181	183	
	Support for small- and medium-sized enterprises (SMEs)	Total value of purchases from partner companies		740	80,267	-	
Total value of purchases from SMEs		KRW million	-	-	-		

Classification		Unit	2021	2022	2023
Fair trade	No. of violations of fair trade laws	Ea.	0	0	0
	Fines	KRW million	0	0	0
No. of information-security breaches	Customer-data leakage, theft, and loss	Ea.	0	0	0
Workplace discrimination	No. of complaints filed related to workplace discrimination	Ea.	0	0	0
Parental leave	Employees who have taken parental leave	Total	0	3	2
		Male	0	1	0
		Female	0	2	2
	No. of employees who have returned to work after parental leave	Total	0	2	2
		Male	0	1	0
		Female	0	1	2
	Percentage of employees who returned after parental leave	%	0	67	100
	No. of employees who continued to work after parental leave	Total	0	2	0
		Male	0	1	0
		Female	0	1	0
Percentage of employees who continued to work after parental leave	%	-	67	0	
Human rights policy and procedure	Duration of training on workplace bullying prevention	Total hours (per employee)	0	0	0
	Duration of education for sexual harassment prevention		284(1)	286(2)	145(1)
	Other training		284(1)	286(2)	145(1)
CSR	Investment in CSR (including donations)	Total amount	13	55.5	55
		Cash donation	Total amount	22.5	25
		Non-cash donation	1	33	0
		Business expense	0	0	30
	Total volunteer hours	Hours	301	1,716	1,740
	Average volunteer hours per employee		2	12	12
	Direct and indirect beneficiaries of the support programs	Persons	140	-	161

지배구조

Classification		Unit	2021	2022	2023
Board of Directors	No. of Board meetings	Ea.	-	7	5
	Agendas	Ea.	-	16	10
	Preliminary deliberation percentage	%	-	100	100
	Reported agendas		-	0	16
	Objection from outside directors and amended resolutions	Ea.	-	6	0
	BoD participation rate	%	-	95	100
	Non-executive attendance rate	%	-	57	100
Board diversity	Male	Persons	-	5	100
	Female	Persons	-	0	0
	Ratio of female directors within the BoD	%	-	0	0
	No. of outside directors	Persons	-	1	1
	Ratio of outside directors	%	-	20	20
Anti-corruption of business sites	Total no. of business sites		-	1	1
	No. of business sites that conducted corruption risk assessment	Ea.	-	1	1
	Ratio of business sites that conducted corruption risk assessment	%	-	100	100
Anti-corruption policy and procedure	Duration of ethics training	Hours (per employee)	0	0	0
	No. of employees who signed the ethics pledge	Persons	131	107	104
	Ratio of employees who signed the ethics pledge	%	92	78	72
Anti-corruption violations	No. of anti-corruption violations identified (persons)	Ea. (persons)	0	0	0

Hansol PNS | Paper Distribution Division

Economic

Classification	Unit	2021	2022	2023
Income statement	Sales	262,943	314,246	311,689
	Gross profit	24,039	28,474	29,381
	SG&A expenses	19,487	25,787	31,198
	Operating income	4,551	2,686	-1,816
	Financial income	860	453	465
	Financial expenses	298	1,005	1,407
	Other income	367	1,400	1,078
	Other expenses	131	601	4,333
	Affiliates' profit and loss	83	-63	3
Balance sheet	Net income before tax	5,432	2,870	-6,010
	Assets	73,580	98,702	94,966
	Current assets	36,130	36,241	29,886
	Non-current assets	53,430	78,697	75,192
	Liabilities	6,236	5,145	3,674
	Current liabilities	46,577	47,355	42,908
	Non-current liabilities			
	Controlling company Shareholders' equity		3,746	3,079
	Non-controlling company Shareholders' equity			

(Based on stand-alone financial statements)

Environmental

Classification	Unit		2021	2022	2023
Consumption of energy	Amount of energy consumed		6.6	6.8	6.46
	Scope 1 Energy consumption	TJ	1.8	1.8	1.55
	Scope 2 Energy consumption		4.7	5.0	4.91
	Energy intensity		TJ/ KRW 1 billion	-	-
GHG emissions	Emissions	Direct emissions (Scope 1)	123	162	127.64
		Indirect emissions (Scope 2)	225	239	234.82
Emissions	Total waste generated (treatment volume, based on domestic data)	Total waste generated	1,220	1,490	1180
		Waste discharged by business sites	1,220	1,490	1180
		Designated waste	0	0	0
		Domestic waste	0	0	0
	Waste recycling rate	Recycled amount	1,220	1,489	1180
		Waste discharged by business sites	1,220	1,490	1180
		Designated waste	-	-	-
		Domestic waster	-	-	-
Ratio of waste recycled		%	100	100	100
Hazardous (chemical) substances emission	Amount of hazardous substances emitted	Tons	0	0	0
	No. of emissions	Ea.	0	0	0
	Emissions amount	Tons	0	0	0
Violation of environmental laws and regulations	Fines	KRW million	0	0	0
Environmental expenses and investments	Investment in environmental protection	KRW million	4.5	3.7	0
	Environmental management expense		5	-	8
Sales of green products	Sales of green products and services	KRW million	-	296	2,058
	Total sales		262,943	314,246	311,689
	Ratio of sales related to green products		%	-	0.09

Social

Classification			Unit	2021	2022	2023
Total number of employees			Persons	86	95	90
Employee status (by employment type)	Executives	Total	Persons	2	5	5
		Female		0	0	0
		Male		2	5	5
	Regular employees	Total		85	88	84
		Female		20	20	19
		Male		65	68	65
	Non-regular employees	Total		1	2	1
		Female		0	1	1
		Male		1	1	0
	Outsourced workers			0	0	0
Employee status (by work type)						
Full-time		Persons	86	95	90	
Part-time			0	0	0	
Employee status (by location)						
Domestic		Persons	86	95	90	
Overseas			0	0	0	
Employee diversity	No. of male employees		Persons	68	74	65
	Ratio of male employees		%	77	78	77.8
	No. of female employees		Persons	20	21	19
	Ratio of female employees		%	23	22	22.2
	No. of male executives		Persons	2	5	5
	Ratio of male executives		%	100	100	100
	No. of female executives		Persons	0	0	0
	Ratio of female executives		%	0	0	0
	No. of male managers (manager-level or higher)		Persons	-	28	26
	Ratio of male managers (manager-level or higher)		%	-	93	93
	No. of female managers (manager-level or higher)		Persons	0	2	2
	Ratio of female managers (manager-level or higher)		%	0	7	7
	Hiring of social minorities	No. of employees with disabilities	Persons	1	1	1
			%	1	1	1.09
		No. of senior employees (55 years of age or more, excluding executives)	Persons	1	8	7
			%	1	8	7.61
		No. of foreign employees	Persons	0	0	0
			%	0	0	0
		No. of employees with high school degrees	Persons	24	31	26
			%	28	35	28.26
		No. of veterans	Persons	0	0	0
			%	0	0	0
	Employee composition	No. of employees (Under 30 years of age)	Persons	-	17	15
			%	-	18	16.3
		No. of employees (30-50 years of age)	Persons	-	60	58
			%	-	63	63.04
		No. of employees (50 years of age or more)	Persons	-	18	19
			%	-	19	20.65
New hires	Male		Persons	19	12	11
	Female			3	2	1
	By age	Under 30 years		7	7	1
		30 - 50 years of age		15	7	9
		Above 50 years of age		0	0	

Classification			Unit	2021	2022	2023
Employee compensation	Base salary and remuneration by gender	Average salary of male employees	KRW million	-	73	63
		Average salary of female employees		-	44	38
		Ratio of base salaries of female to male employees	%	-	60	60.56
		Average salary of male executives	KRW million	-	190	314
		Average salary of female executives		-	0	0
		Ratio of base salaries of female to male executives	%	-	100	
		Average salary of male full-time employees	KRW million	-	66	63
		Average salary of female full-time employees		-	47	38
		Ratio of base salaries of female to male full-time employees	%	-	71	60.56
		Average salary of male non-regular employees	KRW million	-	0	0
		Average salary of female non-regular employees		-	39.1	33
		Ratio of base salaries of female to male non-regular employees		%	-	0
		Job security	Average years of service	Years	7.2	6
Total employee turnover	Persons		5	10	10	
Voluntary turnover	%		-	11	8.6	
Non-voluntary turnover			-	0	0	
Talent development	Beneficiaries of training	Persons	86	95	70	
	Total training expense	KRW million	35	40.1	31	
	Training expense per employee	KRW 1,000	407	422	397	
	Total training hours	Hours	-	1,235	10	
Average training hours per employee	11		13	6.82		
Industrial accidents	No. of industrial accidents	Ea.	1	0	1	
	Industrial accident rate	%	1.2	0	1.1	
	No. of deaths	Persons	0	0	0	
	No. of injuries		1	0	1	
	Lost work hours	Hours	9	0	4.43	
Mutual growth	Supplier status	Total no. of partner companies	Ea.	-	-	0
		Total value of purchases from partner companies	KRW million	-	-	0
	Support for SMEs	Total value of purchase from SMEs		-	-	0
Fair trade	No. of fair trade law violations	Ea.	0	0	0	
	Fines	KRW million	0	0	0	
No. of information-security breaches	Customer-data leakage, theft, and losses	Ea.	0	0	0	
Workplace discrimination	No. of complaints filed related to workplace discrimination	Ea.	0	0	0	
Parental leave	Employees who have taken parental leave	Total		3	2	1
		Male		0	0	0
		Female		3	2	1
	No. of employees who have returned to work after parental leave	Total	Persons	1	1	1
		Male		0	0	0
		Female		1	1	1
	Percentage of employees who returned after parental leave	%	53	33	100	
	No. of employees who continued to work after parental leave	Total	Persons	0	1	1
		Male		0	0	0
		Female		0	1	1
Percentage of employees who continued to work after parental leave	%	0	50	100		

Classification		Unit	2021	2022	2023
Human rights policy and procedure	Duration of training on human rights (per employee)	Hours	252	348	360
	No. of employees who have completed the human rights training course	Persons	84	89	90
	Ratio of employees that completed the human rights training course	%	100	100	100
	Duration of education for workplace bullying prevention		86(1)	89	90
	Duration of education for sexual harassment prevention	Total hours (per employee)	86(1)	89	90
	Other training (Human rights education for persons with disabilities, etc.)		86(1)	89	90

Governance

Classification		Unit	2021	2022	2023
Board of Directors	No. of Board meetings	Times	-	13	6
	Agendas	Ea.	-	24	18
	Preliminary deliberation	%	-	-	0
	Reported agendas		-	-	7
	Objection from outside directors and amended resolutions	Ea.	-	-	0
	BoD participation rate	%	-	95	95
	Non-executive attendance rate	%	-	-	100
Board diversity	Male	Persons	-	6	7
	Female	Persons	-	0	0
	Ratio of female directors within the BoD	%	-	0	0
	No. of outside directors	Persons	-	2	2
	Ratio of outside directors	%	-	28.57	28.57
Anti-corruption of business sites	Total no. of business sites		-	4	4
	No. of business sites that conducted corruption risk assessment	Ea.	-	0	0
	Ratio of business sites that conducted corruption risk assessment	%	-	0	0
Anti-corruption policy and procedure	Duration of ethics training	Hours (per employee)	-	1	1
	No. of employees who signed the ethics pledge	Persons	86	95	91
	Ratio of employees who signed the ethics pledge	%	100	100	100
Anti-corruption violations	No. of anti-corruption violations identified (persons)	Ea. (persons)	0	0	0

Hansol PNS | IT Service Division

Social

Classification		Unit	2021	2022	2023
Total number of employees	Total number of employees	Persons	146	176	205
Employee status (by employment type)	Total		2	1	3
	Executives		0	0	0
	Female		0	0	0
	Male		2	1	3
	Total		143	175	198
	Regular employees		39	47	54
	Female	Persons	104	128	144
	Male		1	0	4
	Non-regular employees		1	0	0
	Female		0	0	4
	Male		0	0	0
	Outsourced workers		0	0	0
Employee status (by work type)	Full-time		146	176	205
	Part-time	Persons	0	0	0
Employee status (by location)	Domestic		144	173	202
	Overseas	Persons	2	3	3
Employee diversity	No. of male employees	Persons	106	129	151
	Ratio of male employees	%	73	73	73.7
	No. of female employees	Persons	40	47	54
	Ratio of female employees	%	27	27	26.3
	No. of male executives	Persons	2	1	3
	Ratio of male executives	%	100	100	100
	No. of female executives	Persons	0	0	0
	Ratio of female executives	%	0	0	0
	No. of male managers (manager-level or higher)	Persons	-	41	107
	Ratio of male managers (manager-level or higher)	%	-	89	80
	No. of female managers (manager-level or higher)	Persons	-	5	26
	Ratio of female managers (manager-level or higher)	%	-	11	20
	No. of employees with disabilities	Persons	0	0	3
	Ratio of employees with disabilities	%	0	0	1.46
	No. of senior employees (55 years of age or more, excluding executives)	Persons	1	2	4
	Ratio of senior employees	%	1	1	1.95
	No. of foreign employees	Persons	1	0	0
	Ratio of foreign employees	%	1	0	0
	No. of employees with high school degrees	Persons	2	3	3
	Ratio of employees with high school degrees	%	1	2	1.46
	No. of veterans	Persons	0	0	0
	Ratio of veterans	%	0	0	0
	No. of employees (Under 30 years of age)	Persons	-	30	23
	Percentage (Under 30 years)	%	-	17	11.22
	No. of employees (30~50 years of age)	Persons	-	124	154
	Percentage (30~50 years of age)	%	-	70	75.12
	No. of employees (50 years old or more)	Persons	-	22	28
	Percentage (50 years of age or more)	%	-	13	13.66

Classification		Unit	2021	2022	2023
New hires	Male		26	42	37
	Female		10	17	9
	By age	Persons	6	12	5
	Under 30 years		14	43	33
Employee compensation	30 ~ 50 years of age		0	4	8
	Above 50 years of age		0	4	8
	Average salary of male employees	KRW million	60	62	5.61
	Average salary of female employees	KRW million	47	48	4.57
	Ratio of base salaries of female to male employees	%	78	77	81.54
	Average salary of male executives	KRW million	-	16	10
	Average salary of female executives	KRW million	-	0	0
	Ratio of base salaries of female to male executives	%	-	100	0
	Average salary of male full-time employees	KRW million	-	61	5.5
	Average salary of female full-time employees	KRW million	-	48	4.57
	Ratio of base salaries of female to male full-time employees	%	-	79	83.22
	Average salary of male non-regular employees	KRW million	-	0	2
Job security	Average salary of female non-regular employees	KRW million	-	0	0
	Ratio of base salaries of female to male non-regular employees	%	-	0	0
	Average years of service	Years	7	6	5.5
	Total employee turnover	Persons	7	25	19
Talent development	Voluntary turnover	%	-	-	11.2
	Non-voluntary turnover	%	-	-	7.8
	Beneficiaries of training	Persons	143	171	205
	Total training expenses	KRW million	128	170	124
Talent development	Training expenses per employee	KRW 1,000	776	994	607
	Total training hours	Hours	-	7,592	13,600
	Average training hours per employee	Hours	44	43.1	66.34

Classification		Unit	2021	2022	2023
Industrial accidents	No. of industrial accidents	Ea.	0	0	0
	Industrial accident rate	%	0	0	0
	No. of deaths	Persons	0	0	0
	No. of injuries		0	0	0
	Lost work hours	Hours	0	0	0
Shared growth	Supplier status	Total no. of partner companies	35	97	109
		Total value of purchases from partner companies	4,427	12,900	36,000
	Support for SMEs	Total value of purchase from SMEs	-	-	-
Fair trade	No. of fair trade law violations	Ea.	0	0	0
	Fines	KRW million	0	0	0
No. of information-security breaches	Customer-data leakage, theft, and loss	Ea	0	0	0
Workplace discrimination	No. of complaints filed related to workplace discrimination		0	0	0
Parental leave	Employees who have taken parental leave	Total	1	3	4
		Male	0	1	2
		Female	1	2	2
	No. of employees who have returned to work after parental leave	Total	0	0	4
		Male	0	0	2
		Female	0	0	2
	Percentage of employees who returned after parental leave	%	0	0	100
	No. of employees who continued to work after parental leave	Total	0	0	1
		Male	0	0	0
		Female	0	0	1
	Percentage of employees who continued to work after parental leave	%	0	0	100
Human rights policy and procedure	Duration of training on human rights (per employee)	Hours	429	507	780
	No. of employees who have completed the human rights training course	Persons	143	169	203
	Ratio of employees who completed the human rights training course	%	100	96	99.02
	Training for prevention of workplace bullying		145(1)	169(1)	196
	Duration of education for sexual-harassment prevention	Total hours (per employee)	145(1)	169(1)	388
	Other training (Human rights education for persons with disabilities, etc.)		145(1)	169(1)	196

Hansol HomeDeco

Economic

Classification	Unit	2021	2022	2023
Income statement	Sales	263,249	283,414	300,003
	Gross profit	46,174	48,665	41,802
	SG&A expenses	37,555	45,950	43,914
	Operating income	8,619	2,714	-2,112
	Financial income	3,470	1,240	2,558
	Financial expenses	2,994	4,883	6,433
	Other income	1,518	3,787	1,150
	Other expenses	2,706	9,016	11,576
	Net income before tax	7,905	-6,157	-16,411
Balance sheet	Assets			
	Current assets	98,188	108,300	112,957
	Non-current assets	216,472	211,195	199,138
	Liabilities			
	Current liabilities	101,751	118,712	122,675
	Non-current liabilities	53,062	47,361	49,653
	Capital			
	Controlling shareholders' equity	159,847	153,347	139,683
Research and development status	Total R&D expense for the current period ¹⁾	483	304	427
	R&D expense / sales ¹⁾	0.18	0.11	0.14
	No. of R&D personnel	0	0	0

(Based on consolidated financial statements)

1) The current R&D expenses for 2021 and 2022, and the R&D expenses/ sales amount of 2022 was incorrectly reflected in the report issued for the previous period.

Environmental

Classification			Unit	2021	2022	2023
Consumption of raw materials	Amount of raw materials consumed		Tons	185,605	160,316	164,961
Consumption of recycled materials	Amount of recycled materials (reused raw materials) consumed		Tons	96,985	87,323	96,828
	Ratio of recycled materials (reused raw materials) consumed		%	52	54	58.7
Consumption of energy	Total energy consumed			2,974	1,987	2,011
	Scope 1			-	965	965
	Consumption of energy	TJ		-	1,022	1,046
	Scope 2			-		
	Consumption of energy					
	Energy intensity		GJ / KRW 1 billion	-	-	0
Water consumption (Amount of water consumed, based on domestic data)	Total water consumption	Total water consumption		592,392	617,044	581715
		Total amount of water consumed	Tons	346,584	409,892	373035
		Total amount of underground water consumed		245,808	207,152	208,680
	Water reuse	Amount of water reused		60,462	13,472	12425
		Ratio of water reused	%	10.2	2.18%	2.14
GHG emissions	Emissions	Direct emissions (Scope 1)	%	12,905	9,316	9,911
		Indirect emissions (Scope 2)	tCO ₂ eq	46,088		45,796
Emission of air pollutants	Emissions	SOx		586	750	1.04
		NOx		72,073	72,750	68.36
		POP		-	-	0
		VOC	kg	-	-	0
		HAP		1,896	2,641	0
		PM		12,378	33,320	16.75
		PFC		-	-	0
Emission of water pollutants	Emissions	BOD		14	9	8.6
		TOC		-	-	14.55
		COD	ppm	38	28	43.15
		SS		6	2	2.6
		TN		-	-	23.15
Waste	Total amount of waste (waste treatment volume, based on domestic data)	Total amount of waste generated		31,863	28,636	28,167
		Waste discharged by business sites ²⁾	Tons	29,292	28,075	28,109
		Designated waste		2,571	561	58
		Domestic waste		-		0

2) The amount of waste discharged by business sites in 2022 was incorrectly reflected in the report issued for the previous period.

Classification			Unit	2021	2022	2023
Waste	Waste recycling rate	Recycled amount		24,925	21,792	20,159
		Waste discharged by business sites	Tons	22,741	21,274	20,107
		Designated waste		2,184	518	52
		Domestic waste		-	-	0
		Ratio of waste recycled	%	79	76	72
Hazardous (chemical) substances emission	Amount of hazardous substances emitted	Tons	-	-	0	
	No. of emissions	Ea.	0	0	0	
	Emissions amount	Tons	0	0	0	
Violation of environmental laws and regulations	Fines	KRW million	3	5	0	
Environmental expenses and investments	Investment in environmental protection	KRW million	48.1	1,866	250	
	Environmental management cost		2,132	1,887	1,573	
Sales of green products	Sales of green products and services	KRW million	-	84,155	89,142	
	Total sales		263,249	283,414	300,003	
	Ratio of sales related to green products	%	-	29.69	29.71	

Social

Classification		Unit	2021	2022	2023	
Total number of employees ³⁾		Persons	312	310	348	
Employee status (by employment type)	Executives	Total	7	7	8	
		Female	0	0	0	
		Male	7	7	8	
	Regular employees	Total	300	298	334	
		Female	42	33	41	
		Male	258	265	293	
	Non-regular employees	Total	5	5	6	
		Female	3	3	3	
		Male	2	2	3	
Outsourced workers		200	202	186		
Employee status (by work type)	Full-time	Persons	312	310	348	
	Part-time		0	0	0	
Employee status (by location)	Domestic	Persons	308	305	345	
	Overseas		4	5	3	
Employee diversity	No. of male employees		Persons	267	274	304
	Ratio of male employees		%	86	88	87
	No. of female employees		Persons	45	36	44
	Ratio of female employees		%	14	12	13
	No. of male executives		Persons	7	7	8
	Ratio of male executives		%	100	100	100
	No. of female executives		Persons	0	0	0
	Ratio of female executives		%	0	0	0
	No. of male managers (manager level or higher)		Persons	-	46	47
	Ratio of male managers (manager level or higher)		%	-	15	98
	No. of female managers (manager level or higher)		Persons	3	1	1
	Ratio of female managers (manager level or higher)		%	1	0.3	2.1
	Hiring of social minorities	No. of employees with disabilities	Persons	6	6	7
		Ratio of employees with disabilities	%	2	2	2
		No. of senior employees(55 years of age or more, excluding executives)	Persons	7	13	18
		Ratio of senior employees	%	2	4	5
		No. of foreign employees	Persons	0	0	0
		Ratio of foreign employees	%	0	0	0
		No. of employees with high school degrees	Persons	109	122	136

3) The method of calculating the total number of employees has been revised.

Classification			Unit	2021	2022	2023
Employee diversity	Hiring of social minorities	Ratio of employees with high school degrees	%	35	39	39
		No. of veterans	Persons	2	1	2
		Ratio of veterans	%	0.6	0.3	0.6
		No. of employees (Under 30 years of age)	Persons	-	78	74
	Employee composition	Percentage (Under 30 years of age)	%	-	25	21
		No. of employees (30~50 years of age)	Persons	-	158	195
		Percentage (30~50 years of age)	%	-	51	56
		No. of employees (50 years of age or more)	Persons	-	54	69
		Percentage (50 years of age or more)	%	-	17	20
New hires	Male	Newly hired male employees		37	31	68
	Female	Newly hired female employees	Persons	21	2	8
	By age	Under 30 years		28	15	31
		30 ~ 50 years of age		30	17	32
		Above 50 years of age		0	1	13
Employee compensation	Base salary and remuneration by gender	Average salary of male employees	KRW million	33	47	58.52
		Average salary of female employees		25	35	40.61
		Ratio of base salaries of female to male employees	%	66.8	75	69.4
		Average salary of male executives	KRW million	37	194	255
		Average salary of female executives		0	0	0
		Ratio of base salaries of female to male executives	%	0	0	0
		Average salary of male full-time employees	KRW million	67	44	55.27
		Average salary of female full-time employees		37	38	41.14
		Ratio of base salaries of female to male full-time employees	%	55.22	86	74.44
		Average salary of male non-regular employees	KRW million	-	24	38.5
		Average salary of female non-regular employees		-	20	37.5
		Ratio of base salaries of female to male non-regular employees	%	-	83.3	97.4
	Job security	Average years of service	Years	8	10.3	8.97
		Total employee turnover	Persons	-	42	31
		Voluntary turnover	%	-	14	8
	Talent development	Non-voluntary turnover		-	0	1
		Training expenses per employee	KRW 1,000	688	100	142
	Industrial accidents	Total training hours per employee	Hours	22	21	19.4
		No. of industrial accidents	Ea.	2	3	1
		Industrial accident rate	%	0.65	0.96	0
		No. of deaths	Persons	0	0	0
	Shared growth	No. of injuries		0	3	0
		Lost work hours	Hours	224	3,400	308.61
		Total no. of partner companies	Ea.	5	6	7
		Total value of purchases from partner companies	KRW million	6,606	7,498	8,462
Fair trade	Supplier status	No. of fair trade law violations	Ea.	0	0	0
		Fines	KRW million	0	0	0
No. of information-security breaches	Customer data leakage, theft, and losses		Ea.	0	0	0
Workplace discrimination	No. of complaints filed related to workplace discrimination		Ea.	0	0	0

Classification			Unit	2021	2022	2023
Parental leave	Employees who have taken parental leave	Total		4	2	1
		Male		1	0	0
		Female		3	2	1
		No. of employees who have returned to work after parental leave	Persons	2	1	1
	No. of employees who have returned to work after parental leave	Male		1	1	0
		Female		1	0	1
		Percentage of employees who returned after parental leave	%	66	25	100
		No. of employees who continued to work after parental leave	Persons	1	1	1
		Male		0	1	1
		Female		1	0	0
Human rights policy and procedure	Percentage of employees who continued to work after parental leave		%	100	50	50
	Duration of training on human rights (per employee)		Hours	-	-	1
	No. of employees who have completed the human rights training course		Persons	-	-	360
	Ratio of employees that completed the human rights training course		%	-	-	100
	Duration of education for workplace bullying prevention			305(1)	304(1)	340(1)
	Duration of education for sexual harassment prevention		Total hours (per employee)	305(1)	304(1)	340(1)
	Other training (Human rights education for persons with disabilities, etc.)			305(1)	304(1)	340(1)
CSR	Investment in CSR (including donations)	Total amount		-	33	31
		Cash donation	KRW million	-	33	31
		Non-cash donations		-	0	0
		Business expenses		-	0	0

Governance

Classification			Unit	2021	2022	2023
Board of Directors	No. of Board meetings ⁴⁾		Times	-	22	24
	Agendas ⁴⁾		Ea.	-	34	30
	Preliminary deliberation		%	-	100	100
	Reported agendas			-	9	10
	Objections from outside directors and amended resolutions		Ea.	-	0	0
	BoD participation rate		%	-	100	100
	Non-executive attendance rate		%	-	100	100
				-	100	100
Board diversity	Male		Persons	-	7	7
	Female			-	0	0
	Ratio of female directors within the BoD		%	-	0	0
	No. of outside directors		Persons	-	2	2
CEO remuneration	Ratio of outside directors		%	-	29	28.57
	CEO base salary (fixed payment)		KRW million	-	248	230
	CEO variable salary			-	52	97
	CEO remuneration			-	300	327
Anti-corruption of business sites	Ratio of CEO variable salary to the average salary of employees		%	-	115	174.11
	Total no. of business sites			-	0	0
	No. of business sites that conducted corruption risk assessments		Ea.	-	0	0
	Ratio of business sites that conducted corruption risk assessments		%	-	0	0
Anti-corruption policy and procedure	Duration of ethics training		Hours (per employee)	1	1	1
	No. of employees who signed the ethics pledge		Persons	305	304	340
	Ratio of employees who signed the ethics pledge		%	100	100	100
	No. of anti-corruption violations identified (persons)		Ea. (persons)	0	0	0

4) The number of BoD meetings held in 2022 and number of agendas were incorrectly reflected in the report issued for the previous period.

Hansol Logistics

Economic

Classification	Unit	2021	2022	2023
Income statement	Sales	747,044	1,015,371	726,537
	Gross profit	64,134	78,680	68,125
	SG&A expenses	33,830	42,330	41,868
	Operating income	30,304	36,349	26,257
	Financial income	8,148	3,047	1,772
	Financial expense	2,959	8,403	4,291
	Other income	4,996	17,568	8,347
	Other expense	7,501	18,317	6,486
	Net income before tax	33,509	30,450	25,738
Balance sheet	Assets			
	Current assets	178,348	178,162	166,824
	Non-current assets	88,279	96,334	78,296
	Liabilities			
	Current liabilities	166,532	156,801	111,493
	Non-current liabilities	21,506	15,189	15,211
	Capital			
	Controlling shareholders' equity	78,525	102,344	118,051
	Non-controlling shareholders' equity		162	365

(Based on consolidated financial statements)

Environmental

Classification	Unit	2021	2022	2023
Hazardous (chemical) substances emission	Quantity of hazardous substances emitted	Tons	0	0
	No. of emissions	Ea.	0	0
	Emissions amount	Tons	0	0
Violation of environmental laws and regulations	Fines	KRW million	0	0

Social

Classification	Unit	2021	2022	2023
Total number of employees	Persons	382	323	273
Employee status (by employment type)	Executives			
	Total	5	4	5
	Female	0	0	0
	Male	5	4	5
	Regular employees			
	Total	355	292	237
	Female	64	79	60
	Male	291	213	177
	Non-regular employees			
	Total	22	31	30
Employee status (by work type)	Full-time	382	323	269
	Part-time	0	0	4
Employee status (by location)	Domestic	369	308	260
	Overseas	13	15	13
Employee diversity	No. of male employees	Persons	291	224
	Ratio of male employees	%	79.0	69.0
	No. of female employees	Persons	64	99
	Ratio of female employees	%	21	31
	No. of male executives	Persons	5	4
	Ratio of male executives	%	1	100
	No. of female executives	Persons	0	0
	Ratio of female executives	%	0	0
	No. of male managers (manager-level or higher)	Persons	-	104
	Ratio of male managers (manager-level or higher)	%	-	87
	No. of female managers (manager-level or higher)	Persons	-	15
	Ratio of female managers (manager-level or higher)	%	-	13

Classification	Unit	2021	2022	2023
Employee diversity	Hiring of social minorities	No. of employees with disabilities	Persons	5
		Ratio of employees with disabilities	%	1
		No. of senior employees (55 years of age or more, excluding executives)	Persons	19
		Ratio of senior employees	%	5
		No. of foreign employees	Persons	0
		Ratio of foreign employees	%	0
	Employee composition	No. of employees with high school degrees	Persons	80
		Ratio of employees with high school degrees	%	21
		No. of veterans	Persons	0
		Ratio of veterans	%	0
		No. of employees (Under 30 years of age)	Persons	-
		Percentage (Under 30 years of age)	%	-
New hires	Male			
			38	33
			12	6
			23	14
	Female			
			26	25
			1	0
			23	14
	By age	Under 30 years	Persons	23
		30 - 50 years of age		26
		Above 50 years of age		1
				0
Employee compensation	Base salary and remuneration by gender	Average salary of male employees	KRW million	-
		Average salary of female employees		-
		Ratio of base salaries of female to male employees	%	-
		Average salary of male executives	KRW million	-
		Average salary of female executives		-
		Ratio of base salaries of female to male executive	%	-
	Base salary and remuneration by gender	Average salary of male full-time employees	KRW million	-
		Average salary of female full-time employees		-
		Ratio of base salaries of female to male full-time employees	%	-
		Average salary of male non-regular employees	KRW million	-
		Average salary of female non-regular employees		-
		Ratio of base salaries of female to male non-regular employees	%	-
Job security	Average years of service	Years	8.6	7
	Total employee turnover	Persons	31	33
	Voluntary turnover	%	-	10
	Non-voluntary turnover		-	0

Classification		Unit	2021	2022	2023
Talent development	Beneficiaries of training	Persons	358	296	273
	Total training expense	KRW million	200	179	244
	Training expenses per employee	KRW 1,000	558	604	892.92
	Total training hours		-	-	17,060
	Average training hours per employee	Hours	75	30	62.5
	Ratio of training expenses to cost of labor	%	1.03	-	23.8
Industrial accidents	No. of industrial accidents	Ea.	0	0	0
	Industrial accident rate	%	0	0	0
	No. of deaths	Persons	0	0	0
	No. of injuries	Persons	0	0	0
Shared growth	Lost work hours	Hours	0	0	0
	Total no. of partner companies	Ea.	997	798	700
	Supplier status				
	Total value of purchase from partner companies	KRW million	431,781	605,023	365,309
Fair trade	Support for SMEs	Total value of purchase from SMEs	0	0	0
	No. of fair trade law violations	Ea.	0	0	0
No. of information-security breaches	Fines	KRW million	0	0	0
	Customer- data leakage, theft, and losses	Ea.	0	0	0
Workplace discrimination	No. of complaints filed related to workplace discrimination	Ea.	0	0	0
Parental leave	Employees who have taken parental leave	Total	7	41	3
		Male	3	4	0
		Female	4	37	3
	No. of employees who have returned to work after parental leave	Total	2	43	3
		Male	0	1	0
		Female	2	33	3
	Percentage of employees who returned after parental leave	%	25	80	100
	No. of employees who continued to work after parental leave	Total	0	27	18
		Male	0	1	1
		Female		26	17
Human rights policy and procedure	Percentage of employees who continued to work after parental leave	%	0	62	67
	Duration of training on human rights (per employee)	Hours	1,432	1,116	1,100
	No. of employees who have completed the human rights training course	Persons	358	279	275
	Ratio of employees that completed the human rights training course	%	93	93	100
	Duration of education for workplace bullying prevention		0	0	550 (2)
	Duration of education for sexual-harassment prevention	Total hours	716 (2)	558 (2)	550 (2)
	Other training (Human rights education for persons with disabilities, etc.)		716 (2)	558 (2)	550 (2)
CSR	Investment in CSR (including donations)	Total amount			0
		Cash donations			0
		Non-cash donations			0
		Business expenses			0
	Total volunteer hours	Hours			18
	Average volunteer hours per employee	Hours			2
CSR	Direct and indirect beneficiaries of the support programs	Persons			0

Governance

Classification		Unit	2021	2022	2023
Board of Directors	No. of Board meetings	Times	-	23	25
	Agendas	Ea.	-	41	37
	Preliminary deliberation rate	%	-	-	0%
	Reported agendas		-	-	0
	Objection from outside directors and amended resolutions	Ea.	-	0	0
	BoD participation rate		-	94	90
	Non-executive attendance rate	%	-	87	76
Board diversity	Male	Persons	-	7	7
	Female	Persons	-	0	0
	Ratio of female directors within the BoD	%	-	0	0
	No. of outside directors	Persons	-	2	2
Anti-corruption of business sites	Ratio of outside directors	%	-	29	28.6
	Total no. of business sites		-	-	9
	No. of business sites that conducted corruption risk assessment	Ea.	-	-	9
	Ratio of business sites that conducted corruption risk assessment	%	-	-	100
Anti-corruption policy and procedure	Duration of ethics training	Hours (per employee)	-	-	0
	No. of employees who signed the ethics pledge	Persons	385	363	275
	Ratio of employees who signed the ethics pledge	%	100	100	100
Anti-corruption violations	No. of anti-corruption violations identified (persons)	Ea. (persons)	0	0	0

Hansol Technics

Economic¹⁾

Classification		Unit	2021	2022	2023
Income statement	Sales		1,036,215	1,360,770	1,302,679
	Gross profit		95,126	178,095	174,864
	SG&A expenses		96,985	122,212	125,927
	Operating income		-1,859	55,883	48,937
	Financial income	KRW million	22,195	56,343	51,063
	Financial expenses		26,004	62,324	57,267
	Other income		2,808	2,677	10,219
	Other expenses		979	1,811	9,080
	Net income before tax		-3,839	50,768	43,872
Balance sheet	Assets		467,995	509,415	389,311
	Current assets		320,674	562,506	564,724
	Non-current assets		333,270	424,708	338,848
	Liabilities		177,123	207,186	140,513
	Current liabilities	KRW million	277,992	306,289	346,281
	Non-current liabilities		284	133,736	128,393
R&D status	Total R&D expense	KRW million	18,199	22,275	27,017
	R&D expense/ sales	%	1.76	1.35	2.07
	No. of R&D personnel	Persons	138	153	159

(Based on consolidated financial statements)

1) The economic figures for 2021 and 2022 are incorrectly reflected in the report issued for the previous period.

Environmental

Classification		Unit	2021	2022	2023
Consumption of raw materials	Amount of raw materials consumed ²⁾	Tons	75	30.3	20,946
Consumption of recycled materials	Amount of recycled materials (reused raw materials) consumed	Tons	-	-	-
	Ratio of recycled materials (reused raw materials) consumed	%	-	-	-
Energy consumption	Total energy consumed		241	225.02	187
	Scope 1 Energy consumption	TJ	14.3	13.97	12
	Scope 2 Energy consumption		226.5	211.05	175
	Energy intensity	TJ / KRW 1 billion	0.23	0.17	0.14
Water consumption (Amount of water consumed, based on domestic data)	Total water consumption		65,977	52,081	45,330
	Total amount of water consumed		32,048	29,855	23,459
	Total amount of sewer used		-	-	-
	Total amount of underground water consumed	Tons	26,864	22,226	21,871
	Water reuse	Amount of water reused	-	-	-
	Ratio of water reused	%	-	-	-
GHG emissions	Emissions	Direct emissions (Scope 1)	720	709.19	614
		Indirect emissions (Scope 2)	10,833	10,099.7	8,382
Emission of air pollutants	Emissions	SOx	-	-	61.5
		NOx	149	230	1,416.2
		POP	-	-	-
		VOC	-	-	-
		HAP	-	-	-
		PM	217	240	220
Emission of water pollutants	Emissions	PFC	-	-	-
		BOD	14	14.1	4
		TOC	-	-	10
		COD	12	20.8	-
		SS	7	6.9	3
Waste	Waste	TN	-	-	11
	Total amount of waste generated		779	1154	891
	Waste (waste treatment volume, based on domestic data)	Waste discharged by business sites	660	917	836
		Designated waste	17	31	19
		Domestic waste	29	31	36

2) The method of calculating the amount of raw materials used has been revised.

Waste	Waste-recycling rate	Recycled amount	689	979	840
		Waste discharged by business sites	-	-	786
		Designated waste	-	-	19
		Domestic waste	-	-	36
		Ratio of waste recycled	88.0	84.9	94.4
Hazardous (chemical) substances emission	Amount of hazardous substances emitted	Tons	0	0	0
	No. of emissions	Ea.	0	0	0
	Emissions amount	Tons	0	0	0
Violation of environmental laws and regulations	Fines	KRW million	0	0	0
Environmental expenses and investments	Investment in environmental protection	Environmental investment	19	65	27
	Cost of environmental management	KRW million	312	299	259
Sales of green products	Sales of green products and services	KRW million	-	230,438	152,705
	Total sales	KRW million	1,036,215	1,360,770	1,302,679
	Ratio of sales related to green products	%	-	16.9	11.7

Social

Classification		Unit	2021	2022	2023
Total number of employees	Total number of employees ³⁾	Persons	667	646	620
Employee status (by employment type)	Executives	Total	11	11	17
		Female	0	0	0
		Male	11	11	17
	Regular employees	Total	620	600	569
		Female	123	120	86
		Male	497	480	483
	Non-regular employees	Total	36	35	34
		Female	9	12	18
		Male	27	23	16
	Outsourced workers		0	0	0
Employee status (by work type)	Full-time	Persons	656	635	603
	Part-time		0	0	0
Employee status (by work type)	Domestic	Persons	656	608	591
	Overseas		0	27	29
Employee diversity	No. of male employees	Persons	535	503	516
	Ratio of male employees	%	80	79	83.2
	No. of female employees	Persons	132	132	104
	Ratio of female employees	%	20.1	20	16.8
	No. of male executives	Persons	11	11	17
	Ratio of male executives	%	100	100	100
	No. of female executives	Persons	0	0	0
	Ratio of female executives	%	0	0	0
	No. of male managers (manager-level or higher)	Persons	-	227	234
	Ratio of male managers (manager-level or higher)	%	-	97.4	97.9
	No. of female managers (manager-level or higher)	Persons	-	6	5
	Ratio of female managers (manager-level or higher)	%	-	2.6	2.1
	No. of employees with disabilities	Persons	3	5	3
	Ratio of employees with disabilities	%	1	0.8	0.48
	No. of senior employees (55 years of age or more, excluding executives)	Persons	25	33	31
	Ratio of senior employees	%	4	5	5
	No. of foreign employees	Persons	0	0	0
	Ratio of foreign employees	%	0	0	0
Hiring of social minorities	No. of employees with high school degrees	Persons	175	172	129
	Ratio of employees with high school degrees	%	26.7	27	20.8
	No. of veterans	Persons	2	2	0
	Ratio of veterans	%	0.3	0.3	0

3) The method for calculating the total number of employees has been revised.

Classification			Unit	2021	2022	2023
Employee diversity	Employee composition	No. of employees (Under 30 years of age)	Persons	-	71	73
		Percentage (Under 30 years of age)	%	-	11.0	11.7
		No. of employees (50 years of age or more)	Persons	-	482	453
		Percentage (50 years of age or more)	%	-	74.6	73.06
		No. of employees (50 years of age or more)	Persons	-	93	94
		Percentage (50 years of age or more)	%	-	14.4	15.2
New hires	Male			49	85	72
	Female			9	15	23
	By age	Under 30 years	Persons	25	45	34
		30 ~ 50 years of age		31	50	57
	Above 50 years of age		2	5	4	
Employee compensation	Base salary and remuneration by gender	Average salary of male employees	KRW million	60	56	66.97
		Average salary of female employees		43	45	57.68
		Ratio of base salaries of female to male employees	%	71	80	86.1
		Average salary of male executives	KRW million	43	316	237.5
		Average salary of female executives		0	0	0
		Ratio of base salaries of female to male executives	%	0	0	0
		Average salary of male full-time employees	KRW million	-	57	64.03
		Average salary of female full-time employees		-	47	63.02
		Ratio of base salaries of female to male full-time employees	%	-	82	98.4
		Average salary of male non-regular employees	KRW million	-	41	94.71
		Average salary of female non-regular employees		-	29	19.13
		Ratio of base salaries of female to male non-regular employees	%	-	70	20.2
Job security	Average years of service	Year	-	-	9	
	Total employee turnover	Persons	-	-	124	
	Voluntary turnover		-	-	10.8	
	Non-voluntary turnover		-	-	9.2	
Talent development	Beneficiaries of training	Persons	607	615	625	
	Total training expenses	KRW million	271	294	388	
	Training expenses per employee	KRW 1,000	442	478	620	
	Total training hours		-	28,126	48,125	
	Average training hours per employee	Hours	62	46	77	
	Ratio of training expenses to cost of labor	%	0.58	0.62	0.8	
Industrial accidents	No. of industrial accidents	Ea	-	0	0	
	Industrial accident rate	%	0	0	0	
	No. of deaths		0	0	0	
	No. of injuries	Persons	1	0	0	
	Lost work hours	Hours	0	0	0	
Shared growth	Supplier status	Total no. of partner companies	Ea.	394	646	326
		Total value of purchase from partner companies	KRW million	657,792	661,770	611,393
	Support for SMEs	Total value of purchase from SMEs		134,336	81,299	79,817
Fair trade	No. of fair trade law violations	Ea.	0	0	0	
	Fines	KRW million	0	0	0	
No. of information-security breaches	Customer data leakage, theft, and losses	Ea	0	0	0	

Classification		Unit	2021	2022	2023
Workplace discrimination	No. of complaints filed related to workplace discrimination	Ea	0	0	0
	Employees who have taken parental leave		16	13	7
	Male		5	5	4
	Female		11	8	3
Parental leave	No. of employees who have returned to work after parental leave	Persons	12	6	4
	Male		5	5	1
	Female		7	1	3
	Percentage of employees who returned after parental leave	%	75	46.2	66.7
Human rights policy and procedure	No. of employees who continued to work after parental leave ⁴⁾	Persons	12	5	4
	Male		5	4	2
	Female		7	1	2
	Percentage of employees who continued to work after parental leave	%	100	100	66.7
Human rights policy and procedure	Duration of training on human rights	Hours	-	-	532
	No. of employees who have completed the human rights training course	Persons	-	-	530
	Ratio of employees that completed the human rights training course	%	-	-	86%
	Education for workplace bullying prevention		25(1)	681(1)	750(12)
CSR	Duration of education for sexual harassment prevention	Total hours (per employee)	607(1)	710(1)	750(12)
	Other training (Human rights education for persons with disabilities, etc.)		607(1)	670(1)	750(12)
	Investment in CSR	Total amount	-	-	130
	Amount of investment (including donations)	KRW million	0.4	2	121
CSR	Non-cash donations		73.5	38	0
	Business expenses		-	-	9
	Total volunteer hours	Hours	-	-	120
	Average volunteer hours per employee		-	-	0.5
Anti-corruption policy and procedure	Direct and indirect beneficiaries of the support programs	Persons	814	36	600

4) The method for calculating the number of employees who continued to work after parental leave has been revised.

Governance

Classification		Unit	2021	2022	2023
Board of Directors	No. of Board meetings	Times	-	7	8
	Agendas	Ea.	-	23	18
	Preliminary deliberation	%	-	100	100
	Reported agendas		-	11	13
	Objection from outside directors and amended resolutions	Ea.	-	0	1
	BoD participation rate	%	-	86.3	91.07
Board diversity	Non-executive attendance rate		-	100	100
	Male	Persons	-	7	7
	Female		-	0	0
	Ratio of female directors within the BoD	%	-	0	0
Anti-corruption of business sites	No. of outside directors	Persons	-	2	3
	Ratio of outside directors	%	-	28.57	42.86
	Total no. of business sites		-	7	3
	No. of business sites that conducted corruption risk assessment	Ea.	-	0	0
Anti-corruption policy and procedure	Ratio of business sites that conducted corruption-risk assessments	%	-	0	0
	Duration of ethics training	Hours (per employee)	142	1,487(3.6)	866(18)
	No. of employees who signed the ethics pledge ⁵⁾	Persons	656	644	530
	Ratio of employees who signed the ethics pledge	%	100	100	86
Anti-corruption violations	No. of anti-corruption violations identified (persons)	Ea. (persons)	-	-	0

5) The number of employees who signed the ethics pledge in 2021 and 2022 was incorrectly reflected in the report issued for the previous period.

Hansol Inticube

Economic

Classification		Unit	2021	2022	2023
Income statement	Sales		59,462	59,146	41,681
	Gross profit		11,767	12,319	10,690
	SG&A expenses		12,011	16,292	16,723
	Operating income		-243	-3,972	-6,033
	Financial income	KRW million	203	244	340
	Financial expenses		110	131	260
	Other income		132	413	283
	Other expenses		86	2,806	334
	Profit and loss of affiliates		-	-	-
	Net income before tax		-105	-6,253	-6,004
Balance sheet	Assets		32,455	25,186	17,174
	Non-current assets		16,339	14,630	13,853
	Liabilities		18,248	14,138	11,022
	Non-current liabilities	KRW million	1,760	2,413	2,858
	Controlling shareholders' equity		26,376	21,932	16,607
	Non-controlling shareholders' equity		2,409	1,333	540
	Capital				
R&D status	Total R&D expenses	KRW million	1,818	1,426	2,828
	R&D expenses / sales	%	3.36	2.67	7.6
	No. of R&D personnel	Persons	5	0	0

(Based on consolidated financial statements)

Environmental

Classification		Unit	2021	2022	2023
Consumption of energy	Total energy consumed		-	2.06	5.5
	Scope 1 Consumption of energy	TJ	-	-	-
	Scope 2 Consumption of energy		-	2.06	5.5
	Energy intensity	TJ / KRW 1 billion	-	-	0
Water consumption (Amount of water consumed, based on domestic data)	Total water consumption		-	326	409
	Total amount of water consumed	Tons	-	326	409
Waste	Total amount of waste generated		-	-	3.57
	Waste discharged by business sites		-	-	0
	Designated waste		-	-	0
	Domestic waste	Tons	-	-	3.57
	Recycled amount		-	-	1.39
	Waste discharged by business sites		-	-	0
	Designated waste		-	-	0
	Domestic waste		-	-	1.39
	Ratio of waste recycled	%	-	-	100
Hazardous (chemical) substances emission	Amount of hazardous substances emitted	Tons	-	-	0
	No. of emissions	Ea.	-	-	0
	Emissions amount	Tons	-	-	0
Violation of environmental laws and regulations	Fines	KRW million	-	-	0

Social

Classification		Unit	2021	2022	2023
Total number of employees	Total number of employees	Persons	224	253	214
Employee status (by employment type)	Total		3	6	3
	Executives		0	0	0
	Female		3	6	3
	Male		212	247	207
	Regular employees	Persons	53	67	59
	Female		159	180	148
	Male		9	0	4
	Non-regular employees		2	0	1
	Female		7	0	3
	Male		0	0	0
Employee status (by work type)	Full-time	Persons	224	253	214
	Part-time		0	0	0
Employee status (by location)	Domestic	Persons	224	253	214
	Overseas		0	0	0
Employee diversity	No. of male employees	Persons	169	186	154
	Ratio of male employees	%	0.75	74	72
	No. of female employees	Persons	55	67	60
	Ratio of female employees	%	25	26	28
	No. of male executives	Persons	3	6	3
	Ratio of male executives	%	100	100	100
	No. of female executives	Persons	0	0	0
	Ratio of female executives	%	0	0	0
	No. of male managers (manager-level or higher)	Persons	-	128	111
	Ratio of male managers (manager-level or higher)	%	-	85	85
	No. of female managers (manager-level or higher)	Persons	18	23	20
	Ratio of female managers (manager-level or higher)	%	16	15	15
	No. of employees with disabilities	Persons	2	2	4
	Ratio of employees with disabilities	%	1	1	1.87
	No. of senior employees (55 years of age or more, excluding executives)	Persons	2	4	2
Hiring of social minorities	Ratio of senior employees	%	1	2	0.93
	No. of foreign employees	Persons	0	0	0
	Ratio of foreign employees	%	0	0	0
	No. of employees with high school degrees	Persons	5	9	10
	Ratio of employees with high school degrees	%	2	4	4.67
	No. of veterans	Persons	2	2	0
	Ratio of veterans	%	1	1	0
	No. of employees (Under 30 years of age)	Persons	-	53	44
	Percentage (Under 30 years of age)	%	-	21	20.56
	No. of employees (50 years of age or more)	Persons	-	166	134
Employee composition	Percentage (50 years of age or more)	%	-	66	62.62
	No. of employees (50 years of age or more)	Persons	-	34	36
	Percentage (50 years of age or more)	%	-	13	16.82
	Male		31	53	8
	Female		9	21	5
New hires	Under 30 years	Persons	11	24	4
	30 ~ 50 years of age		29	45	8
	Above 50 years of age		0	5	1

Classification			Unit	2021	2022	2023
Employee compensation	Base salary and remuneration by gender	Average salary of male employees	KRW million	48	58	68.2
		Average salary of female employees		41	42	50.9
		Ratio of base salaries of female to male employees		%	85	74
		Average salary of male executives	KRW million	-	110	180.2
		Average salary of female executives		-	0	0
		Ratio of base salaries of female to male executives		%	-	0
		Average salary of male full-time employees	KRW million	-	56	66.3
		Average salary of female full-time employees		-	42	51.5
		Ratio of base salaries of female to male full-time employees		%	-	76
		Average salary of male non-regular employees	KRW million	-	0	52.7
		Average salary of female non-regular employees		-	0	13.2
		Ratio of base salaries of female to male non-regular employees		%	-	0
Job security	Average years of service	Year	-	7.5	7.97	
	Total employee turnover	Persons	-	41	45	
	Voluntary turnover	%	-	14	14	
	Non-voluntary turnover		-	2	7	
Talent development	Beneficiaries of training	Persons	220	253	214	
	Total training expenses	KRW million	170	238	264	
	Training expenses per employee	KRW 1,000	775	960	1,231	
	Total training hours	Hours	7,213	7,169	6,908	
Average training hours per employee	28		29	32.28		
Industrial accidents	No. of industrial accidents	Ea.	0	0	0	
	Industrial accident rate	%	0	0	0	
	No. of deaths	Persons	0	0	0	
	No. of injuries		0	0	0	
	Lost work hours		Hours	0	0	0
Shared growth	Supplier status	Total no. of partner companies	Ea.	200	209	162
		Total value of purchase from partner companies	KRW million	29,684	30,434	18,747
	Support for SMEs	Total value of purchase from SMEs		20,613	20,159	13,740
Fair trade	No. of fair trade law violations	Ea.	0	0	0	
	Fines	KRW million	0	0	0	
No. of information-security breaches	Customer data leakage, theft, and losses	Ea.	0	0	0	
Workplace discrimination	No. of complaints filed related to workplace discrimination	Ea.	0	0	0	
Employees who have taken parental leave	Employees who have taken parental leave	Total	Persons	1	4	4
		Male		0	2	2
		Female		1	2	2
	No. of employees who have returned to work after parental leave	Total		1	0	3
		Male		0	0	2
		Female		1	0	1
	Percentage of employees who returned after parental leave	%		100	0	75
	No. of employees who continued to work after parental leave	Total		1	3	0
		Male		0	1	0
		Female		1	2	0
Percentage of employees who continued to work after parental leave	%	100	75	0		

Classification		Unit	2021	2022	2023
Human rights policy and procedure	Duration of training on human rights	Hours	1,100	771	726
	No. of employees who have completed the human rights training course	Persons	220	257	242
	Ratio of employees that completed the human rights training course	%	98.2	100	100
	Duration of education for workplace bullying prevention	Total hours (per employee)	224(1)	257(1)	242(1)
	Duration of education for sexual harassment prevention		336(1.5)	257(1)	242(1)
	Other training (Human rights education for persons with disabilities, etc.)		336(1.5)	257(1)	242(1)

Governance

Classification		Unit	2021	2022	2023	
Board of Directors	No. of Board meetings ¹⁾	Times	-	8	7	
	Agendas ¹⁾	Ea.	-	13	14	
	Preliminary deliberation	%	-	-	-	
	Reported agendas ¹⁾		-	9	7	
	Objection from outside directors and amended resolutions	Ea.	-	0	0	
	BoD participation rate	%	-	100	100	
	Non-executive attendance rate		-	-	100	
Board diversity	Male	Persons	-	7	7	
	Female		-	0	0	
	Ratio of female directors within the BoD	%	-	0	0	
	No. of outside directors	Persons	-	3	3	
	Ratio of outside directors	%	-	43	42.86	
	Anti-corruption of business sites	Total no. of business sites		-	1	1
		No. of business sites that conducted corruption-risk assessments	개	-	1	0
Ratio of business sites that conducted corruption-risk assessments		%	-	100	0	
Anti-corruption policy and procedure		Anti-corruption policy and procedure	Hours (per employee)	1	1	1
	No. of employees who signed the ethics pledge	Persons	224	253	237	
	Ratio of employees who signed the ethics pledge	%	100	100	100	
Anti-corruption violations	No. of anti-corruption violations identified (persons)	Ea. (persons)	0	0	0	

1) The number of board meetings held, agendas, and reported agendas in 2022 is incorrectly reflected in the report issued for the previous period.

Hansol Chemical

Economic

Classification	Unit	2021	2022	2023
Income statement	Sales	768,688	885,470	771,655
	Gross profit	267,971	265,682	204,960
	SG&A expenses	70,287	79,691	80,816
	Operating income	197,684	185,990	124,144
	Financial income	4,204	9,227	124,144
	Financial expenses	6,176	7,518	9,426
	Other income	6,631	9,009	4,184
	Other expenses	6,999	10,742	4,694
	Profit and loss of affiliates	13,357	8,272	12,695
	Net income before tax	208,702	194,237	135,592
Balance sheet	Assets			
	Current assets	411,301	386,120	367,415
	Non-current assets	785,873	867,190	983,565
	Liabilities			
	Current liabilities	199,711	153,669	247,817
	Non-current liabilities	229,593	247,144	161,675
	Capital			
R&D status	Controlling shareholders' equity	689,239	763,481	845,517
	Non-controlling shareholders' equity	78,630	89,014	95,970
	Total R&D expenses	13,640	18,955	23,480
	R&D expenses / sales	2	3	4.1
	No. of R&D personnel	120	136	156

(based on consolidated financial statements)

1) The number of R&D personnel in 2022 is incorrectly reflected in the report issued for the previous period.

Environmental

Classification	Unit		2021	2022	2023
Consumption of raw materials	Amount of raw materials consumed	Tons	151,701	147,161	131,233
Consumption of recycled materials	Amount of recycled materials (reused raw materials) consumed	Tons	0	0	0
	Ratio of recycled materials (reused raw materials) consumed	%	0	0	0
Consumption of energy ²⁾	Total energy consumed	TJ	3,121	3,399	2,879
	Scope 1 Consumption of energy	TJ	502	559	271
	Scope 2 Consumption of energy	TJ	2,619	2,840	2,608
	Energy intensity	GJ / KRW 1 billion	4,060	3,839	3,731
Water consumption (Amount of water consumed, based on domestic data)	Total water consumption	Total water consumption	2,216,633	2,559,254	2,351,378
		Total amount of water consumed	2,216,633	2,559,254	2,351,378
		Total amount of sewer used	0	0	0
		Total amount of underground water consumed	0	0	0
	Water reuse	Amount of water reused	0	0	0
		Ratio of water reused	%	0	0
GHG emissions	Emissions	Direct emissions (Scope 1)	84,466	87,066	56,833
		Indirect emissions (Scope 2)	77,153	82,266	73,248
Emission of air pollutants	Emissions	SOx	5,960	1,110	2,000
		NOx	16,316	19,499	13,000
		POP	-	-	0
		VOC	-	-	0
		HAP	-	-	0
		PM	983	674	1,117
		PFC	-	-	0
Emission of water pollutants	Emissions	BOD	14	14	25
		TOC	-	-	39
		COD	29	34	61
		SS	23	13	20
		TN	8	7	16
Waste	Total amount of waste (waste treatment volume, based on domestic data)		8,593	10,202	9,389
	Waste (general) discharged by business sites	Amount of waste (general) discharge by business sites	4,364	4,817	3,893
		Incineration	1,178	966	518
		Landfill	238	98	73
		Recycle	2,713	3,537	3,290
		Storage	0	0	0
		Others	233	216	12

2) The amount of energy consumed was incorrectly reflected in the report issued for the previous period.

Classification			Unit	2021	2022	2023
Waste	Designated waste	Amount of designated waste		4,229	5,385	5,496
		Incineration		643	956	1,104
		Landfill		0	37	13
		Recycle		3,586	4,392	4,379
		Storage		0	0	0
		Others		0	0	0
	Domestic waste	Amount of domestic waste	Tons	0	0	0
		Incineration		0	0	0
		Landfill		0	0	0
		Recycle		0	0	0
		Storage		0	0	0
		Others		0	0	0
Waste recycling rate	Amount of waste recycled		6,299	7,929	7,669	
	Ratio of waste recycled	%	73	78	82	
Hazardous (chemical) substances emission	Amount of hazardous substances emitted	Tons			0	
	No. of emissions	Ea.	3	0	0	
	Emissions amount	Tons	5	0	0	
Violation of environmental laws and regulations	Fines	KRW million	0	0	0	
Environmental expenses and investments	Investment in environmental protection	Environmental investment	KRW million	3,069	4,232	1,678
	Expense for environmental management			2,717	2,922	2,949
Sales of green products	Sales of green products and services		KRW million	0	0	0
	Total sales			768,688	885,470	771,655
	Ratio of sales related to green products	%		0	0	0

* There was no violation of environmental laws and regulations in 2023.

Social

Classification	Unit		2021	2022	2023
Total number of employees	Total number of employees	Persons	632	658	690
Employee status (by employment type)	Executives	Total	14	16	11
		Female	1	1	1
		Male	13	15	10
	Regular employees	Total	520	548	621
		Female	76	80	91
		Male	444	468	530
	Non-regular employees	Total	98	94	58
		Female	0	2	1
		Male	98	92	57
	Outsourced workers		108	109	109
Employee status (by work type)	Full-time	Persons	632	658	690
	Part-time		0	0	0
Employee status (by location)	Domestic	Persons	629	653	686
	Overseas		3	5	4
Employee diversity	No. of male employees	Persons	555	570	597
	Ratio of male employees	%	87	87	87
	No. of female employees	Persons	77	82	93
	Ratio of female employees	%	12	13	13
	No. of male executives	Persons	13	15	10
	Ratio of male executives	%	93	94	91
	No. of female executives	Persons	1	1	1
	Ratio of female executives	%	7	6	9
	No. of male managers (manager-level or higher)	Persons	88	116	118
	Ratio of male managers (manager-level or higher)	%	88	18	87
	No. of female managers (manager-level or higher)	Persons	12	16	18
	Ratio of female managers (manager-level or higher)	%	12	12	13

Classification		Unit	2021	2022	2023	
Employee diversity	Hiring of social minorities	No. of employees with disabilities	Persons	4	5	8
		Ratio of employees with disabilities	%	1	1	1
		No. of senior employees (55 years of age or more, excluding executives)	Persons	13	23	21
		Ratio of senior employees	%	2	4	3
		No. of foreign employees	Persons	0	0	0
		Ratio of foreign employees	%	0	0	0
		No. of employees with high school degrees	Persons	135	153	156
		Ratio of employees with high school degrees	%	21	23	23
		No. of veterans	Persons	4	4	1
	Ratio of veterans	%	1	1	0.14	
	Employee composition	No. of employees (Under 30 years of age)	Persons	247	220	226
		Percentage (Under 30 years of age)	%	39	34	33
		No. of employees (30-50 years of age)	Persons	313	360	383
		Percentage (30-50 years of age)	%	50	55	56
		No. of employees (50 years of age or more)	Persons	72	72	81
		Percentage (50 years of age or more)	%	11	11	12
	New hires	Male		123	79	65
		Female		15	20	24
By age		Under 30 years	Persons	116	71	65
		30 - 50 years of age		20	27	23
		Above 50 years of age		2	1	1
Employee compensation	Base salary and remuneration by gender	Average salary of male employees	KRW million	88	101	98
		Average salary of female employees		64	69	63
		Ratio of base salaries of female to male employees	%	72	68	64
		Average salary of male executives	KRW million	1,307	914	962
		Average salary of female executives		2,711	2,940	2,803
		Ratio of base salaries of female to male executives	%	207	322	291.37
		Average salary of male full-time employees	KRW million	103	106	102
		Average salary of female full-time employees		72	69	64
		Ratio of base salaries of female to male full-time employees	%	70	65	63
		Average salary of male non-regular employees	KRW million	37	62	57
		Average salary of female non-regular employees		-	36	20
		Ratio of base salaries of female to male non-regular employees	%	-	58	35
Job security	Average years of service	Years	6	7.6	7.8	
	Total employee turnover	Persons	101	67	58	
	Voluntary turnover	%	-	9	6.7	
	Non-voluntary turnover	%	-	1	1.7	
Talent development	Beneficiaries of training	Persons	553	652	690	
	Total training expense ³⁾	KRW million	859	706	1,015	
	Training expense per employee ³⁾	KRW 1,000	522	1,083	1,471	
	Average training hours per employee	Hours	19	79	93	
Industrial accidents	No. of industrial accidents	Ea.	2	0	1	
	Industrial accident rate	%	0	0	0.22	
	No. of deaths	Persons	0	0	0	
	No. of injuries		2	0	1	
	Lost work hours	Hours	0	0	1,096	

3) The total training expense and training expense per employee in 2022 were incorrectly reflected in the report issued for the previous period.

Classification			Unit	2021	2022	2023
Shared growth	Supplier status	Total no. of partner companies	Ea.	148	206	221
		Total value of purchases from partner companies	KRW million	144,366	262,609	229,859
		Total value of purchase from of SMEs		43,876	56,506	51,247
Fair trade	No. of fair trade law violations	Ea.	0	0	0	
	Fines	KRW million	0	0	0	
No. of information security breaches	Customer data leakage, theft, and losses	Ea.	0	0	0	
Workplace discrimination	No. of complaints filed related to workplace discrimination	Ea.	0	0	0	
Parental leave	Employees who have taken parental leave	Total	Persons	1	5	4
		Male		0	3	1
		Female		1	2	3
	No. of employees who have returned to work after parental leave	Total	Persons	1	4	4
		Male		0	3	1
		Female		1	1	3
	Percentage of employees who returned after parental leave	%		100	80	100
	No. of employees who continued to work after parental leave	Total	Persons	1	1	4
		Male		1	0	3
		Female		0	1	1
	Percentage of employees who continued to work after parental leave	%		100	100	100
Human rights policy and procedure	Duration of training on human rights ⁴⁾	Hours	1	1	676	
	No. of employees who have completed the human rights training course	Persons	617	625	676	
	Ratio of employees that completed the human rights training course	%	98	100	1	
	Duration of education for workplace bullying prevention	Total hours (per employee)	132(1)	625(1)	675(1)	
	Duration of education for sexual-harassment prevention		609(1)	625(1)	675(1)	
	Other training (Human rights education for persons with disabilities, etc.)		630(1)	625(1)	675(1)	
CSR	Investment in CSR (including donations) ⁵⁾	Total amount	KRW million	37	48	55
		Cash donations		37	47	53
		Non-cash donations		0	1	2
		Business expenses		0	0	14
	Total volunteer hours	Hours	420	513	154.25	
	Average volunteer hours per employee		0.7	0.84	0.38	
	Direct and indirect beneficiaries of the support programs	Persons	3,669	5,488	11,398	

4) The method for calculating duration of training on human rights has been revised.

5) The method for calculating the amount of investment in CSR (including donations) has been revised

Governance

Classification		Unit	2021	2022	2023
Board of Directors	No. of Board meetings	Times	4	8	7
	Agendas	Ea.	9	14	14
	Preliminary deliberation	%	0	0	0
	Reported agendas	Ea.	1	3	4
	Objection from outside directors and amended resolutions	Ea.	0	0	0
	BoD participation rate	%	100	100	100
Board diversity	Male	Persons	5	5	5
	Female	Persons	1	1	1
	Ratio of female directors within the BoD	%	17	17	17
	No. of outside directors	Persons	3	3	3
	Ratio of outside directors	Hours (per employee)	50	50	50
	Total no. of business sites	Ea.	4	4	4
Anti-corruption of business sites	No. of business sites that conducted corruption risk assessment	Ea.	0	0	4
	Ratio of business sites that conducted corruption risk assessment	%	0	0	100
	Anti-corruption policy and procedure	Duration of ethics training	Hours (per employee)	1.54	1.07
No. of employees who signed the ethics pledge		Persons	593	614	663
Ratio of employees who signed the ethics pledge ⁶⁾		%	100	100	100
Anti-corruption violations		No. of anti-corruption violations identified (persons)	Ea. (persons)	0	0

* No violation of environmental laws and regulations found in 2023.

6) The number of persons who signed the ethics pledge in 2021 and 2022 was incorrectly reflected in the report issued for the previous period.

Tapex

Economic

Classification	Unit	2021	2022	2023	
Income statement	Sales	154,922	182,261	145,840	
	Gross profit	36,543	42,585	22,683	
	SG&A expenses	15,289	17,133	16,062	
	Operating income	21,254	25,451	6,621	
	Financial income	864	1,660	1,756	
	Financial expenses	449	382	470	
	Other income	2,708	3,527	2,000	
	Other expenses	900	3,236	2,347	
	Profit and loss of affiliates	0	-3,321	-57	
	Net income before tax	23,477	23,699	7,501	
Balance sheet	Assets	74,930	84,233	65,834	
	Non-current assets	105,883	51,900	134,048	
	Liabilities	25,968	24,861	40,337	
	Non-current liabilities	23,536	19,971	6,854	
	Capital	131,309	147,966	152,691	
	Controlling shareholders' equity				
	Non-controlling shareholders' equity	0	0	0	
R&D status	Total R&D expenses	KRW million	3,956	3,973	3,537
	R&D expense / sales	%	2.60	2.21	2.46
	No. of R&D personnel	Persons	29	32	34

(based on consolidated financial statements)

Environmental

Classification		Unit	2021	2022	2023
Consumption of raw materials	Amount of raw materials consumed	Tons	13,010	12,757	11,969
Consumption of recycled materials	Amount of recycled materials (reused raw materials) consumed	Tons	2,490	2,260	2,660
	Ratio of recycled materials (reused raw materials) consumed	%	19.1	17.7	22.2
Energy consumption	Total energy consumed		264	273	295
	Scope 1 Energy consumption	TJ	-	75	84
	Scope 2 Energy consumption		-	198	211
	Energy intensity	GJ / KRW 1 billion	-	1,516	2055.06
Water consumption (Amount of water consumed, based on domestic data)	Total water consumption		2,057,568	2,156,459	1,963,157
	Yanggam Plant	Total amount of water consumed ¹⁾	221,847	218,792	190,363
		Total amount of underground water consumed	0	0	0
		Total amount of seawater used	0	0	0
	Paltan Plant	Total amount of water consumed ¹⁾	786,994	921,301	768,272
		Total amount of underground water consumed	0	0	0
		Total amount of seawater used	0	0	0
	Uniwrap Plant	Total amount of water consumed ¹⁾	1,048,727	1,016,366	1,004,522
		Total amount of underground water consumed	0	0	0
		Total amount of seawater used	0	0	0
	Water reuse	Amount of water reused	2,034,712	2,140,452	1,942,900
		Ratio of water reused	%	98.9	99.3
GHG emissions	Emissions				
	Direct emissions (Scope 1)	tCO ₂ eq	4,285	4,131	4,644
	Indirect emissions (Scope 2)	tCO ₂ eq	8,800	9,452	10,080
	Total GHG emissions (Scope 1+2)		13,085	13,583	14,724
	GHG emission intensity	tCO ₂ eq / KRW 1 billion	-	76	103
Emission of air pollutants	Emissions	SOx	351	604	1,130
		NOx	9,958	11,665	5,436
		POP	-	0	0
		VOC	-	0	0
		HAP	20,659	24,778	24,398
		PM	13,979	13,864	10,384
		PFC	-	0	0
Emission of water pollutants	Emissions	BOD	1.8	1.3	1.4
		TOC	-	-	7.2
		COD	8.6	12.6	6.4
		SS	0.8	1.2	1
		TN	-	-	-

1) Total water consumption = Water + reused water

Classification			Unit	2021	2022	2023
Waste	Total amount of waste			1,423	1,317	1,208
	(waste-treatment volume, based on domestic data)	Amount of waste (general) discharged by business sites		909	816	690
		Incineration		0	0	0
		Landfill		14	0	2
		Recycle		895	816	688
	Designated waste	Amount of designated waste discharged		488	467	494
		Incineration		30	56	62
		Landfill		0	0	0
		Recycle		458	411	432
	Domestic waster	Amount of domestic waste discharged		25	34	24
		Incineration		0	0	0
		Landfill		0	0	0
		Recycle		25	34	24
	Waste recycling rate	Recycled amount		1,379	1,261	1,144
	Ratio of waste recycled	%	97	96	95	
Hazardous (chemical) substances emission	Amount of hazardous substance emitted ²⁾		Tons	25	30	29
	No. of emissions		Ea.	0	0	0
	Emissions amount		Tons	0	0	0
Violation of environmental laws and regulations	Fines			0	0	0
Environmental expenses and investments	Investment in environmental protection	Environmental investment	KRW million	1,378	731	2,411
	Expense for environmental management			223	59	176
Sales of green products	Sales of green products and services			-	154	0
	Total sales			-	182,261	145,840
	Ratio of sales related to green products		%	-	0.08	0

* No violations of environmental laws and regulations found in 2023.

2) Hazardous Air Pollutants (HAP) are included in the emission of hazardous substances.

Social

Classification	Unit		2021	2022	2023	
Total number of employees	Total number of employees		Persons	401	432	407
Employee status (by employment type)	Executives	Total	Persons	7	8	8
		Female		1	1	1
		Male		6	7	7
	Regular employees	Total		363	390	361
		Female		31	32	30
		Male		332	358	331
	Non-regular employees	Total		2	4	5
		Female		1	4	4
		Male		1	0	1
	Outsourced workers			29	30	33
Employee status (by work type)	Full-time	Persons	394	421	395	
	Part-time		7	11	12	
Employee status (by location)	Domestic	Persons	398	427	400	
	Overseas		3	5	7	
Employee diversity	No. of male employees	Persons	345	371	346	
	Ratio of male employees	%	86.0	85.9	85	
	No. of female employees	Persons	56	61	61	
	Ratio of female employees	%	14.0	14.1	15	
	No. of male executives	Persons	6	7	7	
	Ratio of male executives	%	1.50	1.62	87.5	
	No. of female executives	Persons	1	1	1	
	Ratio of female executives	%	0.25	0.23	12.5	
	No. of male managers (manager-level or higher)	Persons	-	75	75	
	Ratio of male managers (manager-level or higher)	%	-	87.2	89.3	
	No. of female managers (manager-level or higher)	Persons	10	11	9	
	Ratio of female managers (manager-level or higher)	%	-	12.8	10.7	
	Hiring of social minorities	No. of employees with disabilities	Persons	3	7	4
		Ratio of employees with disabilities	%	0.8	1.6	1

Classification			Unit	2021	2022	2023
Employee diversity	Hiring of social minorities	No. of senior employees (55 years of age or more, excluding executives)	Persons	8	6	6
		Ratio of senior employees	%	2	1.4	1.5
		No. of foreign employees	Persons	3	3	3
		Ratio of foreign employees	%	0.8	0.7	0.7
		No. of employees with high school degrees	Persons	156	165	143
		Ratio of employees with high school degrees	%	38.9	38.2	35.1
		No. of veterans	Persons	2	2	0
		Ratio of veterans	%	0.5	0.5	0
	Employee composition	No. of employees (Under 30 years of age)	Persons	-	64	51
		Percentage (Under 30 years of age)	%	-	14.8	12.5
		No. of employees (30-50 years of age)	Persons	-	315	300
		Percentage (30-50 years of age)	%	-	72.9	73.7
		No. of employees (50 years of age or more)	Persons	-	53	56
		Percentage (50 years of age or more)	%	-	12.3	13.8
	New hires	Male		177	105	61
		Female		4	7	6
		By age				
		Under 30 years	Persons	59	30	27
Employee compensation	Base salary and remuneration by gender	30 - 50 years of age		113	82	40
		Above 50 years of age		9	0	0
		Average salary of male employees	KRW million	55	64	59
		Average salary of female employees		45	48	47
		Ratio of base salaries of female to male employees	%	81	75	80
		Average salary of male executives	KRW million	-	273.37	124.24
		Average salary of female executives		-	244.73	244.75
		Ratio of base salaries of female to male executives	%	-	89.5	197
		Average salary of male full-time employees	KRW million	-	65.05	58.64
		Average salary of female full-time employees		-	59.58	51.88
		Ratio of base salaries of female to male full-time employees	%	-	91.6	88.5
		Average salary of male non-regular employees	KRW million	-	0	130.84
		Average salary of female non-regular employees		-	2.44	13.19
		Ratio of base salaries of female to male non-regular employees	%	-	-	10.1
Job security	Average years of service	Years		4.9	5.2	5.9
		Total employee turnover	Persons	-	83	76
		Voluntary turnover	%	-	26.2	19
Talent development	Beneficiaries of training	Non-voluntary turnover	%	-	1.3	1.3
		Persons		401	402	374
		Total training expenses	KRW million	185	225	201
		Training expenses per employee	KRW 1,000	462	560	538
		Total training hours		4,082	3,818	3,726
		Average training hours per employee	Hours	10	9	10
Industrial accidents	Employees	No. of industrial accidents	Ea.	2	1	0
		Industrial accident rate	%	0.5	0.3	0
		No. of deaths	Persons	0	0	0
		No. of injuries		2	1	0
		Lost work hours	Hours	1,008	128	0
	Suppliers	No. of industrial accidents	Ea.	-	0	0
		Industrial accident rate	%	-	0	0
		No. of deaths	Persons	-	0	0

Classification			Unit	2021	2022	2023
Industrial accidents	Suppliers	No. of injuries	Persons	-	0	0
		Lost work hours	Hours	-	0	0
Shared growth	Supplier status	Total no. of partner companies	Ea.	114	104	120
		Total value of purchases from partner companies	KRW million	71,199	76,311	88,105
	Support for SMEs	Total value of purchase from SMEs		47,211	57,265	49,650
Fair trade	No. of fair trade law violations	Fines	Ea.	-	0	0
			KRW million	-	0	0
No. of information security breaches	Customer data leakage, theft, and losses		Ea.	0	0	0
Workplace discrimination	No. of complaints filed related to workplace discrimination		Ea.	-	0	0
Parental leave	Employees who have taken parental leave	Total		1	9	10
		Male		-	4	6
		Female	Persons	1	5	4
		No. of employees who have returned to work after parental leave		6	5	9
	Percentage of employees who have returned to work after parental leave	Male		4	2	5
		Female		2	3	4
		Total	%	86	50	90
		No. of employees who continued to work after parental leave		6	18	5
	Percentage of employees who continued to work after parental leave	Male	Persons	2	5	2
		Female		4	13	3
Human rights policy and procedure	Duration of training on human rights (per employee)		Hours	1	1	1
	No. of employees who have completed the human rights training course		Persons	369	399	371
	Ratio of employees that completed the human rights training course		%	92.0	92.4	91.2
	Duration of education for workplace bullying prevention			369 (2)	798 (2)	780 (2)
	Duration of education for sexual-harassment prevention		Total hours (per employee)	369 (1)	399 (1)	390 (1)
	Other training (Human rights education for persons with disabilities, etc.)			369 (2)	798 (2)	780 (2)
CSR	Investment in CSR (including donations)	Total amount	KRW million	10	30	32
		Cash donations		0	18	22
		Non-cash donations		10	10	7
		Business expenses		-	2	3
	Total volunteer hours		Hours	18	300	425
	Average volunteer hours per employee			0.04	0.69	1.04
	Direct and indirect beneficiaries of the support programs		Persons	86	179	180

Governance

Classification			Unit	2021	2022	2023
Board of Directors	No. of Board meetings	Times		-	8	4
		Agendas	Ea.	-	13	5
		Preliminary deliberation	%	-	100	100
		Reported agendas		-	7	6
	Objection from outside directors and amended resolutions	BoD participation rate	Ea.	-	0	0
		Non-executive attendance rate	%	-	93.8	100
				-	91.7	100
Board diversity	Male	Persons		-	5	5
		Female		-	1	1
	Ratio of female directors within the BoD		%	-	16.7	16.7
	No. of outside directors		Persons	-	3	3
CEO remuneration	Ratio of outside directors		%	-	50	50
	CEO base salary (fixed payment)			-	195	199
	CEO variable salary		KRW million	-	173	74
	CEO remuneration (base salary + variable salary)			-	368	273
	Ratio of CEO variable salary to the average salary of employees		%	-	274.6	123.74
	Total no. of business sites			-	4	4
Anti-corruption of business sites	No. of business sites that conducted corruption-risk assessment	Ea.		-	0	0
		Ratio of business sites that conducted corruption-risk assessment	%	-	0	0
Anti-corruption policy and procedure	Duration of ethics training		Hours (per employee)	1	1	1
	No. of employees who signed the ethics pledge		Persons	311	353	407
	Ratio of employees who signed the ethics pledge		%	77.56	81.71	100
Anti-corruption violations	No. of anti-corruption violations identified (persons)		Ea. (persons)	0	0	0

Hansol IONES

Economic

Classification		Unit	2021	2022	2023
Income statement	Sales		-	163,912	123,933
	Gross profit		-	57,959	32,096
	SG&A expenses		-	21,886	23,879
	Operating income		-	36,072	8,217
	Financial income	KRW million	-	1,809	2,489
	Financial expenses		-	-1,022	-908
	Other income ¹⁾		-	3,623	1,986
	Other expenses		-	-3,741	-9,979
	Net income before tax		-	36,741	1,804
Balance sheet	Assets		-	99,779	72,241
	Non-current assets		-	127,588	148,657
	Liabilities		-	70,826	44,306
	Non-current liabilities	KRW million	-	5,725	24,714
	Capital		-	150,815	151,878
	Non-controlling shareholders' equity		-	0	0
R&D status	Total R&D expense	KRW million	-	109	155
	R&D expense/ sales	%	-	0.61	1.23
	No. of R&D person	Persons	-	13	16

(based on consolidated financial statements)

1) Other income for 2022 was incorrectly reflected in the report issued for the previous period.

Environmental

Classification		Unit	2021	2022	2023
Consumption of raw materials	Amount of raw materials consumed	Tons	-	1,640	0
Amount of recycled raw materials consumed	Amount of recycled materials (reused raw materials) consumed		-	166	0
	Ratio of recycled materials (reused raw materials) consumed	%	-	10	0
Energy consumption	Total energy consumed		245	246	234,564
	Scope 1 Energy consumption	TJ	19,635	21,567	21
	Scope 2 Energy consumption		225.01	224.453	214
	Energy intensity	GJ / KRW 1 billion	-	-	1,823.13
Water consumption (Amount of water consumed, based on domestic data)	Total water consumption		-	123,103	96,622
	Amount of water consumed		-	123,103	96,622
	Amount of sewer consumed	Tons	-	0	0
	Amount of groundwater consumed		-	0	0
	Amount of water reused		-	0	0
	Ratio of water reused	%	-	0	0
GHG emissions	Direct emissions (Scope 1)	tCO ₂ eq	962	1,213	1,203
	Indirect emissions (Scope 2)		10,767	10,741	10,237
Emission of air pollutants	SOx		-	0.09	0.04
	NOx		-	6.98	7.04
	POP		-	-	0
	VOC	kg	-	-	0
	HAP		-	-	0
	PM		-	15.99	15.96
			-	-	0
Emission of water pollutants	BOD		-	-	10.1
	TOC		-	-	19.6
	COD	ppm	-	-	34.7
	SS		-	-	2.7
	TN		-	-	5.5
Waste	Total amount of waste (waste treatment volume, based on domestic data)		-	561	3,017
	Waste generated		-	561	3,017
	Waste discharged by business sites	Tons	-	421	279
	Designated waste		-	140	2,701
	Domestic waste		-	0	37
	Recycled amount		-	445	1,457.4
	Waste discharged by business sites	Tons	-	-	271.2
	Designated waste		-	-	1,149.3
Waste recycling rate	Domestic waste		-	-	36.9
	Ratio of waste recycled	%	-	79	48.3

Classification		Unit	2021	2022	2023
Hazardous (chemical) substances emission	Amount of hazardous substances emitted	Tons	-	-	0
	No. of emissions	Ea.	-	0	0
	Emissions amount	Tons	-	0	0
Violation of environmental laws and regulations	Fines	KRW million	-	0	0
Sales of green products	Sales of green products and services	KRW million	-	0	0
	Total sales		-	163,912	123,933
	Ratio of sales related to green products	%	-	0	0

Social

Classification		Unit	2021	2022	2023
Total number of employees		Persons	-	588	601
Employee status (by employment type)	Total		-	7	6
	Executives		-	0	0
	Female		-	7	6
	Male		-	567	558
	Regular employees	Persons	-	87	88
	Female		-	480	470
	Male		-	14	37
	Non-regular employees	Persons	-	2	9
	Female		-	12	28
	Male		-	-	0
	Outsourced workers		-	-	0
	Full-time	Persons	-	588	601
Employee status (by work type)	Part-time		-	-	0
	Domestic	Persons	-	588	601
Employee status (by location)	Overseas		-	-	0
	No. of male employees	Persons	-	499	504
Employee diversity	Ratio of male employees	%	-	85	83.9
	No. of female employees	Persons	-	87	97
	Ratio of female employees	%	-	15	16.1
	No. of male executives	Persons	-	10	6
	Ratio of male executives	%	-	100	100
	No. of female executives	Persons	-	0	0
	Ratio of female executives	%	-	0	0
	No. of male managers (manager-level or higher)	Persons	-	27	55
	Ratio of male managers (manager-level or higher)	%	-	31.0	88.7
	No. of female managers (manager-level or higher)	Persons	-	0	7
	Ratio of female managers (manager-level or higher)	%	-	0	11.3
	No. of employees with disabilities	Persons	-	11	11
	Ratio of employees with disabilities	%	-	2	1.83
	No. of senior employees (55 years of age or more, excluding executives)	Persons	-	11	11
	Ratio of senior employees	%	-	2	1.83
	No. of foreign employees	Persons	-	11	9
			-	-	-

Classification			Unit	2021	2022	2023
Employee diversity	Hiring of social minorities	Ratio of foreign employees	%	-	2	1.5
		No. of employees with high school degrees	Persons	-	233	259
		Ratio of employees with high school degrees	%	-	40	43.09
		No. of veterans	Persons	-	0	2
		Ratio of veterans	%	-	0	0.33
	Employee composition	No. of employees (Under 30 years of age)	Persons	-	182	156
		Percentage (Under 30 years of age)	%	-	31.1	25.96
		No. of employees (30–50 years of age)	Persons	-	380	417
		Percentage (30–50 years of age)	%	-	64.9	69.38
		No. of employees (50 years of age or more)	Persons	-	24	28
		Percentage (50 years of age or more)	%	-	4.1	4.66
New hires	Male		-	149	161	
	Female		-	35	22	
	By age	Under 30 years	Persons	-	78	88
		30 – 50 years of age		-	99	94
		Above 50 years of age		-	7	1
Employee compensation	Base salary and remuneration by gender	Average salary of male employees	KRW million	-	47	55.46
		Average salary of female employees		-	36	41.75
		Ratio of base salaries of female to male employees	%	-	76	75
		Average salary of male executives	KRW million	-	125	263.67
		Average salary of female executives		-	0	0
		Ratio of base salaries of female to male executives	%	-	0	0
		Average salary of male full-time employees	KRW million	-	47	55.45
		Average salary of female full-time employees		-	36	45.44
		Ratio of base salaries of female to male full-time employees	%	-	76	81.95
		Average salary of male non-regular employees	KRW million	-	10	10.93
	Average salary of female non-regular employees		-	8	5.67	
	Ratio of base salaries of female to male non-regular employees	%	-	80	51.85	
	Job security	Average years of service	Years	-	3.5	4.2
		Total employee turnover	Persons	-	157	170
Voluntary turnover			-	25	28.1	
Non-voluntary turnover		%	-	2	0.2	
Talent development	Beneficiaries of training	Persons	-	-	362	
	Total training expenses	KRW million	-	38	40	
	Training expenses per employee	KRW 1,000	-	66	68	
	Total training hours	Hours	-	3,029	14,517	
Industrial accidents	Average training hours per employee		-	5.19	24.15	
	No. of industrial accidents	Ea.	-	1	1	
	Industrial accident rate	%	-	0.17	0.17	
	No. of deaths	Persons	-	0	0	
	No. of injuries		-	12	0	
Shared growth	Supplier status	Lost work hours	Hours	-	880	64
		Total no. of partner companies	Ea.	-	70	24
	Support for SMEs	Total value of purchase from partner companies	KRW million	-	49,004	24,818
		Total value of purchase from SMEs		-	41,869	22,854

Classification		Unit	2021	2022	2023
Fair trade	No. of fair trade law violations	Ea.	-	0	0
	Fines	KRW million	-	0	0
No. of information-security breaches	Customer data leakage, theft, and losses	Ea.	-	0	0
Workplace discrimination	No. of complaints filed related to workplace discrimination		-	0	0
Parental leave	Employees who have taken parental leave	Total	-	6	3
		Male	-	0	1
		Female	-	6	2
	No. of employees who have returned to work after parental leave	Total	-	3	3
		Male	-	0	1
		Female	-	3	2
	Percentage of employees who returned after parental leave	%	-	50	100
	No. of employees who continued to work after parental leave	Total	-	1	4
		Male	-	0	0
		Female	-	1	4
Percentage of employees who continued to work after parental leave	%	-	17	175	
Human rights policy and procedure	Duration of training on human rights (per employee)	Hours	-	-	0
	No. of employees who have completed the human rights training course	Persons	-	-	0
	Ratio of employees that completed the human rights training course	%	-	-	0
	Duration of education for workplace bullying prevention		-	1	1
	Duration of education for sexual-harassment prevention	Total hours (per employee)	-	1	1
	Other training (Human rights education for persons with disabilities, etc.)		-	1	1
	CSR	Investment in CSR (including donations)	Total amount	-	15
Cash donation			-	15	5
Non-cash donation			-	0	0
Business expense			-	0	0

Governance

Classification		Unit	단위	2021	2022	2023
Board of Directors	No. of Board meetings	Times		-	11	10
	Agendas	Ea.		-	23	23
	Preliminary deliberation	%		-	100	100
	Reported agendas			-	13	15
	Objections from outside directors and amended resolutions	Ea.		-	0	0
	BoD participation rate			-	99	93.8
	Non-executive attendance rate	%		-	97	93.83
	Male	Persons		-	8	8
Board diversity	Female			-	0	0
	Ratio of female directors within the BoD	%		-	-	0
	No. of outside directors	Persons		-	3	3
Anti-corruption of business sites	Ratio of outside directors	%		-	38	37.5
	Total no. of business sites			-	4	4
	No. of business sites that conducted corruption-risk assessment	Ea.		-	0	0
	Ratio of business sites that conducted corruption-risk assessment	%		-	0	0
Anti-corruption policy and procedure	Duration of ethics training	Hours (per employee)		-	1	1
	No. of employees who signed the ethics pledge ²⁾	Persons		-	646	594
	Ratio of employees who signed the ethics pledge ²⁾	%		-	97	94
Anti-corruption violations	No. of anti-corruption violations identified (persons)	Ea. (persons)		-	1	0

2) The number and ratio of employees who signed the ethics pledge in 2022 were incorrectly reflected in the report issued for the previous period.

GRI CONTENT INDEX

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GRI 2: General Disclosures 2021

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Material Topics 2021

GRI Standard	Disclosure	Disclosure Location	Note
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Topic Specific Standards Environmental Performance

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GRI Standard	Disclosure		Disclosure Location	Note
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GRI Standard	Disclosure	Disclosure Location	Note
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Protection of customers' personal information	418-1	No. of complaints concerning verified violations of customer personal information protection and lost customer information	120-143

UN SDGs

The UN Sustainable Development Goals, (hereinafter referred to as SDGs), which replace the UN Millennium Development Goals, are the common goals the United Nations and the global community aim to achieve from 2016 to 2030. The SDGs consist of 17 goals and 169 specific tasks for the sustainable development of all countries around the world, including resolution of poverty and inequality, climate-change response, economic growth, and creation of quality jobs. Hansol Group's key issues for sustainability management, which align with UN SDGs, are disclosed through the Sustainability Report to ensure responsible execution of tasks.

Key issues	UN SDGs	Main activities
1 Response to climate change	   	<ul style="list-style-type: none"> Hansol PaperTech secures wastewater recycling technology Hansol Paper and Tapex increased the share of green materials Hansol PNS, Tapex, and Hansol HomeDeco develop low-carbon products Hansol HomeDeco established GHG emissions reduction goals and implementation roadmap Hansol Technics analyzed climate change risks Hansol Paper, Hansol Technics, Hansol IONES, Hansol Chemical, and Tapex carried out GHG emissions reduction activities
2 New business (market) development	  	<ul style="list-style-type: none"> Hansol Paper created a resource circulation system reusing aseptic cartons Hansol Group participated in the 2023 Innovation Olympics Hansol Logistics received orders from new markets in the United States and Europe Tapex expanded into new markets for secondary batteries for EVs in line with global environmental policies
3 Energy consumption :	 	<ul style="list-style-type: none"> Hansol Technics signed an MOU with IRESEN
4 Employment and talent development		<ul style="list-style-type: none"> Hansol Group introduced "Hansol Dreamverse Company," a virtual internship program Hansol Group launched the FA (Free Agent)s system, external MBA program, mentoring system, Hansol talent nurturing system, Respect Leadership, absolute evaluation, and team ground rules. Tapex introduced a competency development program for new employees Hansol Group introduced LMS, an online training curation system
5 Transparent governance	 	<ul style="list-style-type: none"> Hansol Paper's installation of Outside Director Nomination Committee
6 Occupational safety and health management	 	<ul style="list-style-type: none"> Hansol IONES conducted safety and health assessments at a department and individual level every quarter Tapex's Yanggam Plant received Grade S for assessment on Process Safety Management System
7 Respect for human rights	 	<ul style="list-style-type: none"> Hansol Paper, Hansol PNS, Hansol Technics, Hansol Logistics, Hansol HomeDeco, and Hansol Inticube announced their human rights management declaration and guidelines Hansol Technics announced a mid- to long-term roadmap for human rights management
8 CSR activities for promoting the local community	  	<ul style="list-style-type: none"> Hansol Holdings visited Angel's Haven in Eunpyeong-gu, Seoul for volunteer work Hansol Paper distributed briquettes and side dishes to the less fortunate and donated scholarships Hansol PNS donated to scholarships and for the development of the local community Hansol HomeDeco makes a donation for Making Green Iksan movement Hansol Technics donated solar cell modules Hansol Logistics carried out activities to improve the cleanliness of the local community Hansol IONES made a donation to the local community of Gosam-myeon, Anseong Tapex introduced Sharing Fund
9 Ethical management and anti-corruption	 	<ul style="list-style-type: none"> Hansol Technics established the Compliance RM team Hansol Group implemented the Compliance Management System
10 Creation and distribution of economic values	 	<ul style="list-style-type: none"> Hansol Chemical saw a KRW 4 billion increase in sales of industrial hydrogen peroxide, which is related to recycling secondary batteries

Independent Assurance Statement

To readers of 2024 Hansol Group Sustainability Report

Introduction

Korea Management Registrar (KMR) was commissioned by Hansol holdings to conduct an independent assurance of its 2024 Hansol Group Sustainability Report (the "Report"). The data and its presentation in the Report is the sole responsibility of the management of Hansol holdings. KMR's responsibility is to perform an assurance engagement as agreed upon in our agreement with Hansol holdings and issue an assurance statement.

Scope and Standards

Hansol holdings described its sustainability performance and activities in the Report. Our Assurance Team carried out an assurance engagement in accordance with the AA1000AS v3 and KMR's assurance standard SRV1000. We are providing a Type 1, moderate level assurance. We evaluated the adherence to the AA1000AP (2018) principles of inclusivity, materiality, responsiveness and impact. The opinion expressed in the Assurance Statement has been formed at the materiality of the professional judgment of our Assurance Team.

Confirmation that the Report was prepared in accordance with GRI standards 2021 was included in the scope of the assurance. We have reviewed the topic-specific disclosures of standards which were identified in the materiality assessment process.

- GRI Sustainability Reporting Standards 2021
- Universal standards
- Topic specific standards
 - GRI 201 : Economic Performance
 - GRI 205 : Anti-Corruption
 - GRI 206 : Anti-competitive Behavior
 - GRI 302 : Energy
 - GRI 305 : Emissions
 - GRI 401 : Employment
 - GRI 403 : Occupational Health and Safety
 - GRI 404 : Training and Education
 - GRI 413 : Local Communities

As for the reporting boundary, the engagement excludes the data and information of Hansol holdings' partners, suppliers and any third parties.

KMR's Approach

To perform an assurance engagement within an agreed scope of assessment using the standards outlined above, our Assurance Team undertook the following activities as part of the engagement:

- reviewed the overall Report;
- reviewed materiality assessment methodology and the assessment report;
- evaluated sustainability strategies, performance data management system, and processes;
- interviewed people in charge of preparing the Report;
- reviewed the reliability of the Report's performance data and conducted data sampling;
- assessed the reliability of information using independent external sources such as Financial Supervisory Service's DART and public databases.

Limitations and Recommendations

KMR's assurance engagement is based on the assumption that the data and information provided by Hansol holdings to us as part of our review are provided in good faith. Limited depth of evidence gathering including inquiry and analytical procedures and limited sampling at lower levels in the organization were applied. To address this, we referred to independent external sources such as DART and National Greenhouse Gas Management System (NGMS) and public databases to challenge the quality and reliability of the information provided.

Conclusion and Opinion

Based on the document reviews and interviews, we had several discussions with Hansol holdings on the revision of the Report. We reviewed the Report's final version in order to make sure that our recommendations for improvement and revision have been reflected. Based on the work performed, it is our opinion that the Report applied the GRI Standards. Nothing comes to our attention to suggest that the Report was not prepared in accordance with the AA1000AP (2018) principles.

Inclusivity

Hansol holdings has developed and maintained different stakeholder communication channels at all levels to announce and fulfill its responsibilities to the stakeholders. Nothing comes to our attention to suggest that there is a key stakeholder group left out in the process. The organization makes efforts to properly reflect opinions and expectations into its strategies.

Materiality

Hansol holdings has a unique materiality assessment process to decide the impact of issues identified on its sustainability performance. We have not found any material topics left out in the process.

Responsiveness

Hansol holdings prioritized material issues to provide a comprehensive, balanced report of performance, responses, and future plans regarding them. We did not find anything to suggest that data and information disclosed in the Report do not give a fair representation of Hansol holdings' actions.

Impact

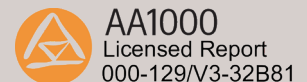
Hansol holdings identifies and monitors the direct and indirect impacts of material topics found through the materiality assessment, and quantifies such impacts as much as possible.

Competence and Independence

KMR maintains a comprehensive system of quality control including documented policies and procedures in accordance with ISO/IEC 17021:2015 - Requirements for bodies providing audit and certification of management systems. This engagement was carried out by an independent team of sustainability assurance professionals. KMR has no other contract with Hansol holdings and did not provide any services to Hansol holdings that could compromise the independence of our work.

June 2024 Seoul, Korea

E. J. Hwang



Affiliates and Certifications

Company name	Certification				
	Environment	Quality	Safety and health	Family-friendly	Others
Hansol Paper	<ul style="list-style-type: none"> · ISO 14001 (Daejeon, Janghang, Sintanjin, Cheonan Plants) · Green Business (Janghang Plant) 	<ul style="list-style-type: none"> · ISO 9001 (Daejeon, Janghang, Sintanjin, Cheonan Plants) 	<ul style="list-style-type: none"> · ISO 45001 (Janghang, Daejeon, Cheonan, Sintanjin, Environmental Business Division) 	<ul style="list-style-type: none"> · Family-friendly company 	<ul style="list-style-type: none"> · Ecovadis Sustainability Rating : Platinum
Hansol PaperTech	<ul style="list-style-type: none"> · ISO 14001 (Headquarters) FSC 		<ul style="list-style-type: none"> · ISO 45001 (Headquarters) · Process Safety Management System (PSM) 		
Hansol PNS	<ul style="list-style-type: none"> · ISO 14001 (Paper Distribution Division, Paju Converting Center) 				<ul style="list-style-type: none"> · ISMS (IT Service Division Headquarters, Songdo IDC)
Hansol HomeDeco	<ul style="list-style-type: none"> · ISO 14001 (Headquarters, Iksan Plant) 	<ul style="list-style-type: none"> · ISO 9001 (Headquarters, Iksan Plant) 	<ul style="list-style-type: none"> · KOSHA-MS (Iksan Plant) 		
Hansol Logistics	<ul style="list-style-type: none"> · ISO 14001 (Headquarters) 	<ul style="list-style-type: none"> · ISO 9001 (Headquarters) 	<ul style="list-style-type: none"> · ISO 45001 (Headquarters) 		<ul style="list-style-type: none"> · AEO certification (Excellent company for export / import safety management) · Excellent logistics service provider (General logistics service, international freight forwarding, and trucking)
Hansol Technics	<ul style="list-style-type: none"> · ISO 14001 (Jincheon, Ochang Plants) 	<ul style="list-style-type: none"> · ISO 9001 (Jincheon, Ochang Plants) 	<ul style="list-style-type: none"> · ISO 45001 (Jincheon, Ochang Plants) 		
Hansol IONES	<ul style="list-style-type: none"> · ISO 14001 (Headquarters, Balan Plant) 	<ul style="list-style-type: none"> · ISO 9001 (Headquarters, Balan Plant) · AS 9100 	<ul style="list-style-type: none"> · ISO 45001 (Headquarters, Balan Plant) · KOSHA-MS (Balan Plant) 		<ul style="list-style-type: none"> · ISO 22301 (Business continuity management system) · ISO 27001 (Information security management system)
Hansol Chemical	<ul style="list-style-type: none"> · ISO 14001 (Jeonju, Ulsan Plants) · Green Business 	<ul style="list-style-type: none"> · ISO 9001 (Jeonju, Ulsan Plants) · IATF 16949 	<ul style="list-style-type: none"> · ISO 45001 (Jeonju, Ulsan Plant) 	<ul style="list-style-type: none"> · Family-friendly company 	<ul style="list-style-type: none"> · ISO 37301 (Compliance management system) · Materials and parts specialist (Ministry of Trade, Industry and Energy) · IATF 16949 (KMR) · Green business appointment letter (Head of Jeonbuk Regional Environment Office)
Tapex	<ul style="list-style-type: none"> · ISO 14001 (Yanggam, Paltan, Uniwrap Plants) 	<ul style="list-style-type: none"> · ISO 9001 (Yanggam, Paltan, Uniwrap Plants) · IATF 16949 (Yanggam, Paltan Plants) 	<ul style="list-style-type: none"> · ISO 45001 (Yanggam, Paltan, Uniwrap Plants) 	<ul style="list-style-type: none"> · Family-friendly company 	<ul style="list-style-type: none"> · ISO 27001 (Information security management system) · Materials and parts specialist (Korea Planning & Evaluation Institute of Industrial Technology) · Hidden champion (Ministry of Employment and Labor)

Awards

Company name	Awards	Awarded by
Hansol Group	"LACP 2022 Vision Awards" Sustainability Management : Gold Prize	League of American Communications Professionals (LACP)
Hansol Holdings	"2023 Future Work Experience Best Practice Contest" : Grand Prize	Ministry of Employment and Labor
Hansol Paper	"The Most Respected Company in Korea" in the paper sector for 21 consecutive years	KMA Consultants Inc.
	17 th Packaging Contest : Award from the Chairman of Korea Institute of Industrial Technology	Ministry of Trade, Industry and Energy
Hansol Technics	Hazard resistance and reduction × sustainability: Grand Prize	Hazard Reduction Sustainable Technology Association
Hansol IONES	The Anseong City Entrepreneur Awards: Harmonious Labor-Management Award (Corporate)	Anseong Chamber of Commerce
Hansol Chemical	2023 Samsung Electronics Best Partner Award : Grand Award	Samsung Electronics
	Selected as the top three company in materials, parts and equipment in 2022	Ministry of Trade, Industry and Energy
	2023 Best Partner Award in Samsung Electronics' Precursor sector	Samsung Electronics
	Korea Technology Awards : Grand Prize from the Minister of Trade, Industry and Energy	Ministry of Trade, Industry and Energy
	Best Partner Award for Samsung Display's security sector in 2023	Samsung Display
Tapex	12 th Korea Taxpayer Awards	Korea Taxpayers Association
	The Minister's Award in the "Outstanding Company in Materials, Components, and Equipment"	Ministry of Trade, Industry and Energy
	Top Exporter with \$50 million in Export	Korea International Trade Association

Local Business Sites

Company name	Business site	Address
Hansol Holdings	Headquarters	25/F, Pine Avenue Building B, 100 Eulji-ro, Jung-gu, Seoul, Republic of Korea
Hansol Paper	Headquarters	23 ~ 24/F, Pine Avenue Building B, 100 Eulji-ro, Jung-gu, Seoul, Republic of Korea
	Janghang Plant	149 Jangsan-ro, Janghang-eup, Seoecheon-gun, Chungcheongnam-do, Republic of Korea
	Daejeon Plant	Daejeon Plant 50 Sinilseo-ro 68 beon-gil, Daedeok-gu, Daejeon, Republic of Korea
	Cheonan Plant	4186 Sejong-ro, Gwangdeok-myeon, Dongnam-gu, Cheonan-si, Chungcheongnam-do, Republic of Korea
	Sintanjin Plant	60 Sinilseo-ro 126 beon-gil, Daedeok-gu, Daejeon, Republic of Korea
	Environmental Business Headquarters	3/F, Ubiquitous Building, 68 Pangyo-ro 255 beon-gil (616 Sampyeong-dong), Bundang-gu, Seongnam, Gyeonggi-do, Republic of Korea
Hansol PaperTech	Headquarters	80 Daechi 7-gil, Daejeon-myeon, Damyang-gun, Jeollanam-do, Republic of Korea
Hansol PNS	Headquarters (Paper Distribution Division)	5/F, Ilheung Building, 213 Toegye-ro, Jung-gu, Seoul, Republic of Korea
	Headquarters (IT Service Division)	6F, NH Nonghyup Building, 570, Yangcheon-ro, Gangseo-gu, Seoul, Republic of Korea
	Chungmuro Center	Ground F, Family Building, 70, Toegye-ro 36ga-gil, Jung-gu, Seoul, Republic of Korea
	Paju Converting Center	108 Jikji-gil, Paju-si, Gyeonggi-do, Republic of Korea
	Paju Integration Center	96 Jikji-gil, Paju-si, Gyeonggi-do, Republic of Korea
Hansol HomeDeco	Headquarters	27/F, Jeonmun Geonseol Hoegwan, 15 Boramae 5-gil, Dongjak-gu, Seoul, Republic of Korea
	TI Business Division	15/F, Jaram Building, 78 Mapo-daero, Mapo-gu, Seoul, Republic of Korea
	Iksan Plant	54 Seogam-ro 17-gil, Iksan-si, Jeollabuk-do, Republic of Korea
Hansol Logistics	Headquarters	22/F, Pine Avenue Building B, 100 Eulji-ro, Jung-gu, Seoul, Republic of Korea
	Gunsan CY Center	Gunsan Station, 197 Naeheung 2-gil (Naeheungdong), Gunsan-si, Jeollabuk-do, Republic of Korea
	Gunsan Branch	Pier 5, Gunsan Port, 194 Seohae-ro (Soryongdong), Gunsan-si, Jeollabuk-do, Republic of Korea
	Daejeon Center	Hansol Paper Daejeon Plant, 50 Sinilseo-ro 68 beongil (Sinil-dong), Daedeok-gu, Daejeon, Republic of Korea
	Busan New Port Center	#202 Jian Square, 6 Hwajeonsandan 4-ro 30beon-gil, Gangseo-gu, Busan, Republic of Korea
	Sintanjin CY Center	Shintanjin CY, 24-3 Pyeongchon-dong, Daedeok-gu, Daejeon, Republic of Korea
	Sintanjin Center	Hansol Paper Shintanjin Plant, 60 Sinilseo-ro 126beon-gil (Sinil-dong), Daedeok-gu, Daejeon, Republic of Korea

Company name	Business site	Address
Hansol Logistics	Daejeon Depot	Hansol Depot in Hankook Tire, Moksang-dong 40, Daedeok-daero 1447beon-gil, Daedeok-gu, Daejeon, Republic of Korea
	Janghang Center	Hansol Paper Janghang Plant, 149 Jangsan-ro, Janghang-eup, Seoecheon-gun, Chungcheongnam-do, Republic of Korea
	Cheonan Center	Hansol Paper Cheonan Plant, 4186 Sejong-ro, Gwangdeok-myeon, Cheonan-si, Chungcheongnam-do, Republic of Korea
Hansol Technics	Headquarters	5/F, Pine Avenue Building B, 100 Eulji-ro, Jung-gu, Seoul, Republic of Korea
	Jincheon Plant	55 Hansam-ro, Deoksan-myeon, Jincheon-gun, Chungcheongbuk-do, Republic of Korea
	Ochang Plant	40 Gwahaksaneop 1-ro, Oksan-myeon, Heungdeokgu, Cheongju-si, Chungcheongbuk-do, Republic of Korea
	Suwon Research Center	#801, Building C, Digital Empire Building, 16, Deokyeong-daero 1556beon-gil, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea
Hansol IONES	Headquarters	2061 Anseong-daero, Gosam-myeon, Anseong-si, Gyeonggi-do, Republic of Korea
	Balan Campus	71-29, Balangongdan-ro 4-gil, Hyangnam-eup, Hwaseong-si, Gyeonggi-do, Republic of Korea
	Dongtan R&D Center	7, Dongtansandan 7-gil, Hwaseong-si, Gyeonggi-do, Republic of Korea
	Anseong 2 Plant	90, Gongdan 2-ro, Anseong-si, Gyeonggi-do, Republic of Korea
Hansol Inticube	Headquarters	13/F and 14/F, Nuritkum Square Business Tower, 396 Worldcupbuk-ro, Mapo-gu, Seoul, Republic of Korea
Hansol Chemical	Headquarters	7-8/F, K Tower, 513, Teheran-ro, Gangnam-gu, Seoul, Republic of Korea
	Jeonju Plant	873 Gwahang-ro, Bongdong-eup, Wanju-gun, Jeollabuk-do, Republic of Korea
	Ulsan Plant	116 Napdo-ro, Nam-gu, Ulsan, Republic of Korea
	Iksan Plant	1101, Oryong-ri, Samgi-myeon, Iksan-si, Jeollabukdo, Republic of Korea
Tapex	Headquarters	#812-813, 8th Floor, 17 Daehak4-ro, Yeongtong-gu (lui-dong), Ace Gwanggyo Tower 1-cha, Suwon, Gyeonggi-do, Republic of Korea
	Yanggam Plant	62-16 Chorok-ro 532beon-gil, Yanggam-myeon, Hwaseong-si, Gyeonggi-do, Republic of Korea
	Paltan Plant	95-4 Goju-ri, Paltan-myeon, Hwaseong-si, Gyeonggi-do, Republic of Korea
	Uniwrap Plant	108 Mannyeon-ro, Hyangnam-eup, Hwaseong-si, Gyeonggi-do, Republic of Korea
	Saemangeum Plant	San 38-3, Saemangeum National Industrial Complex, Osikdo-dong, Gunsan-si, Jeollabuk-do (to be completed in October 2023)

Association Memberships

Hansol Holdings

Korea Listed Companies Association
Korea Investor Relations Service
The Korea Employers Federation

Hansol Paper

Korean Federation of Design Industry Associations
Korean Standards Association
Korea Personnel Improvement Association
Korea International Trade Association
Korea Electric Engineers Association
The Institute of Internal Auditors
Seoul Chamber of Commerce and Industry
Daedeok Association
Korea Fire Safety Institute
Korea Chemicals Management Association
Korea Industrial Technology Association
Korea Industrial Safety Association
Korea Listed Companies Association
The Korea Employers Federation
Daejeon Chungnam Environmental Preservation Association
Korea Paper Association
Korea Energy Engineers Association
Fair Competition Federation
Daejeon Sejong Chungnam Environmental Engineers Association
Korea Society of Packing Science & Technology
Korea Exchange
Korea Investor Relations Service
Korea Resources Circulation Industry Promotion Association (GR Association)
Korean Standards Association
Korea Package Design Association
Korea Chamber of Commerce and Industry (Associate Member)
Federation of Korean Industries
Construction Association of Korea
International Contractors Association of Korea
Korea Construction Engineers Association
Korea Engineering and Consulting Association
Korea Electrical Contractors Association
Korea Fire Facility Association
Korea Electric Engineers Association
Korea Fire Safety Institute
Korea Specialty Contractors Association
The Seongnam Chamber of Commerce and Industry

Hansol PaperTech

Korea Paper Industry Cooperative
Korea Fire Safety Institute
Gwangju Jeonnam Jeju Area PSM Council
Korea International Trade Association
Korea Paper Resource Association

Hansol PNS

Korea Software Industry Association
Korea International Trade Association
Korean Information & Communication Contractors Association
Korea Listed Companies Association

Hansol HomeDeco

Korea Industrial Safety Association
Korean Industrial Health Association
Korean Standards Association
Korea Electric Engineers Association
Jeonbuk Environmental Managers Council
Jeonbuk Branch of Korea Safety Association
Hansol Honam Council
Hansol Safety and Health Council
Korea Specialty Contractors Association
Seoul Metropolitan City Council
Korea Wood Panel Association
Korea Exchange Seoul Office
Iksan Business Environment Council
Iksan Regional Safety and Health Council
Korea Energy Engineers Association
Jeonbuk Environmental Preservation Association
Korea Waste Recycling Association
Jeonbuk Regional Chemical Plant Council
Hazardous Goods Fire Safety Council
Korea Exchange
Korea International Trade Association
Korea Listed Companies Association
Korea Franchise Association
Korea Fire Safety Association
Hansol Group Seoul Council
The Korean Society of Wood Science and Technology
Korea Proptech Forum
Korea Resources Circulation Industry Promotion Association
UN Global Compact Network Korea
Korea Radioisotope Association
Korea Remodeling Association

Hansol Logistics

Korea Trucking Association
Korea Freight Forwarders Association
Korea Railroad Logistics Association
Korea Customs Logistics Association
Korea International Logistics Association
Korea International Trade Association
International Air Transport Association (IATA)
Korea Port Logistics Association
AEO Promotion Association
Korea Chamber of Commerce and Industry
Korea Listed Companies Association

Hansol Technics

Korean Industrial Health Association
Korea Industrial Safety Association
Environmental Preservation Association
Korea Fire Safety Institute
Korean Nurses Association
Korea Photovoltaic Industry Association
Chungbuk Environmental Engineers Association
Chungbuk Sejong Environmental Preservation Association
Korea Personnel Improvement Association

Hansol IONES

Environmental Preservation Association
Fire Safety Institute
Anseong Managers Association
Korea International Trade Association
Korea World Class Enterprise Association
Anseong Chamber of Commerce
KOSDAQ Listed Companies Association

Hansol Inticube

Information & Communication Contractors Association
Korea Software Financial Cooperative
Korea International Trade Association
KOSDAQ Listed Companies Association
Korea Artificial Intelligence Association
Seoul Chamber of Commerce and Industry

Hansol Chemical

Korea Chamber of Commerce and Industry
Korea International Trade Association
International Semiconductor Equipment and Materials Association
Korea Industrial Safety Association
Korea Fire Safety Association
Ulsan Environmental Engineers Association
Korea Energy Engineers Association
Jeonbuk Environmental Engineers Association
Wanju Environmental Engineers Association
Jeonbuk Chemical Plant Council
Jeonju Wanju Industrial Complex Fire Council
Jeonju Industrial Complex Safety and Health Managers Council
Jeonbuk Green Business Council
Jeonbuk Business Environment Council

Tapex

Korea Listed Companies Association
Hwaseong Chamber of Commerce and Industry
Suwon Chamber of Commerce & Industry
Korea International Trade Association
Korea Vinyl Environmental Council
Korea Industrial Technology Association
Korea Adhesive Industry Association
The Society of Adhesion and Interface
Korea Fire Safety Association
Korea Industrial Safety Association
Korea Electric Engineers Association
Korea Energy Engineers Association
Korea Construction Engineers Association
Korea Mechanical Construction Contractors Association
Gunsan Business Environmental Association
Gunsan Firefighting Association
Gunsan Regional Safety and Health Management Association
Jeonbuk Environmental Engineers Association



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