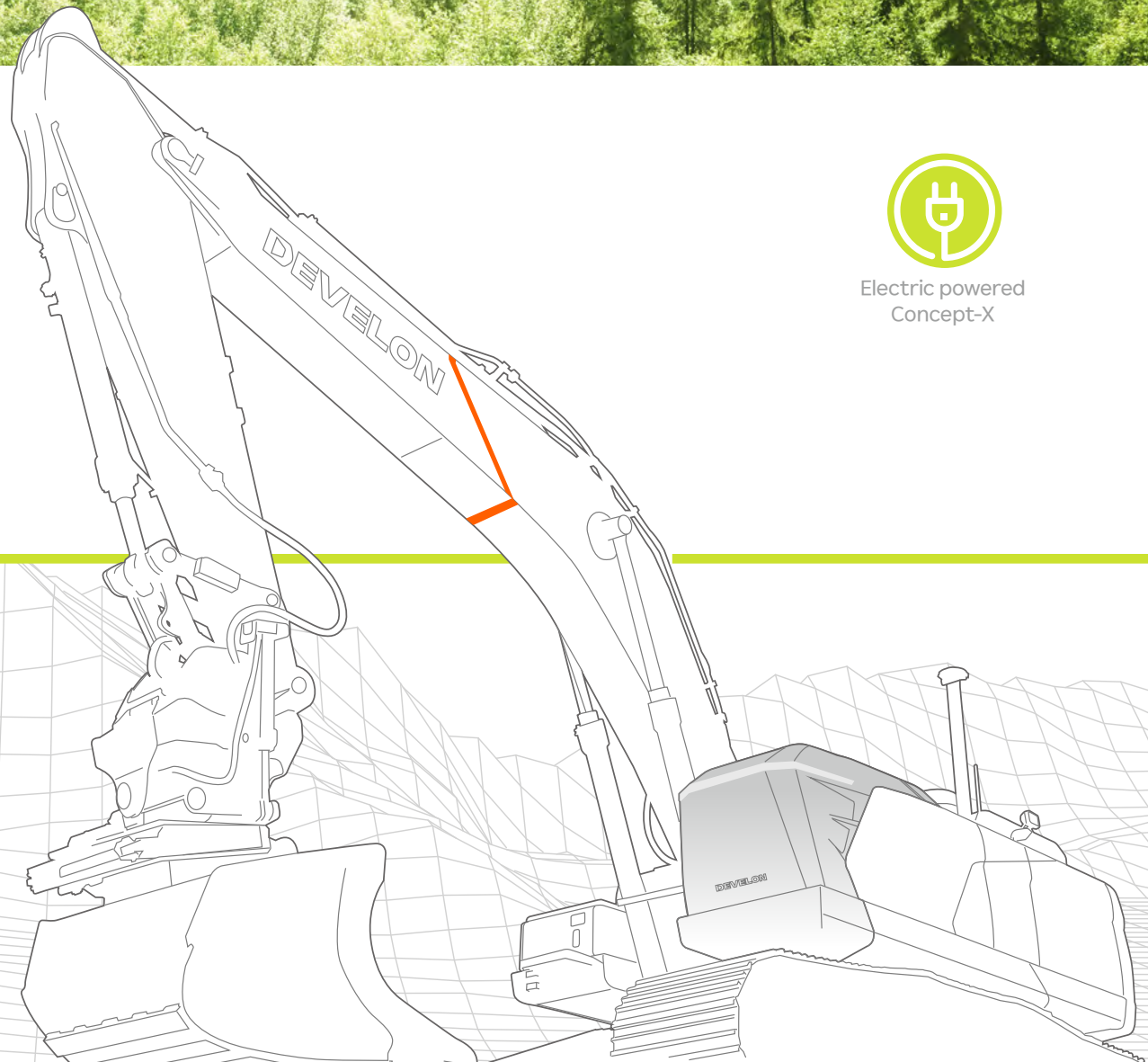


DEVELON

Powered by Innovation



Electric powered
Concept-X





Powered by Innovation

ABOUT THIS REPORT

About This Report

Hyundai Doosan Infracore strives to establish the ESG (Environmental, Social, Governance) management corporate-wide. As part of the effort, we publish this integrated report to disclose our financial and non-financial performance results and to allow our stakeholders to understand how we deliver corporate value. This report focuses on key topics identified from double materiality assessments to provide stakeholders with practical information.

Reporting Principle

This report was prepared in compliance with the GRI (Global Reporting Initiative) Standards 2021, an international reporting framework for sustainable management, as well as the recommended disclosure guidelines by TCFD (Task Force on Climate-related Financial Disclosures) for disclosing climate-related information. Furthermore, we have reported based on the SASB (Sustainability Accounting Standards Board) standards to reflect important issues in different industry. The financial information included in the report has been prepared in accordance with the Korean International Financial Reporting Standards (K-IFRS), and the unit currency is the Korean Won (₩).

Reporting Period

This report highlights the company's activities during the 2022 calendar year. However, some qualitative activities include developments recorded until the end of May 2023.

Reporting Scope

This report mainly covers the activities and outcomes made by the company's worksites in Korea. Some qualitative and quantitative data, however, were taken from the company's global worksites. Such global quantitative data herein are marked with the worksite names in the 'ESG Facts Sheets'.

Reporting Cycle

Annual basis (this report published in June 2023)

Independent Assurance

This report has been assured by RSM Shinhan Accounting Corporation, an independent assurance service provider, to ensure data quality, the propriety and integrity of the reporting processes as well as the accuracy and credibility of its contents. The Independent Assurance Report is attached in the Appendix section.

DISCLAIMER

This report contains details of some future activities, events and situations based on the company's plans and estimations of future financial outcomes, which may turn out to be inaccurate in the event of changes in the global business landscape. The plans and estimations draw upon the best information available at the time of completion of this report, with due consideration given to future business environments as well as the company's elaborate business strategies. HD Hyundai Infracore, therefore, would like to remind its stakeholders that this report contains some predictions that may be affected significantly due to the risks, uncertainties and other factors involved in the company's global operations.

Contact Us

ESG/SharedGrowth Team, HD Hyundai Infracore
E-mail: HD.Hyundai.Infracore.esg@hyundai-di.com
Website : <https://www.hd-infracore.com/en>

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Interactive Guide

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CEO Message



CEO, HD HYUNDAI INFRACORE
Young Cheul Cho

Dear our valued shareholders and stakeholders,

I sincerely thank all of you for the unwavering encouragement and support for HD Hyundai Infracore.

HD Hyundai Infracore became part of HD Hyundai in 2021. We are enhancing our competitiveness through synergies in the construction machinery sector, thus and creating solid growth even in a rapidly changing global business environment.

HD Hyundai's vision for Construction Machinery Sector is 'Global Top 5 in 2025'. To that end, HD Hyundai Infracore launched a new brand and changed its name this year. Also, by developing a variety of next-generation technologies and strengthening its product lineup, we are taking one step at a time to grow into the world's top-tier company.

Unveiling 'DEVELON'

The new brand 'DEVELON' reflects our commitment to moving forward through constant innovation and changing the world with world-class products and solutions. Under the name of DEVELON, we will present innovative products and services to our customers such as electrification, eco-friendly, and unmanned technology, and leap forward as a smart construction solution company. DEVELON promises to rise into a true market leader in the construction machinery industry.

Innovative Products, Technology and Integrated Solutions

As we are faced with increasingly stringent emissions regulations and accelerated carbon neutrality around the world, we will turn the crisis into opportunity to deliver eco-friendly products of the highest level of fuel efficiency and electrification technology. This year, HD Hyundai Global R&D Center has incorporated the construction machinery sector. We will further accelerate the pace of technology development, including integrated platform model development and the application of component commonization, to maximize synergies.



Response to Climate Change and Sustainable Growth

We aim to make our worksites carbon-neutral by 2050. To that end, we manage carbon emission from worksites and take proactive measures against climate change to help create a carbon-free world. The products HD Hyundai Infracore invests in such as eco-friendly electrification products and automation make our world a better place, ensuring the living conditions are passed on to the next generation.

In addition to the environmental front, we are creating a better world through sustainable growth through advanced supply chain diagnosis system and safety and health management.

Establishing ESG Management Culture

We created the ESG Committee under the BOD, the premier decision-making body. The ESG Management Committee, meanwhile, ensures that the execution capabilities are secured for each of the ESG strategic tasks. We make sure that all employees fully appreciate the ESG management and maintain the higher standards. We promise to engage with all stakeholders and create a management culture where customers, suppliers, and local communities are all brought together, ensuring that our ESG activities are not confined to internal campaigns.

A company can be sustainable when it builds deep trust with its stakeholders, including customers, shareholders, partners, and employees. We will strive to enhance shareholder value as a trusted company by improving competitiveness in products and quality, as well as strengthening transparency and continuous interaction.



CEO, HD HYUNDAI INFRACORE

Seung Hyun Oh

Seunghyun Oh



Company Overview

Introduction of Construction Machinery Sector of HD Hyundai

HD Hyundai XiteSolution, an intermediate holding company in the construction machinery sector of HD Hyundai, was newly launched in 2021 for industrial vehicles and hydraulic parts business. We at HD Hyundai Construction Equipment and HD Hyundai Infracore will create synergies in procurement, R&D, and core parts (engines and hydraulic parts) to deliver the vision of 'Global Top 5 in 2025'. As the global construction equipment-specialized business, HD Hyundai Construction Equipment and HD Hyundai Infracore continue to strengthen proprietary brand while supplying equipment, different parts, and utility equipment to construction sites.

HD Hyundai Vision

MISSION

Pioneering innovation and relentless challenge to shape the future of humanity



Core Values




 <p>World-changing Innovation</p> <ul style="list-style-type: none"> Transform how we work with creative thinking. Lead industry innovation with future technology. 	 <p>Fearless Challenge</p> <ul style="list-style-type: none"> Keep pushing the envelope to create new value. Embrace failure to create a culture of fearless challenge. 	 <p>Mutual Respect</p> <ul style="list-style-type: none"> Respect diversity and seek open communication. Respect and support employee growth. Build a better world by fulfilling social responsibilities. 	 <p>Safety for All</p> <ul style="list-style-type: none"> Pursuing the highest safety standards for ourselves. Promoting the safety of our customers, society, and the world with safe products and services.
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Share Structure of HD Hyundai Construction Machinery Sector



Roles of HD Hyundai XiteSolution

Each business company operates independently. We will secure global competitiveness by maximizing synergies in our core business of construction machinery.

 <p>Enhance Synergies based on Integrated Volume</p> <ul style="list-style-type: none"> Secure economies of scale through integrated purchasing Secure cost competitiveness based on parts commonization Process and system sophistication <p>↓</p> <p>Achieve volume-based economies of scale of both companies to enable a robust cost structure that can withstand market downturns and increased competition</p>	 <p>Develop New Integrated Model and Internalize Core Parts</p> <ul style="list-style-type: none"> Increase product competitiveness by applying advantageous technologies Reduce investment by co-developing new models In-house developed engine of both companies, interaction of hydraulic equipment <p>↓</p> <p>Maximize customer satisfaction by supplying competitive products based on internalization of engines and core functional products (cylinders, hydraulic motors, MCVs)</p>	 <p>Develop New Future Technology</p> <ul style="list-style-type: none"> Develop smart products and solutions Eco-friendly response by developing electrification technology <p>↓</p> <p>Generate new business and increase profitability by delivering total solutions</p>
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Introduction of HD Hyundai Infracore

HD Hyundai Infracore, established in 1937, has built a dominant position in various business fields such as construction machinery, engines, various attachments, and utility equipment through continuous growth, making it the top machinery company in Korea. In 2021, the company was incorporated into the Construction Machinery Sector of HD Hyundai and, in 2023, renamed into HD Hyundai Infracore. Key business groups are divided into construction machinery and engines. HD Hyundai Infracore's construction machinery business has a product line-up that ranges from excavator and wheel loader to articulated dump truck, and established production and sales bases as well as distribution network across the globe, positioning itself as a global construction equipment company. The engine business is strengthened by offering a full line-up of high-quality and high-specification engines that meet various environmental regulations. It provides a total solution.

Company overview (Based on statements of affairs, March 2023)

Company Name	HD Hyundai Infracore Co., Ltd.
Year Founded	1937
CEO	Young Cheul Cho, Seung Hyun Oh
Main Business Areas	Construction machinery-engine production and sales
HQ Address	489 Injung-ro, Dong-gu, Incheon



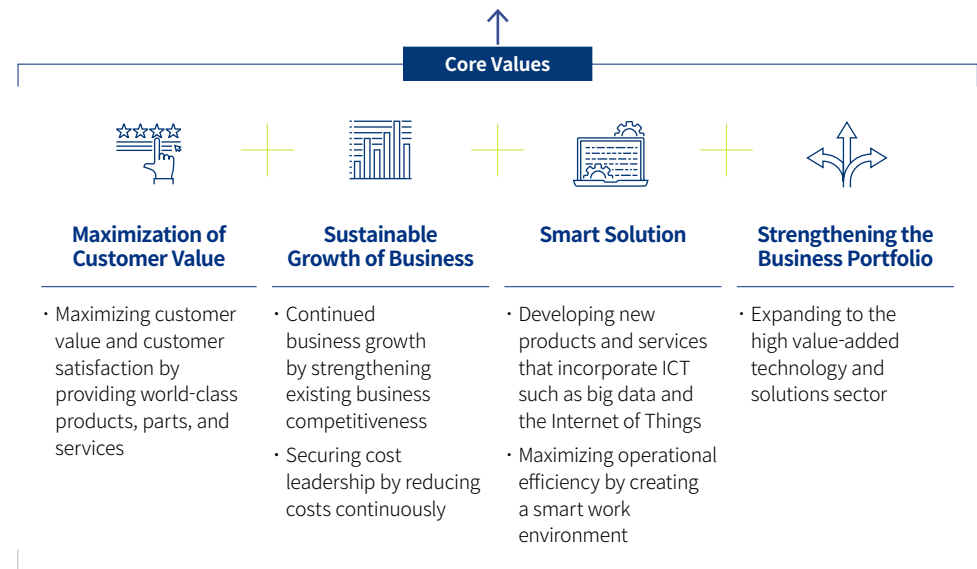
HD Hyundai Infracore's Management Philosophy and Vision

HD Hyundai Infracore has established a management vision for all employees to share and practice in order to fulfill its corporate social responsibility and role.

MISSION

Global Leader in Infrastructure Solutions

We are leaping ahead as a total solutions provider that offers our customers better value and greater convenience, as well as products of the highest quality, and as a global leader in the infrastructure solution industry, by expanding our lines of business continuously.



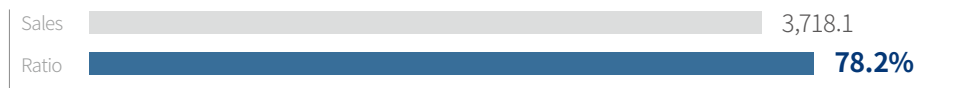


Product Introduction

Construction Equipment

HD Hyundai Infracore’s construction equipment business lineup ranges from excavators and wheel loaders to articulated dump trucks. HD Hyundai Infracore has established ourselves as a leading global construction equipment manufacturer both in name and reality by securing production, sales, and distribution channels all over the world.

Sales by segment (Unit: billion KRW, %)



Engine

HD Hyundai Infracore is rapidly on our way to becoming the global top engine Maker by providing a full lineup of high-quality, high-specification engines and total solutions that satisfy the increasingly stringent global environmental regulations.

Sales by segment (Unit: billion KRW, %)



Construction Equipment



Excavators: Superior power and best performance with reliance



Wheel Loaders: Excellent capability that stands out in tougher conditions



Articulated Dump Trucks: Stability and power complete with original technology



Special Applications: A customized solution optimized for various working environments

Engine



Generator Engines: The heart of electricity that lights the entire world



Industrial Engines: The best power solution for various kinds of industrial equipment including agriculture and construction machinery



Automotive Engines: Technical skills that protect the environment and boast of the highest performance and efficiency



Marine Engines: 60 years' history, proven quality in the global market



DEVELON

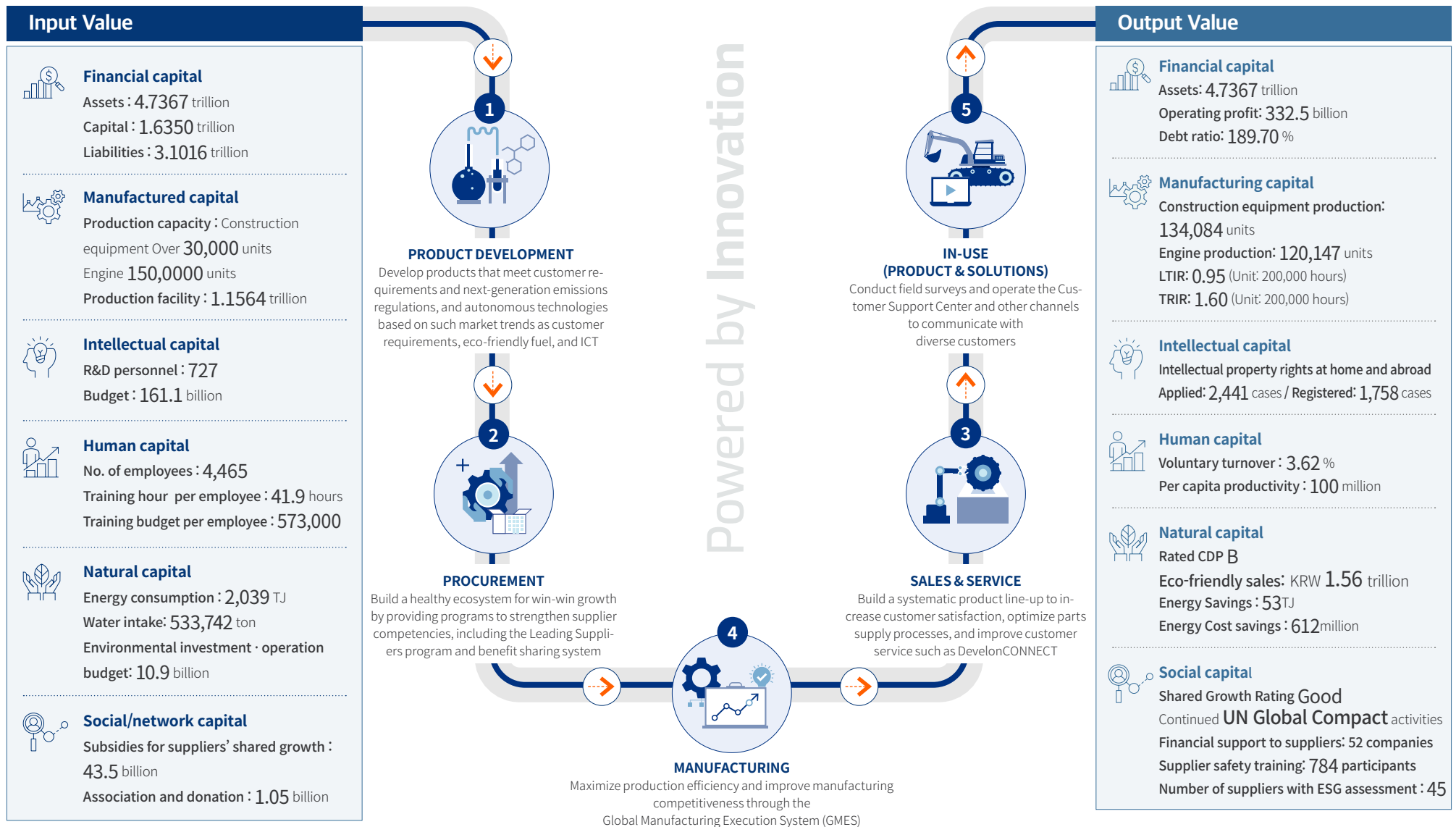
We are Develon

A bold name to welcome a new era for our business that encapsulates our core ambition to continue developing onwards and leaving behind a positive footprint in our world.



Business Models

HD Hyundai Infracore divides capital input into six categories to help stakeholders better understand both tangible and intangible values created by business activities and explained how the six forms of capital lead to value creation after they have gone through the 5-step value chain. The 6 forms of capital are: financial capital, manufactured capital, intellectual capital, human capital, natural capital, and social/network capital.





OUR GOVERNANCE & STRATEGY



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ESG Governance

ESG Committee

HD Hyundai Infracore pursues sustainability management to create value and share it with stakeholders. The ESG Committee was formed under the BOD consisting of one inside director and three outside directors. The ESG Committee serves as a top decision-making body on matters related to ESG implementation, deliberations of ESG disclosures, and ESG strategy and tactics, ensuring that HD Hyundai Infracore fulfills its social responsibility.

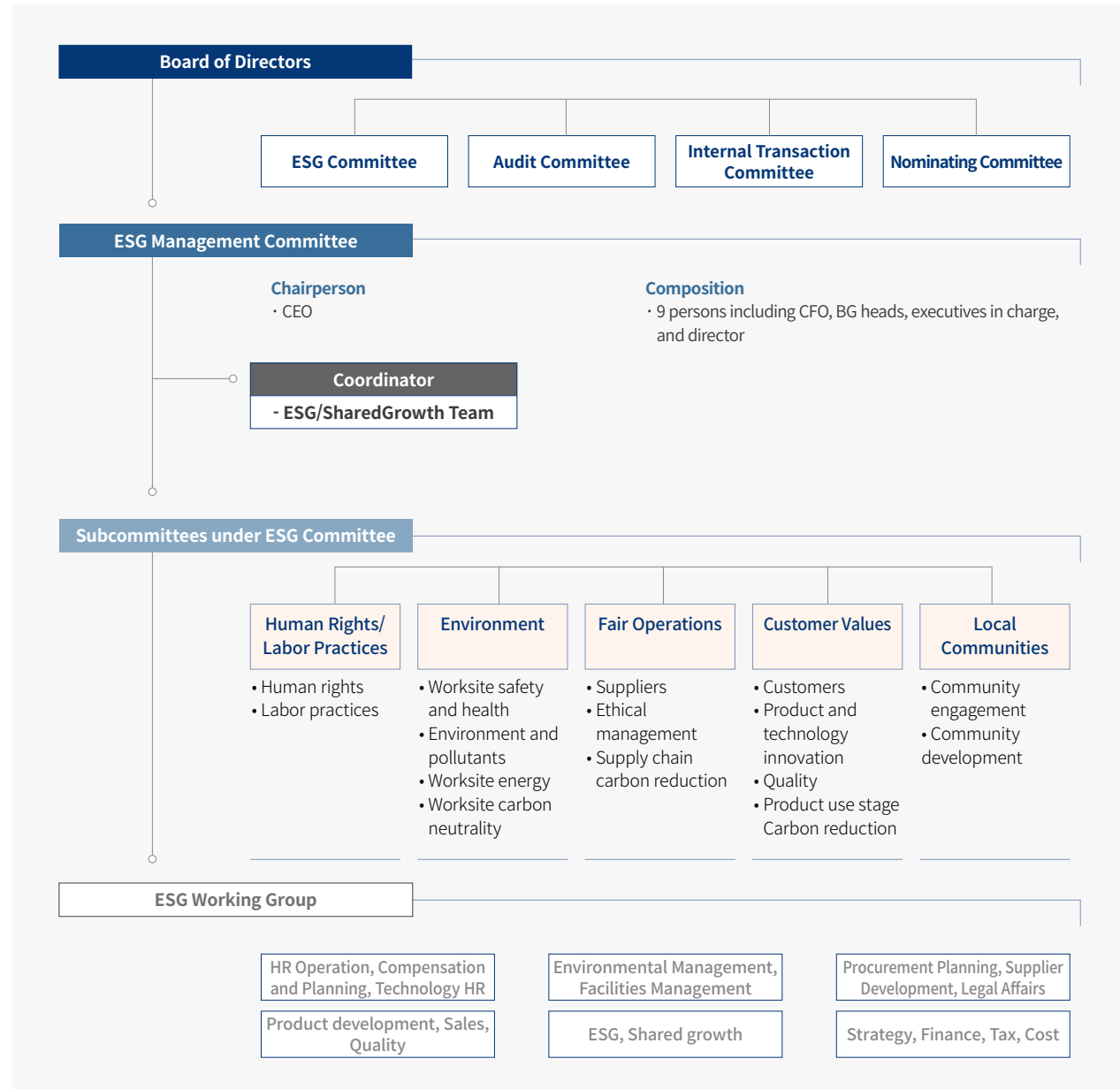
ESG Management Committee

HD Hyundai Infracore operates the ESG Management Committee. The ESG Management Committee is convened three times a year under the supervision of the CEO, with participation by five subcommittees - human rights/labor practices, environment, fair operations, customer values, local communities. The Committee chooses major ESG issues based on the company's materiality analysis, reviews relevant company opportunities and risks, and selects and monitors ESG strategic tasks.

ESG Working Group

Once the ESG Management Committee identifies ESG strategic tasks and makes decisions on matters related to operation and process, the Working Group which consists of working group draws up specific action plans.

ESG Decision-making structure

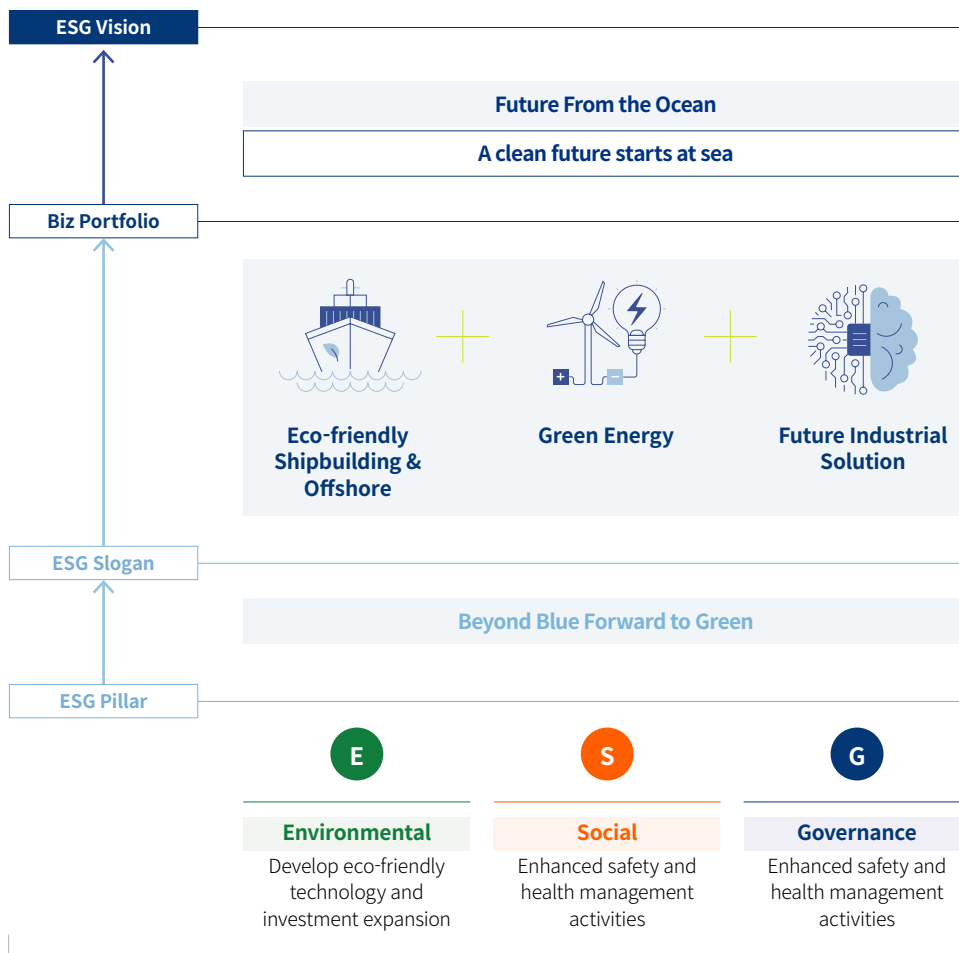




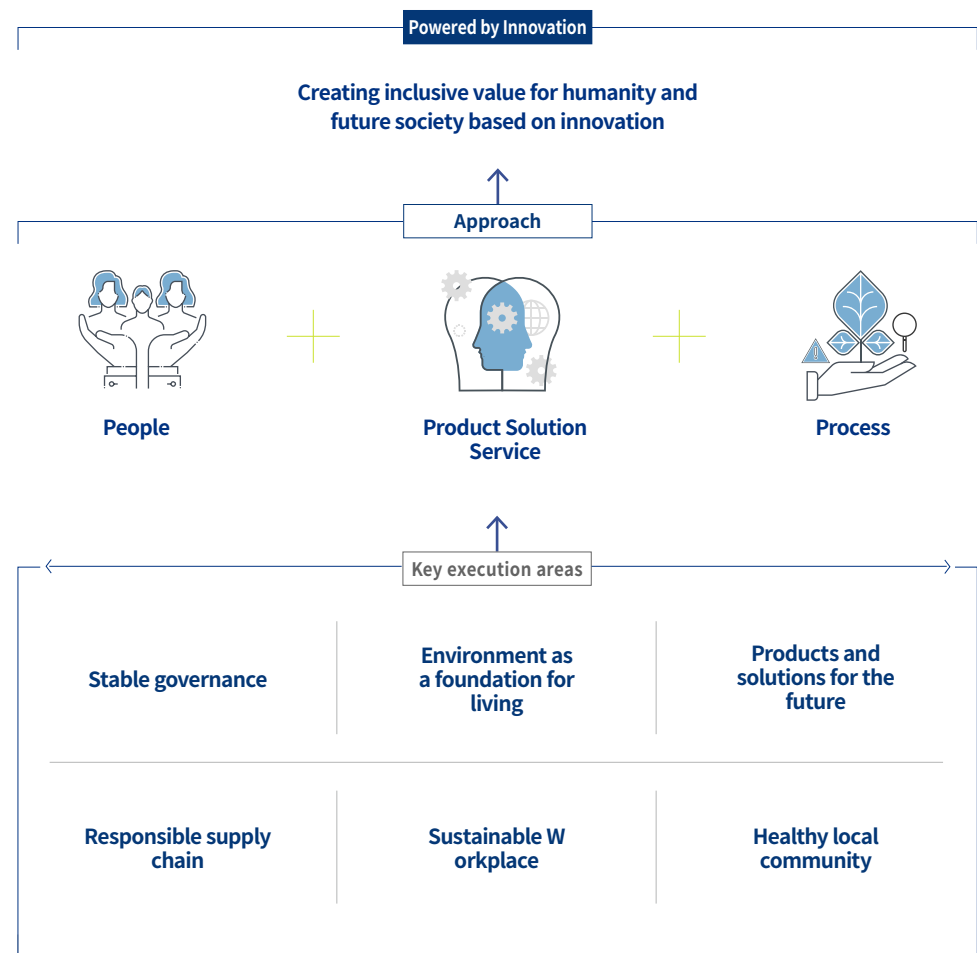
ESG Strategic Structure

Based on the HD Hyundai's ESG vision, HD Hyundai Infracore has selected its ESG strategy and six key execution areas. We also drew up the ESG implementation tasks aligned with the key execution areas, materiality analysis, and external ESG evaluation. We will disclose the results of 14 key indicators by 2025 based on the Sustainable Value Framework developed according to the 2019 strategies.

HD Hyundai's ESG Vision



HD Hyundai Infracore's ESG Strategy





ESG Strategic Tasks

HD Hyundai Infracore’s ESG Management Committee draws up the ESG strategic tasks by compiling materiality assessment, external ESG assessment results, and the company-wide ESG diagnosis on a yearly basis. The results of the ESG plan implementation are reported to the ESG Committee. The tasks that were finalized at the first ESG Management Committee in 2022 were 11 tasks, results of which have been reported. We will also strengthen external stakeholder communication by implementing carbon neutrality by 2050 and disclosing eco-friendly product Impact Valuation information, conducting supplier ESG assessment and ESG management support activities, and further reviewing global initiatives.

ESG Strategic Tasks by Year

Classification	2021년	2022년	2023년
1 ESG Governance / Local communities	- Establish a company-wide climate response system	- Issue long-term financing ESG bonds using eco-friendly projects	- Contribution to local communities and operation of eco-conservation activities - Establish privacy protection system and minimize company-wide security risks
2 Human Rights/Labor	- Establish management system and strengthen a monitoring system to promote human rights: Continue to offer human rights education - Develop employee survey on corporate culture	- Conduct a human rights impact assessment - Receive certification as a family friendly-certified company	- Advance human rights impact assessments - Enhance employees’ satisfaction with working environment
3 Environment	- Upgrade indices for carbon emissions and resource management	- Conduct a pilot project to achieve RE100 - Achieve worksite carbon neutrality by 2050	- Source renewable energy through in-house solar power generation - Improve energy consumption intensity at worksites
4 Fair Operations	- Help Leading Suppliers bolster their competitiveness by building smart factories (continued)	- Help Leading Suppliers bolster their competitiveness by building smart factories (continued)	- Establish and implement the EGS analysis system on suppliers - Reinforce supplier competitiveness through smart factory MES setup(continued)
5 Customer Value	- Focus on decarbonization and develop alternative fuel products(continued) - Develop the 48V mild hybrid powertrain - Manage the compliance with REACH and RoHS - Stabilize quality of new products that meet the Stage V Emission Standard	- Focus on decarbonization and develop alternative fuel products(continued) - Secure new electrification technologies - Develop future power equipment_Hybrid powertrain - Develop future power equipment_ePowerpack - Manage clean technology tasks	- Low-carbon and expansion of alternative fuel (continued) - Secure new electrification technology and product development(continued) - Develop future power equipment_Hybrid powertrain, hydrogen consumption engine - Develop future power equipment_e-Powerpack(continued)

2022 Key ESG outcomes

13 consecutive years
Listed in the Dow Jones
Sustainability Indices

Member of
Dow Jones
Sustainability Indices
Powered by the S&P Global CS4

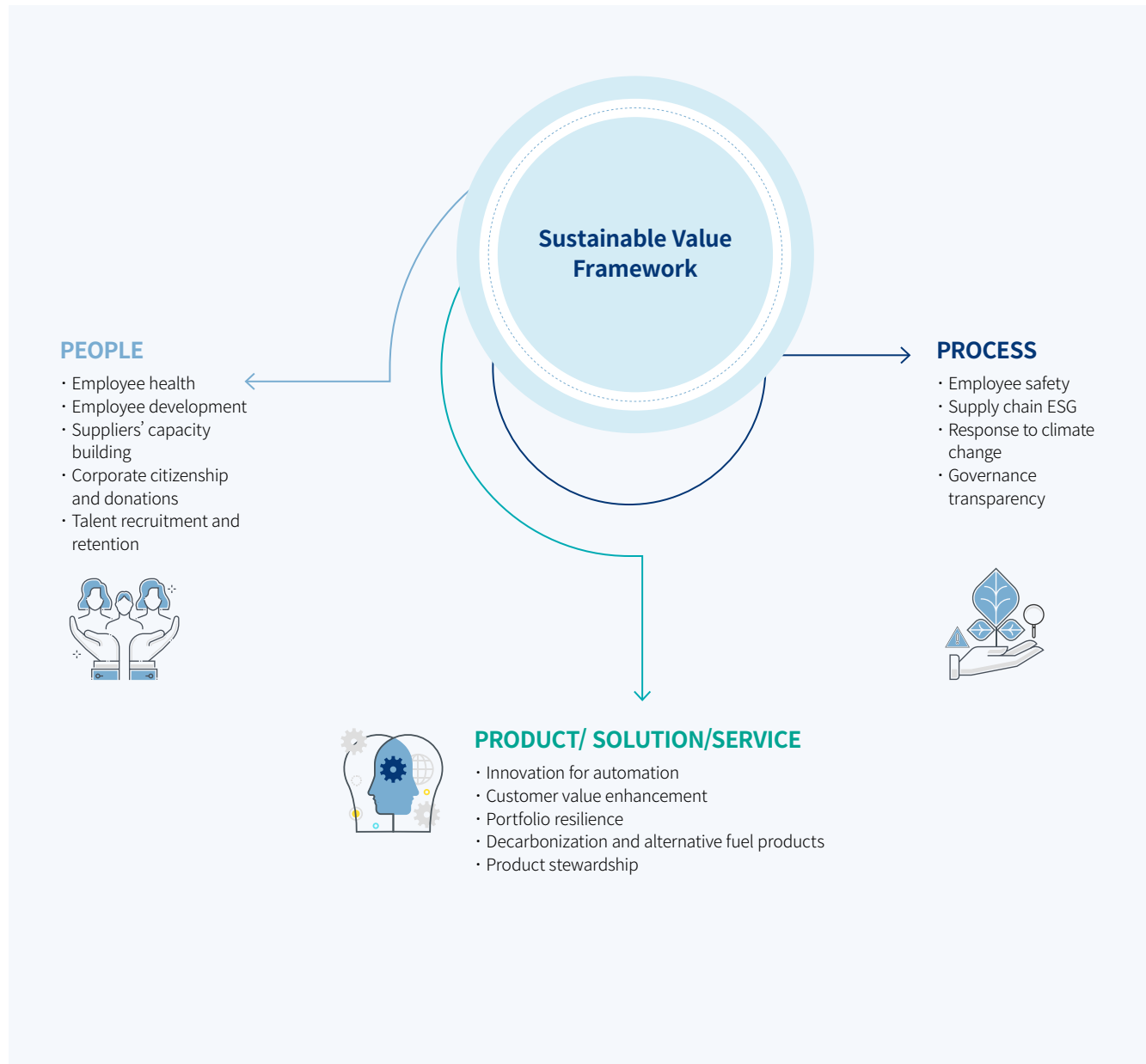




Sustainable Value Framework














HD Hyundai Infracore has selected three key Sustainable Value Frameworks¹⁾ ‘People’, Activities that provide sound environment, technology, and capability to stakeholders; ‘Product/Solution/Service’, Activities that innovate products, solutions and services for sustainable growth; and ‘Process’, Activities that increase positive impacts within the value chain for sustainable development. We manage mid- to long-term ESG goals and growth direction by integrating financial and non-financial performance around the 14 indices of those Sustainable Value Frameworks. Believing that the integrated management of mid- to long-term financial and non-financial performance will contribute to the basis of sustainable growth, HD Hyundai Infracore will continue to disclose such performance results through 2025.

1) The framework consisting of three areas and 14 indices to manage financial and non-financial performance through major external indices, including SASB, MSCI ESG Ratings, and S&P Global CSA, and the values of HD Hyundai Infracore and the UN SDGs(Sustainable Development Goals), results of materiality analysis, and participation by relevant internal departments.





Sustainable Value Roadmap

Topic	2025 Key Target	Strategy	Performance in 2022	KPI	Link to SDGs
PEOPLE Activities that provide sound environment, technology, and capability to stakeholders 	0.13 OIFR (Down 54% form 2022) 80 Companies Building smart factory MES to strengthen competitiveness of suppliers (27 more companies than in 2022)	Employee health Prevention of occupational diseases through the operation of noise reduction processes and improvements in musculoskeletal disorders.	0.285	OIFR(unit: %)	 
		Suppliers' capacity building Providing training and consulting for supplier competency development	53	Fostering Leading Suppliers and smart factory MES setup (unit : company)	
		Employee development	41.9	Annual training hours per employee (unit: hour)	
			573	Annual training expenses per employee (unit: 1,000)	
		Corporate citizenship and donations	10.5	Donations (unit: 100 million)	
			0.02	Donations per sales (unit: %)	
PRODUCT / SOLUTION / SERVICE Activities that innovate products, solutions, and services for sustainable growth 	4,322,400 hours Expanding customer of Smart Maintenance (Increase by 33.6% compared to 2022) Low Carbon and Alternative Fuels Product Expansion	Customer value enhancement Increase the customer base of the Smart Maintenance service, helping customers efficiently and stably use equipment	3,236,503	Smart Maintenance Managed Hours (unit: hour)	 
		Developing low-carbon and alternative fuel products Help mitigate climate change by securing carbon-reducing technologies and products	20.9	Ratio of fuel efficiency improvement construction equipment (unit: %)	
		Innovation for automation	5.5	Ratio of automation technology development for company-wide research tasks (unit: %)	
		Product stewardship	131	Sales of remanufactured parts (unit: 100million)	
PROCESS Activities that increase positive impacts within the value chain for sustainable development 	0.54 LTIR target (Down 43% from 2022) 100,745 tCO ₂ eq GHG emissions in production process	Employee safety Promote employee safety through active accident management culture	0.95	LTIR (Unit: 200,000 hour)	 
		Response to climate change Make worksites carbon-neutral by 2050 by reducing carbon	104,268	Carbon emissions in the production (Unit: tCO ₂ eq)	 
		Supply chain ESG	45	No. of companies subject to supplier ESG evaluation (Unit: company)	
Governance transparency	60	Ratio of outside directors and BOD (Unit: %)			
	100	Attendance rate (Unit: %)			



2030 Environmental Goals



Climate Action

To be carbon neutral by 2050, we will reduce our GHG emissions by 50% by 2030 compared to 2020, and continue to reduce our energy use, saving a cumulative 7,041 TJ of energy by 2030. Our 2022 scope1,2 emissions target is 104,655 tCO₂eq.

	2030 Goal	2023 Target	2022 Achievement	Goal Progress
GHG emissions	50% reduction (as of 2020)	104,062 tonCO ₂ eq	104,296 tonCO ₂ eq	
Cumulative energy savings	7,041 TJ achieved	601 TJ	921 TJ	



Water Stewardship

Recognizing the importance of water resources, we are committed to reducing 2,033 thousand tons of cumulative water use reduction by 2030.

	2030 Goal
Cumulative water use savings	2,033,000 ton achieved
Goal Progress	
2023 Target : 173,493 ton	
2022 Achievement : 324,683 ton	



Sustainable Consumption & Production

95% resource recycling rate for sustainable consumption and production, maintaining current levels and reducing resource use to achieve a cumulative resource reduction of 116,296 tons by 2030.

	2030 Goal	2023 Target	2022 Achievement	Goal Progress
Resource recycling rate	95% maintain	95.00%	97.06%	
Cumulative resource savings	116,296 ton achieved	9,924 ton	18,662 ton	



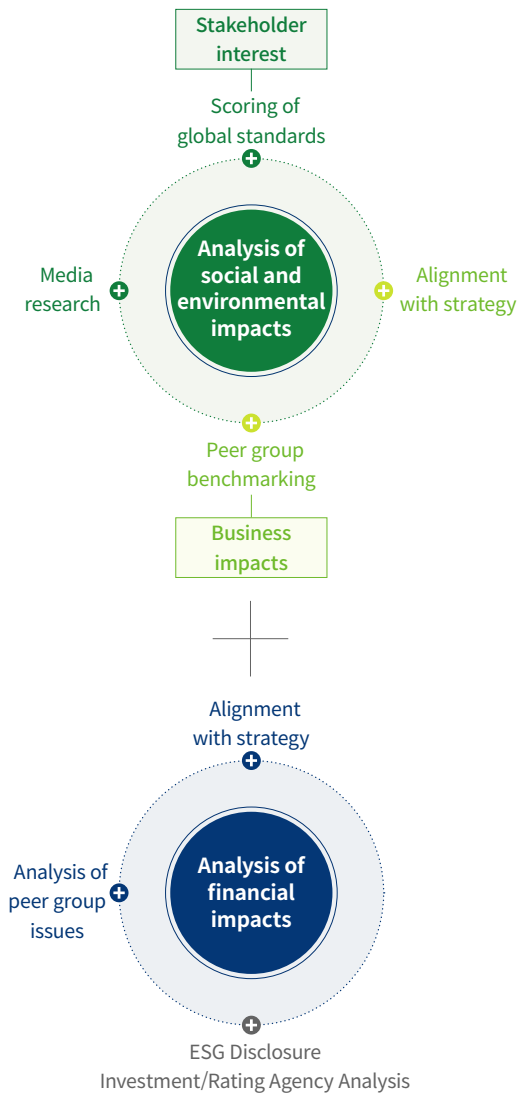
Circular Economy

We have set a goal of achieving 100% of Environmental Management System Certification by 2030.

	2030 Goal
Environmental Management System Certifications (including Global)	100% ton achievement
Goal Progress	
2023 Target : 70%	
2022 Achievement : 83%	



Double Materiality Assessment



Double Materiality Assessment Process

HD Hyundai Infracore implements a materiality analysis process every year to derive key issues by analyzing matters that stakeholders are interested in, matters that require improvement, and impact of corporate activities. To analyze the socio-environmental impact during the Double Materiality Assessment, we first identified issues exposed in the press and media in 2022, material issues of competitors, and the analysis results of various regulatory ESG standards. Then for the financial impact analysis, we examined the financial impact based on the analysis factors of key investment and rating agencies related to ESG information and HD Hyundai Infracore's internal strategy perspective. The results of the socio-environmental and financial impact analyses were combined to derive the overall results of the materiality assessment and the general priorities by issue.

Concept of Double Materiality

“Double materiality” is a concept that simultaneously considers social and environmental impact materiality as well as financial materiality. It considers a company’s impact on the economy, the environment, and humanity, as well as the impact that changes in diverse environments (business, social, environmental) have on a company’s value and finance. Key consideration was made for outward-oriented aspects for traditional sustainability management, CCI, and social responsibility-related guidelines. Meanwhile, as ESG garners attention, key consideration is made for internal-oriented aspects for financial-based standards, including SASB, MSCI, and the International Accounting Standards Board (IASB), that place importance on investment and evaluation. Through the double materiality assessment that considers these two aspects in an integrated way, a company can obtain a clear understanding of stakeholders’ concerns and expectations and improve business performance by reflecting the results on management strategies. At the same time, environmental and social values across business activities can be more closely reflected.

Double Materiality Analysis Process

Step. 1	Forming an issue pool	<ul style="list-style-type: none"> Identify ESG strategic issues based on key stakeholders, external factors (media, peers), business impact, and urgency
Step. 2	Analysis of social and environmental impacts	<ul style="list-style-type: none"> Analysis of business significance: Peer group benchmarking and alignment with corporate strategy Stakeholder materiality analysis: media analysis, national and international ESG-related criteria
Step. 3	Analysis of financial impacts	<ul style="list-style-type: none"> External financial impact materiality: Analyzing competitor issues and alignment with corporate strategy Internal financial impact materiality: Reflects the evaluation criteria of DJSI, MSCI, and SASB
Step. 4	Identification of key issues	<ul style="list-style-type: none"> Synthesize the results of social, environmental, and financial impact analyses to derive issue-specific priorities
Step. 5	Review and feedback	<ul style="list-style-type: none"> ESG Management Committee, comprised of executives, reviews prioritized issues and their linkages to business activities to finalize key issues and the and finalize the annual ESG strategy system Major issues are intensively discussed and managed by the ESG Management Committee throughout the year through ESG strategic tasks, etc. Other issues are managed on an ongoing basis by on-the-ground departments by monitoring peers, social changes, etc.



Derivation of Key Issues

HD Hyundai Infracore discloses key issues selected during Double Materiality Analysis in detail in the Integrated Report. We first select financial and environmental issues, sustainability management issues with higher priorities in terms of impact on stakeholders, and other issues we deem relevant. Those selected issues are intensively dealt with in the ESG Priorities. All other issues are systematically classified into Environmental, Social, and Governance categories in the ESG Factbook.

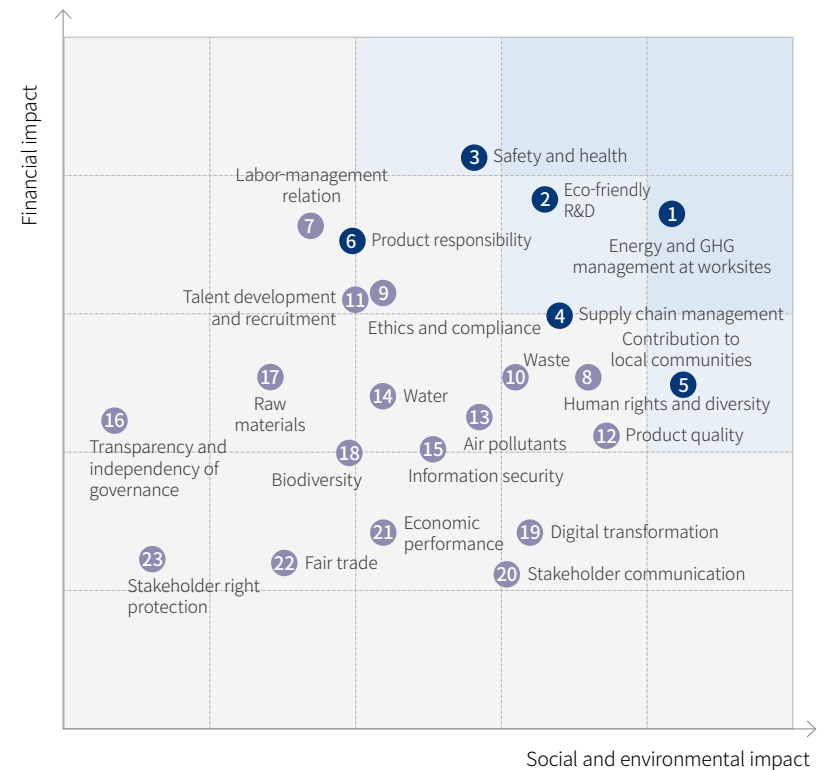
ESG Issue Pool

1	Energy and GHG management at worksites
2	Eco-friendly R&D
3	Safety and health
4	Supply chain management
5	Contribution to local communities
6	Product responsibility
7	Labor-management relation
8	Human rights and diversity
9	Ethics and compliance
10	Waste
11	Talent development and recruitment
12	Product quality
13	Air pollutants
14	Water
15	Information security
16	Transparency and independency of governance
17	Raw materials
18	Biodiversity
19	Digital transformation
20	Stakeholder communication
21	Economic performance
22	Fair trade
23	Stakeholder right protection



Identification of Core Issue	Description	2022 Results
GHG and energy management	Establishment of practical response strategies in preparation for Net Zero 2050	Reducing GHG intensity, Responding GHG emission trading program, operating the energy management council
Development of eco-friendly technologies and products	Product development strategy in response to taxonomy, regulations on internal combustion locomotives and exhaust gas	Hybrid powertrains, electric excavator, and hydrogen engine development, e-Powerpack, XiteCore launching
ESG in supply chain	Establishment of a sustainability system within the supply chain, such as diagnosis of suppliers' ESG activities	Implementation of ESG management support projects and shared growth programs in the supply chain
Quality and customer satisfaction	Quality control, active response to service demands, reflection of customer opinions, and creation of differentiated value for continuous customer value enhancement	Quality control using PTS ¹⁾ , enhancement of product portfolio, expansion of digital channel service and solution, and enhancement of dealer service and channel competency
Local communities	Support for shared growth with suppliers and co-prosperity with local communities	Operation of the Social Contribution Committee, activities for local ecology conservation and social contribution
Safety and health	Identify and eliminate occupational hazards based on a health and safety management system (ISO 45001)	Advancement of emergency response system, management of hazards at workplace, and establishment of safety culture

Double Materiality Analysis Result



1) Project Tracking System



Stakeholder Engagement

HD Hyundai Infracore values open engagement with various stakeholders. We carry out stakeholder engagement at different department levels based on transparent management activities and mutual trust. The opinions received are thoroughly reviewed and reflected in our sustainability policy. In addition, we raise the quantity and quality of information disclosed through the Sustainability Report and website to ensure transparency and accuracy in information.

Communication Channels and Responses for Stakeholders

Classification	Key interests	Communication Channels	Major Activities
<p>Shareholders & Investors</p>	<ul style="list-style-type: none"> • Profitability and a dividend policy • Enhancement of disclosures • Sound corporate governance • Business opportunity and risk management 	<ul style="list-style-type: none"> • Annual general meeting (AGM) • Disclosure materials • Investor relations (IR) information on the company website • Conferences • IR meetings 	<ul style="list-style-type: none"> • Share the company's mid- to long-term business directions • Make earnings announcements and provide IR materials • Hold analyst meetings
<p>Customers</p>	<ul style="list-style-type: none"> • Prompt customer complaint handling and feedback • Improvement of product quality, performance, safety, and convenience • Strict customer privacy protection • Enhancement of R&D investment and technological capabilities • Differentiated customer service • Development of eco-friendly and highly efficient products 	<ul style="list-style-type: none"> • Field surveys • Voice of Customers (VOCs) • Call centers • Joint workshops • Integrated customer management systems 	<ul style="list-style-type: none"> • Product presentation through exhibitions and dealer meetings • Tasks aiming for eco-friendly products • Incorporate VOCs into products through the New Product Development (NPD) process • Improve customers' information accessibility through digital marketing and the development of online platform (DevelonCONNECT) • Increase customer satisfaction through the Happy Call and dealer service training
<p>Employees</p>	<ul style="list-style-type: none"> • Fair evaluation and compensation • Education and competence development • Work-life balance • Positive labor relations • Active communication within the company 	<ul style="list-style-type: none"> • Labor-Management Council • Grievance handling system • Intranet • Dialogue with the executives 	<ul style="list-style-type: none"> • Human resources development based on the Functional Competency (FC) system • Publish a human rights risk prevention manual and provide education on human rights
<p>Suppliers</p>	<ul style="list-style-type: none"> • Share more information with suppliers • Expand support to improve suppliers' capabilities through financial, technology, education, environment, and ethical management • Strengthen fair trade 	<ul style="list-style-type: none"> • Supplier Council • Supplier education • Consulting, technical support for suppliers 	<ul style="list-style-type: none"> • Foster Leading Suppliers • Financial support for suppliers • Operate the Shared Growth Hotline • Share ESG Policy, guidelines with suppliers
<p>Local Communities</p>	<ul style="list-style-type: none"> • Eco-friendly products and production processes • Improve worksite and surrounding environments, and prevent pollution • Establish environmental management system • Communicate with local communities • Facilitate economic development of local communities 	<ul style="list-style-type: none"> • Meetings with residents • Workshops for working-level staff in charge of social contribution • Sisterhood relationship with island regions 	<ul style="list-style-type: none"> • Operate Dream School • Conduct CCI activities for local communities
<p>Central & Local Governments</p>	<ul style="list-style-type: none"> • Comply with laws and regulations • Public-private partnership 	<ul style="list-style-type: none"> • Participate in national projects • Operate joint programs 	<ul style="list-style-type: none"> • Regulatory monitoring and internal compliance • Suggest improvement measures through participation in related organizations' activities • Participate in the government's public policy projects
<p>Media</p>	<ul style="list-style-type: none"> • Prompt and accurate information sharing 	<ul style="list-style-type: none"> • Press releases • Press conferences • Regular meetings • Business site visits (field trips) 	<ul style="list-style-type: none"> • Issue press releases in a timely manner • Press reporters' news coverage • Find feature items and provide them to the media



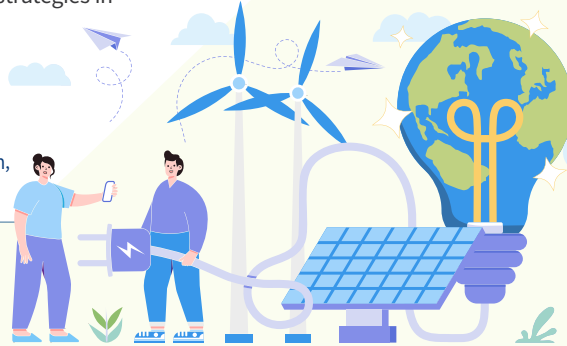
2022 MATERIAL TOPIC HIGHLIGHTS

GHG and Energy Management

Establishment of practical response strategies in preparation for Net Zero 2050

Performance in 2022

Reducing GHG intensity, Responding GHG emission trading program, operating the energy management council



Quality and customer satisfaction

Quality control, active response to service demands, reflection of customer opinions, and creation of differentiated value for continuous customer value enhancement

Performance in 2022

Enhancement of product portfolio, expansion of digital channel service and solution, and enhancement of dealer service and channel competency



Development of eco-friendly technologies and products

Product development strategy in response to taxonomy, regulations on internal combustion locomotives and exhaust gas

Performance in 2022

Hybrid powertrains, electric excavator, and hydrogen engine development, e-Powerpack, XiteCore launching



ESG in supply chain

Establishment of a sustainability system within the supply chain, such as diagnosis of suppliers' ESG activities

Performance in 2022

Implementation of ESG management support projects and shared growth programs in the supply chain



Local communities

Supporting future generations and create a win-win situation with the community.

Performance in 2022

Operation of the Social Contribution Committee, activities for local ecology conservation and social contribution



Safety and health

Safety management risk system, building a safety culture by building a risk system and safety culture safety and security of employees as our top priority.

Performance in 2022

Advancement of emergency response system, management of hazards at workplace, and establishment of safety culture





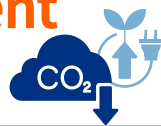
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GHG and Energy Management



keyword

Carbon neutrality at worksite by 2050

Advancement of energy management

(Company-wide energy intensity improvement across production process)

Index

Scope1 emissions:
26,552
(Unit: tonCO₂eq)

Scope2 emissions:
77,718
(Unit: tonCO₂eq)

UN SDGs

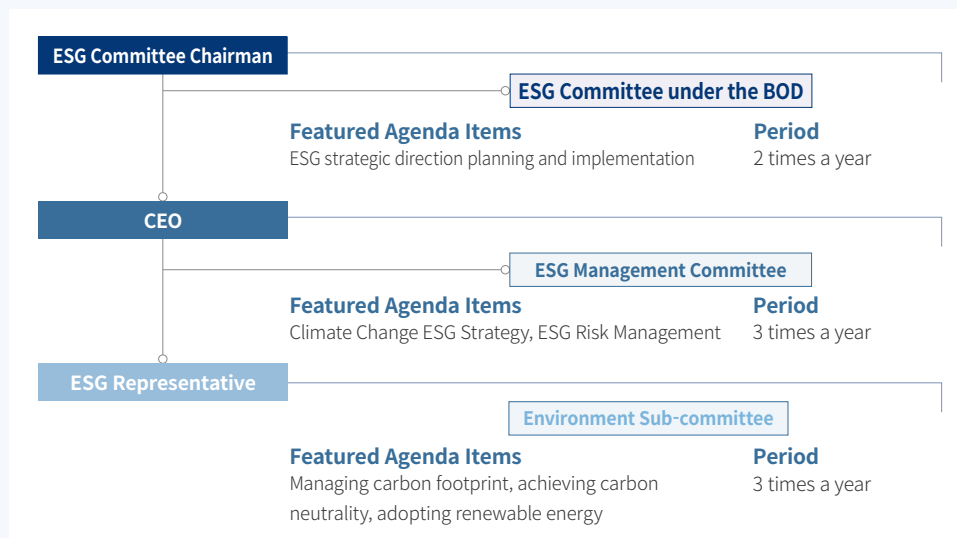


Governance

Roles and Responsibilities of BOD

HD Hyundai Infracore created the ESG Committee under the BOD to strengthen the governance and decision-making system of climate change issues. External directors sit on the ESG Committee while CEO serves as a member of the ESG Committee. The ESG Committee receives report from the Chief ESG Executive on climate change issues, reviews the agenda, and makes the final decisions on issues and policies. The ESG Committee was newly formed in 2021 and is convened twice a year.

Decision-making System on Climate Change



Issues Reviewed for Climate Change

HD Hyundai Infracore assesses physical risks as well as transition risks arising from the value chain. The assessment is reviewed by different committees at HD Hyundai Infracore. The ESG/SharedGrowth Team supports the ESG Management Committee and the ESG Committee on the risk mitigation process related to climate change. The ESG Management Committee is the premier decision-making body at the executive level, consisting of heads from different departments. The Sub-committee on Environment of the ESG Management Committee monitors climate change response activities in general and environmental management including GHG emissions.

ESG Committee Held in 2022 and Top Agenda

Date	Agenda	Attendance Rate
Mar. 21, 2022	Report on and approval of ESG practice plans in 2022	Approved
Dec. 15, 2022	Report on the practice of ESG tasks in 2022	Reported
Dec. 15, 2022	Approval of the plans for RE100 and carbon emission management	Approved



Strategy

Risks and Opportunities

HD Hyundai Infracore identified risks and opportunities related to climate change through literature analysis, peer group analysis, and analysis of global initiatives, and conducted a scenario analysis of the potential financial impact over the next 10 years (2032) for risks and opportunities with high probability of occurrence and revenue impact. The scenario analysis of transition risks and opportunity factors, which are risks associated with the transition to a low-carbon economy, included the IEA 2DS scenario, which assumes a 2°C rise by 2100. Physical risk, which refers to economic costs and financial losses arising from increased extreme weather events and changes in long-term climate patterns, was analyzed using the SSP5-8.5 scenario for domestic and major overseas subsidiaries.

Area		Definition	Impact	Likelihood	Financial impact	Time horizon	Potential financial impact (billion)	Major response
Transition risk	Market	Changes in consumer demand and purchasing patterns of internal combustion engines and eco-friendly products according to changes in market conditions by country	Sales of internal combustion engines in advanced markets decreased	High	High	Short to mid-term	2,831	Establishing differentiated product sales strategies by developed and emerging markets
	Technology	Weakening competitiveness due to the widening technology gap compared to competitors/ decreasing product share due to the replacement of existing internal combustion engine products to low-carbon internal combustion engine products	Green products and reduced sales of internal combustion engine products	High	High	Short to mid-term	16,074	Expansion of R&D of eco-friendly products/technology such as electric excavators
	Regulation	Advanced Market Exhaust Regulation and Carbon Regulations Decreased sales of unmet products	Responding to carbon regulations in domestic and international markets Increased non-operating expenses	High	Mid-low	Short to mid-term	2,286	Launch of products that meet carbon regulations and emissions regulations and transition to eco-friendly/ hydrogen construction machinery models in the mid- to long-term
Opportunities	Products and services	Increase FCEV and BEV demand to expand low-carbon technology applications. Gain competitive advantage by developing/investing in unmanned and autonomous technologies	Increase Sales of Green Products Increase revenue from sales of ICT-enabled products	High	High	Short to mid-term	31,456	Driving product carbon reduction based on electricity product sales
	Energy source	Reduce operational costs in the workplace due to the use of low-carbon energy sources	Reduced emissions purchase costs	High	High	Short to mid-term	9	Introduction of optimal scenarios for renewable energy such as workplace conditions and economic feasibility
	Resource efficiency	Reduce costs by increasing resource efficiency in production	Reduced energy cost	High	High	Short to mid-term	2	Improve energy efficiency and replace old facilities
	Market	Expanding the eco-friendly power product market by tightening regulations on the sale of internal combustion engines in advanced markets	Increase in sales due to entry into new markets	High	Mid-low	Short to mid-term	3,482	Introducing an eco-friendly model
Physical risk	Acute	Increased risk of flooding and typhoons due to rising sea levels	Damaged assets and reduced production due to coastal flooding, typhoons, etc	Mid-high	Mid-low	Mid to long-term	15	Emergency planning for coastal floods, tsunamis, waterfront protection structures are reviewed. Typhoon monitoring warning system is established, building structures are reinforced against wind pressure, and water drainage system is improved to mitigate the risk of flooding
	Chronic	Changes in climate patterns, annual average temperature rise	Reduced production efficiency, including extreme heat	Mid-high	Mid-low	Mid to long-term	142	Efficient cooling and energy management Review system introduction and establish operation plan for hot weather

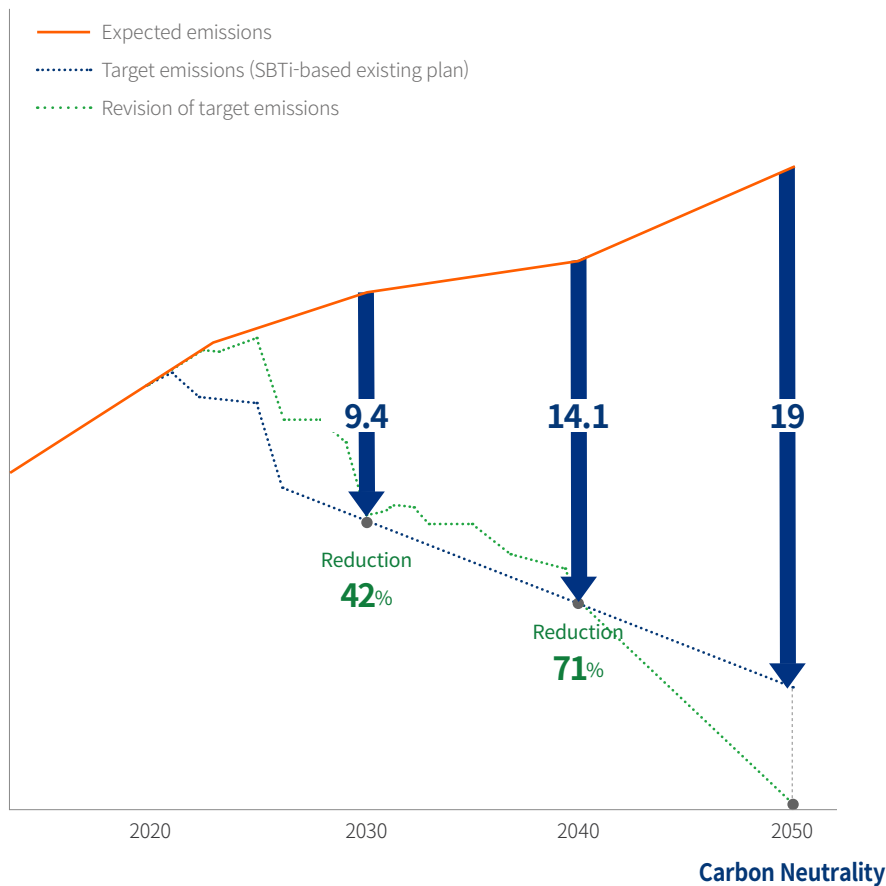
* Use the MSCI Climate Value-At-Risk Tool to analyze the financial impact of physical risks.



Strategies for 2050 Carbon Neutrality

Results of identifying the energy consumption and carbon emissions status of HD Hyundai Infracore’s production sites all across the globe indicate that carbon emissions from electric power use take up the highest proportion. HD Hyundai Infracore set the BAU in consideration of the growth rate through 2050 and established a reduction goal based on the 1.5°C scenario of the SBTi tool. Aiming to achieve carbon neutrality by 2050, HD Hyundai Infracore plans to reduce carbon emissions by 42% from the 2020 level by 2030 and by 71% by 2040. To achieve the goal, we will adopt renewable energy and manage and improve emissions facilities and reduce 71% of carbon emissions, and cut the remaining 29% by taking part in the government’s carbon reduction initiatives, such as K-EV100, and carbon emissions offset programs.

2050 Net Zero Roadmap (Unit: 10,000 tons)



2050 net-zero reduction strategy (Sites)



* Reduction efforts in the workplace, such as replacing existing LEDs, replacing high-efficiency equipment, and K-EV100, are reflected in emissions, and additional reduction items added later are included in the reduction measures.



Adoption of Renewable Energy

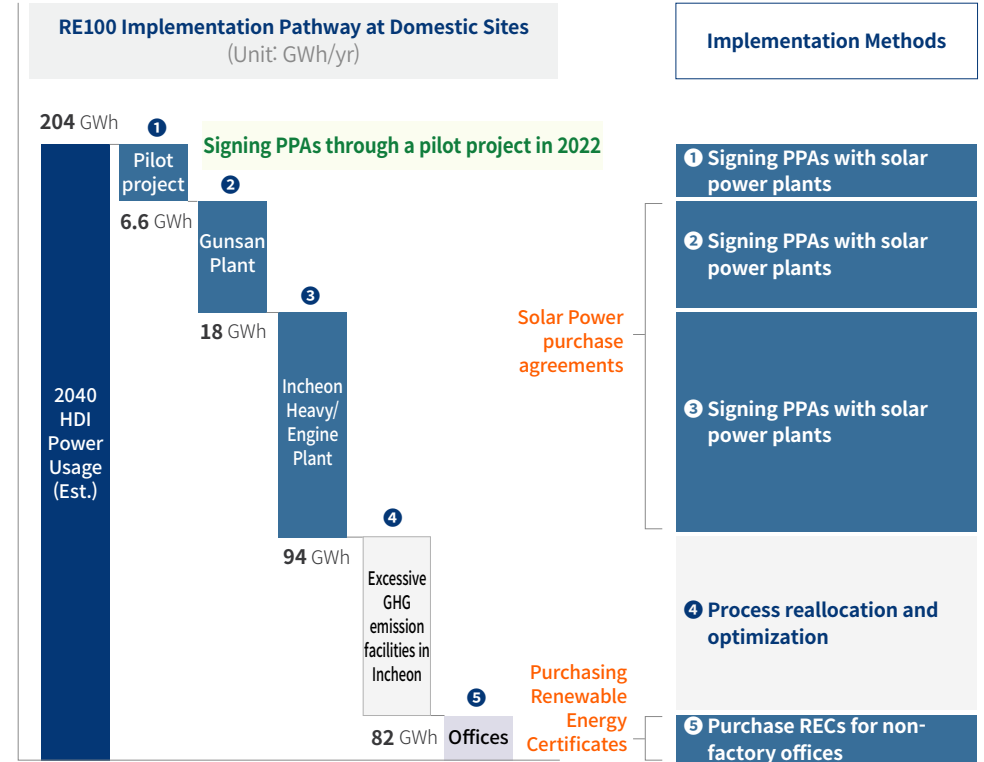
HD Hyundai Infracore will adopt renewable energy in 2023 to meet the RE100 goal in 2040. In 2021, we derived around 20 short- to mid-term tasks in order to achieve worksite carbon neutral goal. Then in 2022, we finalized RE100 execution measures and made preparations to enter an agreement. Also, as part of RE100 pilot program and internalization project, we planned the pilot program at our Gunsan business site and established the solar energy masterplan with the aim of analyzing the power generation capacity in the site and setting up plans.

In 2023, we will introduce renewable energy to the Gunsan Plant for the first time as part of the RE100 pilot project. With the introduction of external renewable energy, the Gunsan Plant expects to source approximately 40% of its electricity from renewable sources. In addition, we are planning to introduce solar self-generation at our Incheon Plant in accordance with our in-house solar master plan and will gradually expand it by 2027.



* Planned location of the Incheon plant's solar power plant

2040 RE100 Action Plan



*Power Purchase Agreement (PPA): Long term contract for purchase of new plant production power at sites outside HDI business boundaries for at least 20 years under a power purchase agreement



Improving Energy Efficiency for Carbon Neutrality

HD Hyundai Infracore takes preemptive responses against climate change risks and opportunities. We estimate GHG emissions based on the annual production plans and identify tasks aimed at energy efficiency improvements and energy savings at sites to achieve reduction goals. For key energy implementation tasks, we established and upgraded an energy intensity management system and the Factory Energy Management System (FEMS) and Energy Consumption Unit Management System. The FEMS was established as part of the government initiative of ‘Development and Demonstration of Basic FEMS Platform. We established the energy reporting system that monitors energy consumption and cost, monthly consumption trends by energy sources, and consumption unit performance linked with production. The FEMS features energy measuring equipment advancement (extension and upgrade) to increase data credibility. We will continue to discover tasks to reduce and manage energy consumption, an effort to be led by the Energy Management Council since 2022.

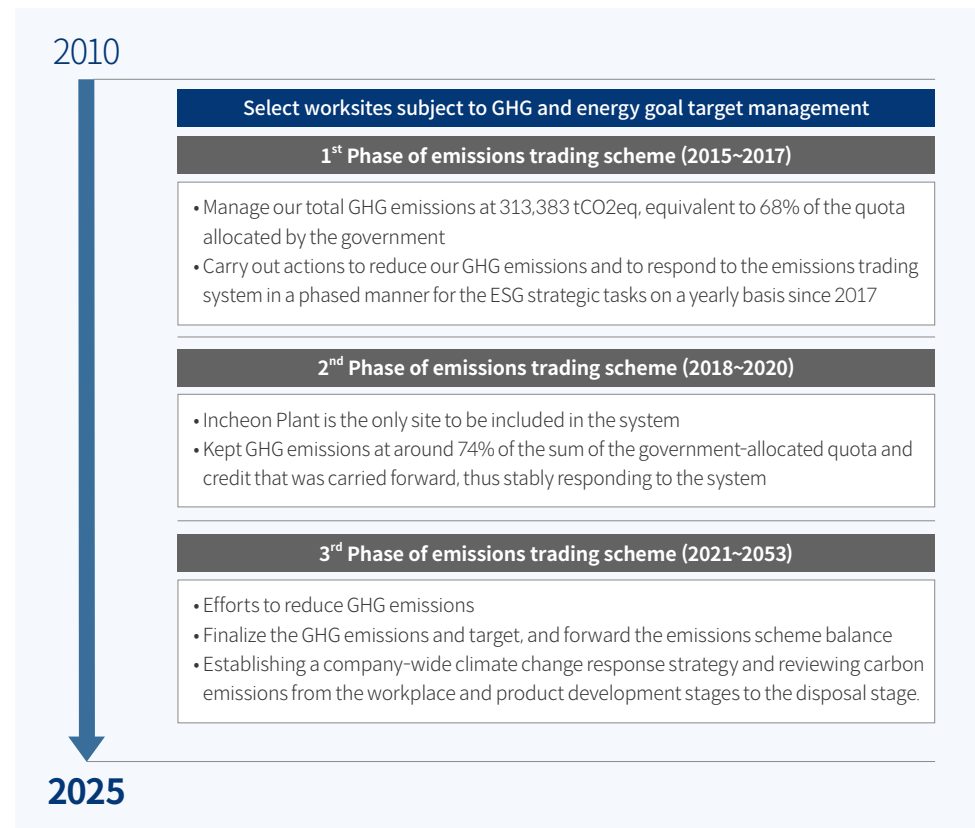
Energy Management Advancement

2020	Discover tasks to reduce energy consumption	<ul style="list-style-type: none"> Compressed air supply pressure optimization Application of a high-efficiency motor (IE4 Grade), installation of high-efficiency lighting
2021	Investment for energy saving	<ul style="list-style-type: none"> Replacement of old boilers and air-conditioning, heating, and pump facilities with high-efficiency facilities Participation in a Factory Energy Management System (FEMS) national project, organized by the Electronics and Telecommunications Research Institute (ETRI) as a company in demand
2022	Operation of Energy Management Council	<ul style="list-style-type: none"> Improvement of company-wide production process energy consumption unit Energy-saving campaign and identification and implementation of reduction activities Continued investment in replacing old utility facilities with high-efficiency facilities Continued improvement of high-efficiency LED lightings

Response to Emissions Trading Scheme

The Korean government has set a goal of reducing greenhouse gas emissions by 40% from 2018 levels by 2030. HD Hyundai Infracore is a company subject to GHG emissions trading, and it is consistently adapting to national GHG reduction goals, as well as the laws and regulations related to the allocation and trading of GHG emissions permits. HD Hyundai Infracore will discover activities for reductions and update investment plans to implement the 2050 carbon neutrality.

HD Hyundai Infracore’s Emissions Trading Scheme



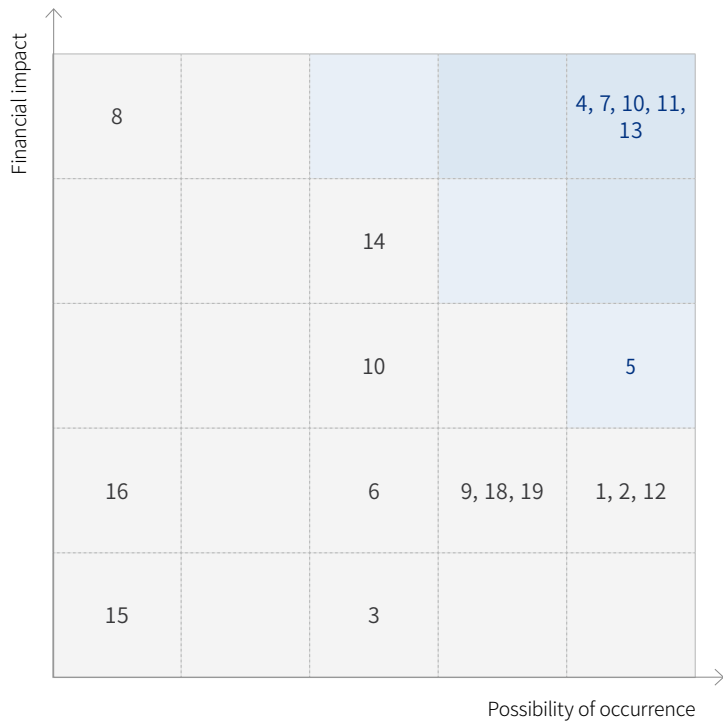


Risk Management

Assessment of Risks and Opportunities Related to Climate Change

HD Hyundai Infracore has established a climate change-related risk and opportunity assessment process based on financial impact analysis to identify risks and opportunities affecting the company due to climate change. Climate change-related risk and opportunity assessment is based on a pool of 19 risks and opportunities derived from peer industry analysis, global initiatives, and literature analysis, and is conducted by synthesizing interviews with relevant departments, expert analysis, and product portfolio analysis to determine the likelihood of occurrence of each risk and opportunity.

Evaluation on Climate Change-related Risks and Opportunities



Risk and opportunity pool

Transition risk		Opportunities		Physical risk	
Regulation	1. Emission regulation	Products and services	10. Expand low-carbon products	Acute	18. Extreme heat
	2. Carbon regulation		11. Develop/invest in new technologies		
	3. Increased emissions reporting obligations	Market	12. Emerging markets		
Technology	4. Decreased technological competitiveness	Resource efficiency	13. Increase production efficiency	Chronic	19. Coastal flooding
	5. Replacing an existing product		14. High-efficiency buildings		
	6. Technology commercialization uncertainty		15. Increase recycling		
Market	7. Consumer buying patterns	Energy Sources	16. Reduce water use		
	8. Market uncertainty		17. Expand renewable energy		
	9. Rising raw material prices				



Metrics and Targets

GHG Emissions and Management System

It is important to accurately measure and manage greenhouse gases by source to create and implement a carbon neutrality strategy. Based on the analysis of Scope 1, 2 emissions and Scope 3 emissions of domestic and overseas business sites in 2022, HD Hyundai Infracore's GHG emissions accounted for about 90% of its GHG emissions in the product production and in-use stage. HD Hyundai Infracore has linked climate change-related performance indicators to executive compensation to effectively reduce greenhouse gas emissions. The Key Performance Indicators are composed of GHG emissions, energy intensity reduction, and establishment of a climate change response system at the level of about 5%, depending on the roles and responsibilities of the executives in charge.

Full value chain GHG emissions

(Unit: tonCO₂eq)

Classification	Emissions
Upstream Emissions (Scope 3)	
Purchased goods and services	8,415
Capital Goods	1,983
Fuel and energy-related activities	12,243
Upstream transportation and distribution	35,275
Waste generation/disposal	592
Employee travel	1,557
Employee commute	7,539
Direct and indirect emissions	
Fuel Combustion (Scope 1)	26,552
Power Usage (Scope 2)	77,718
Downstream emissions	
Downstream transportation and distribution ¹⁾	313
Usage of the products sold	909,988

¹⁾ Limited to GHG emissions from the transportation of HD Hyundai Infracore's production products to dealers
 Reporting scope : Classified according to the payment of the cost of selling the finished product shipment
 Calculation method : Scope3 technical guidance, Distance-Based method

Key Measurement Indicators (Unit: tonCO₂eq)

Classification	2020	2021	2022
Scope 1	23,961	27,834	26,552
Scope 2	66,486	77,184	77,718
Scope 3	1,051,369	1,010,170	977,905
GHG emissions targets (Scope1, 2)	90,447	97,769	104,655
Energy usage intensity in Construction Machinery (TJ/unit)	0.0363	0.0340	0.0340
Energy usage intensity in Engine (TJ/unit)	0.0157	0.0148	0.0133
Energy usage (TJ)	1,733	2,040	2,039
Energy Usage Target (TJ)	-	-	2,387



Development of Eco-friendly Technologies and Products



keyword

Transition to eco-friendly power

Clean Tech

(Powertrains, electric excavators, hydrogen engines)

Unmanned automatic system

(XiteCloud, XiteCore, XiteSafety)

Index

Scope3 emission:
977,905
(Unit: tonCO₂eq)

Indirect energy (electricity) use:
1,622
(Unit: TJ)

UN SDGs



Governance

Roles and Responsibilities of Management

To respond to climate change and environmental issues, HD Hyundai Infracore checks eco-friendly product development in cooperation with the BOD, management council, and working-level managers. The ESG Management Committee under the ESG Committee selects strategic tasks related to ESG including eco-friendly power development on a quarterly basis and checks the implementation status. The Sub-committee on Customer Value develops and checks eco-friendly product development to respond to climate change and environmental issues. Also, executives from HD Hyundai XiteSolution, HD Hyundai Infracore, and HD Hyundai Construction Equipment jointly operate the top decision-making bodies which are Product Strategy Committee, Technology and Strategy Committee for the purpose of enhancing inter-company exchange and R&D synergies, and resolving mid- to long-term technology and product development strategies.



Strategy

With the increasing importance of non-financial values such as global climate change crisis and ESG, environmental and social values are becoming increasingly important along with corporate 'sustainability'. HD Hyundai Infracore realizes shared value with customers by developing eco-friendly R&D products that preemptively respond to increasing environmental demands. HD Hyundai Infracore's main technology development strategy is to contribute to solving issues in the construction and construction machinery industry and climate change through technological innovation. In particular, we plan to manage the eco-friendly Taxonomy by 2040. We will continue to develop solutions to reduce the negative environmental impact of construction sites and through the application of clean technologies and products that meet market regulations.

Product Eco-friendliness Strategy

- 1 Reducing Carbon Emissions in the Product In-use Stage**

Transition to eco-friendly power (electricity and hydrogen) and fuel efficiency improvements based on electro-hydraulic technology
- 2 Application of green technology and products that meet market regulations**

Eco-friendly future powertrain, E-Powerpack, electric excavator, hydrogen engine
- 3 Reduce negative impact of construction sites on products**

XiteCloud, XiteCore, XiteSafety, Construction unmanned system adoption
- 4 Eco-friendly design through physical data management**

Preemptive response to domestic and global regulations on materials related to product manufacturing and conduct eco-friendly design

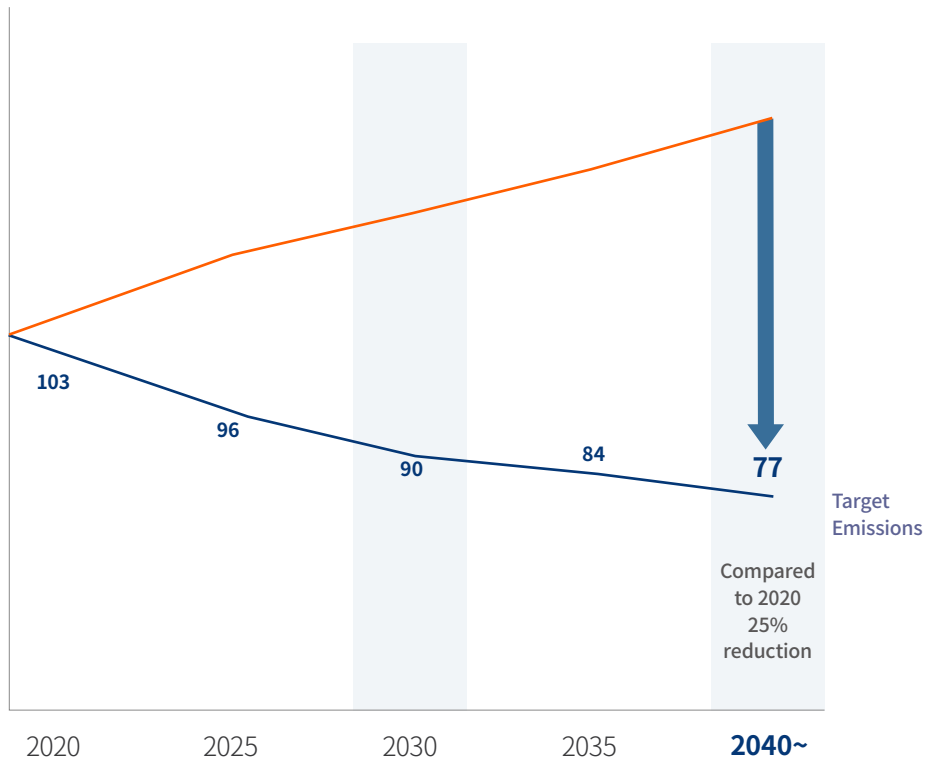


Reducing Carbon Emissions in the Product In-use Stage

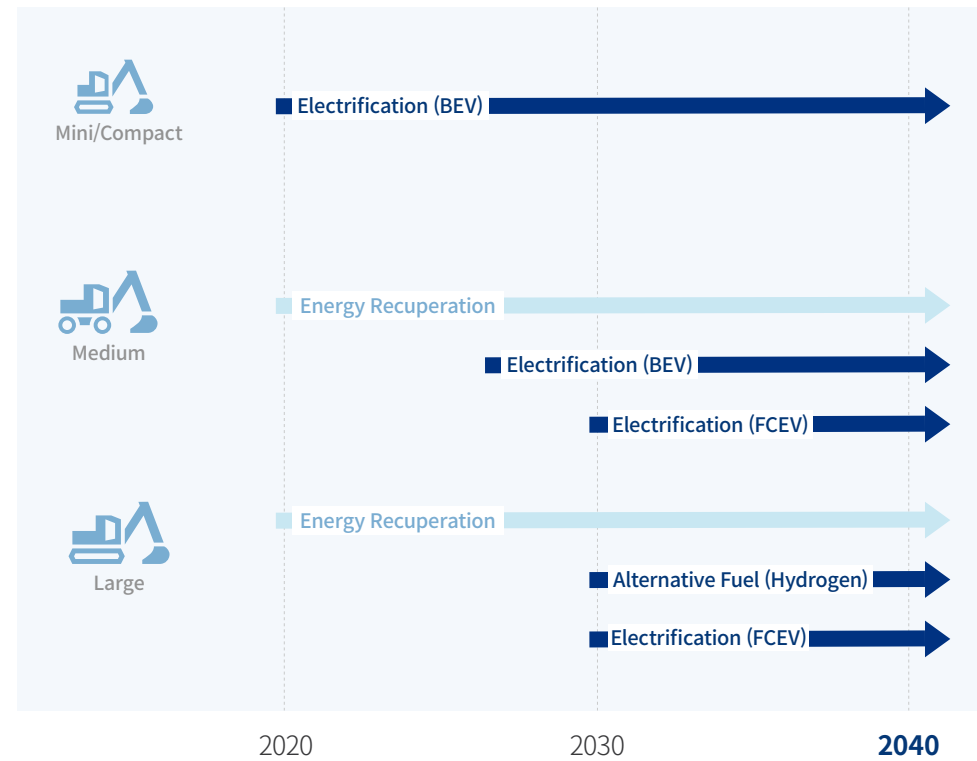
Carbon emissions during the product in-use stage¹⁾ account for the highest proportion of HD Hyundai Infracore’s value chain carbon emissions. Medium and large product with the high share in the sales take up the biggest proportion of carbon emissions. We set the BAU in consideration of the growth rate through 2040 and established a reduction goal based on the 2°C scenario of the SBTi tool. HD Hyundai Infracore plans to continuously reduce carbon emissions at the product use stage by 2040 by switching to eco-friendly power sources and applying fuel efficiency improvements based on electro-hydraulic technology. We will also continue to secure ways to reduce environmental impact through solutions that increase the efficiency of construction sites. solutions that increase the efficiency of construction sites to reduce environmental impacts.

1) Acquired real-world fuel economy data for 390 models and 200,000 vehicles based on DI360, TMS, and in-house test data for 7 years (2016-2022), and analyzed data based on sales volume each year.

Product lifecycle carbon reduction pathways (Unit: 10 thousand tCO₂eq)



Product lifecycle carbon reduction strategy



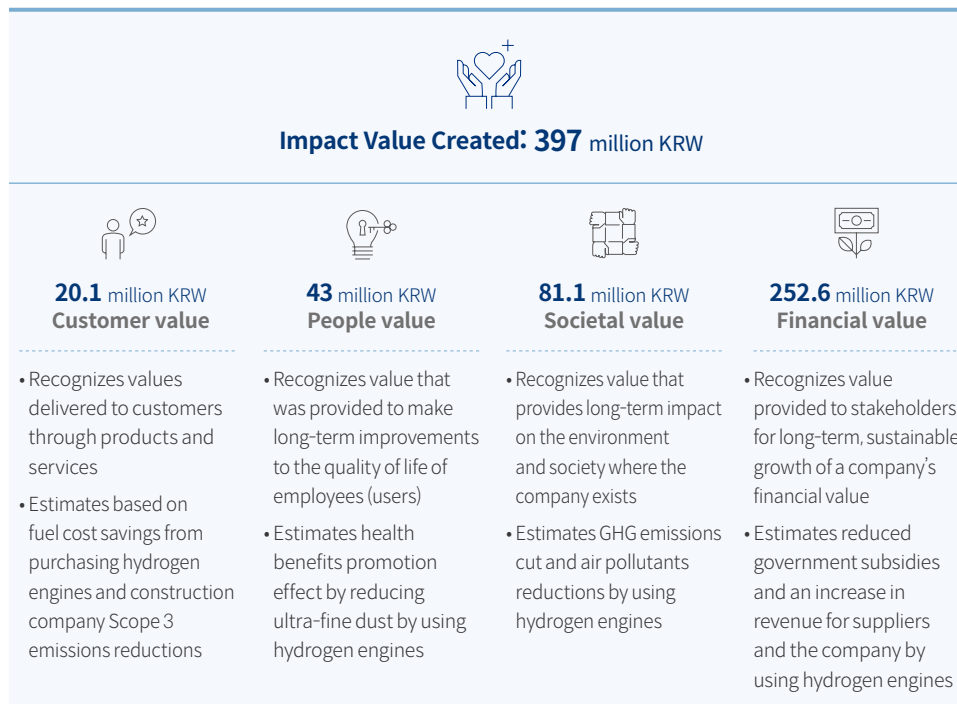


Application of Eco-friendly Technology and Development of Products that Meet Market Regulations

Hydrogen Engine

As efforts to address the climate change crisis are accelerating across industries, it is increasingly critical to make advancements in engine technology to reduce emissions and CO2 emissions. HD Hyundai Infracore is developing hydrogen engines, a future carbon-neutral powertrain technology with zero CO₂ emissions and virtually no air pollutants, based on its high level of diesel and CNG engine technology. Used as a fuel in hydrogen engines, hydrogen emits no carbon dioxide during combustion because it does not contain carbon by chemical nature. And because the components are similar to traditional internal combustion engines, existing platforms can be utilized and retrofitting of aging equipment or vehicles is easy. HD Hyundai Infracore measured Impact Valuation based on EY Long-term value Framework methodology and classified the values delivered to customers into four types: Customer Value; People Value; Societal Value; and Financial Value. The results confirmed that one hydrogen engine created an impact value in total of around 397 million. HD Hyundai Infracore aims to identify the tangible and intangible values of its products to maximize positive impacts and create sustainable competitive advantages.

Hydrogen Engine's Impact Valuation



* Based on 10 years of hydrogen engine use

*This measurement was taken by using national statistics and research results based on data that is managed by the company. The currency value used for measurement may change according to new research results. Since integrity of measurement results cannot be verified, they cannot be regarded as part of a financial disclosure.





Eco-friendly Future Powertrain

HD Hyundai Infracore is developing and advancing eco-friendly power sources, including hybrids, and expanding its electrified powertrain lineup in preparation for growing demand in the electrification market. Construction equipment is rapidly electrifying, with a focus on smaller machines, and we plan to expand into agricultural equipment, forklifts, and industrial machinery.

‘Hybrid Powertrain Achievements’

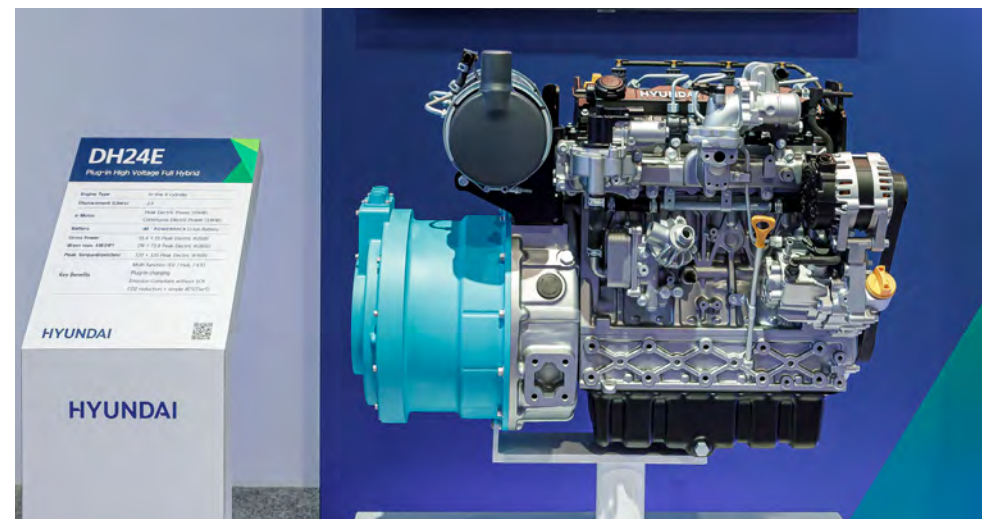
2017	• Review the development of ‘Hybrid Powertrain’
2018	• Technology development of Mild Hybrid Powertrain launched
2019	• Succeeded in designing prototype
2022	<ul style="list-style-type: none"> H24 hybrid powertrain introduced as “New Technology of the Month” by the Korea Evaluation Institute of Industrial Technology Reduces CO2 emissions by 15% compared to a diesel engine in the same class A 7-ton equipment that handle heavy-load continuous work Reducing 2 tons of CO2 emissions a year by applying one hybrid powertrain Cut customer costs of around 1.7 million
2023	• Planning to develop hybrid powertrain system and begin performance management



Hybrid powertrain

Plug-in Full Hybrid (PHEV)

2022	• Started developing Plug-in full hybrid (PHEV)
2023	<ul style="list-style-type: none"> 1st prototype build and equipment mounting development in progress Plug-in full hybrids are the next step up from mild hybrids to more electrified solutions with a greater share of electrification, enabling pure electric and hybrid drive Considering the limitations on battery pack installation and the characteristics of construction machinery operations, pure electric propulsion is feasible for indoor or urban environments, while hybrid propulsion can be used for rural or extreme conditions



Plug-in Full Hybrid (PHEV)



e-Powerpack

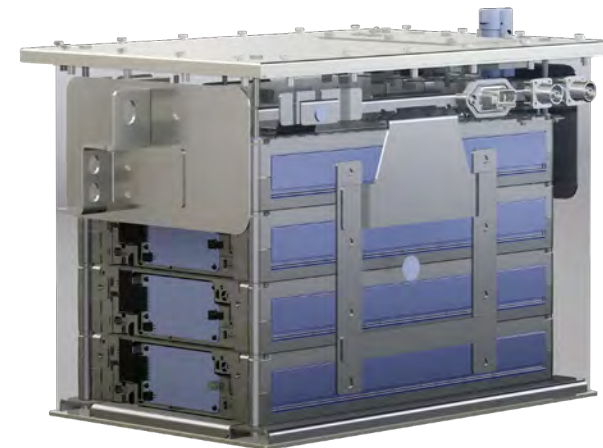
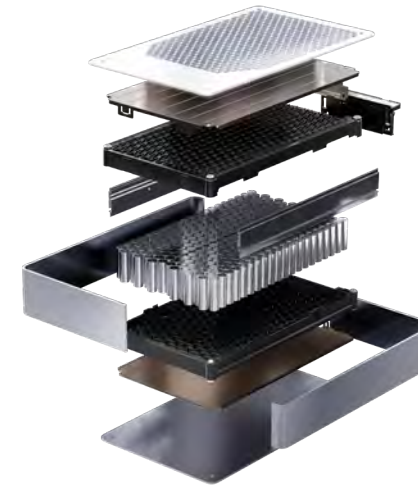
HD Hyundai Infracore has developed and launched the e-Powerpack to prepare for the ban on internal combustion engines in Europe and the plan to mandate 'Zero Emission Construction Site' in major urban centers in the construction industry, mainly in the European Union. The e-Powerpack is helping to increase the business value of customers by storing more energy in a small space with superior performance and excellent energy density. Safety and reliability are the most important factors in a battery pack. HD Hyundai Infracore's e-Powerpack is equipped with multiple safety devices and is designed to prevent risks such as overcharging, over-discharging, over-current, and overheating.

With the launch of the e-Powerpack, HD Hyundai Infracore is developing products that can be applied to various applications, including industrial equipment, generators, ships, and energy storage devices, industrial equipment, generators, ships, energy storage, etc. HD Hyundai Infracore aims to provide sustainable energy solutions based on safety and reliability we aim to provide sustainable energy solutions based on safety and reliability, and we will do our best to enhance the business value of our customers' business value.

Benefits of E-PowerPack



- Combines standardized cylindrical battery cells that flexibly meet customers' voltage and energy capacity requirement
- 'Durability in extreme use environments' and 'safety design' as key factors for battery packs for B2B construction machinery
- Application of wire bonding technology to battery module development to improve energy density and stability
- Pack fire protection design at the cell level in the event of an external impact
- World's highest cell stacking density within the same battery volume
- Mitigate and absorb shocks to the battery pack during excavator breakup operations





Electric Excavators

HD Hyundai Infracore unveiled a pilot version of a 1.7-ton mini electric excavator in 2020. The mass production began in 2023, transition to electrification driven by eco-friendly policies is expected to help expand the electric excavator market. We aim to respond to eco-friendly policies and secure market growth momentum through the preemptive development of electric excavators.

HD Hyundai Infracore's electric excavators will improve the environment impact on worksites and also contribute to the transition to a low-carbon society. Powered by electric batteries instead of diesel engine, the batteries on electric excavators supply power to electric motors to operate hydraulic system. Less vibration and noise compared to traditional diesel-powered equipment, and no diesel fuel-linked consumables (fuel, engine oil, filters). Electric excavators improve the environmental impact of work sites by eliminating the carbon and air pollutants generated by the use of diesel fuel.

In 2021, to measure the economic, social and environmental value that will be brought about by the adoption of electric excavators by using PwC's "TIMM" methodology, we analyzed the value of our 3.5-ton diesel excavator and the electric excavator throughout their respective lifecycles¹⁾ and then calculated the improvements created by the electric excavator. The result confirmed that each 3.5-ton electric excavator created an impact value²⁾ of around 27.46 million.

1) Assuming average usage of 750 hours per year for five years

2) The difference in economic, social, and environmental value between the 3.5-ton electric excavator and the diesel excavator





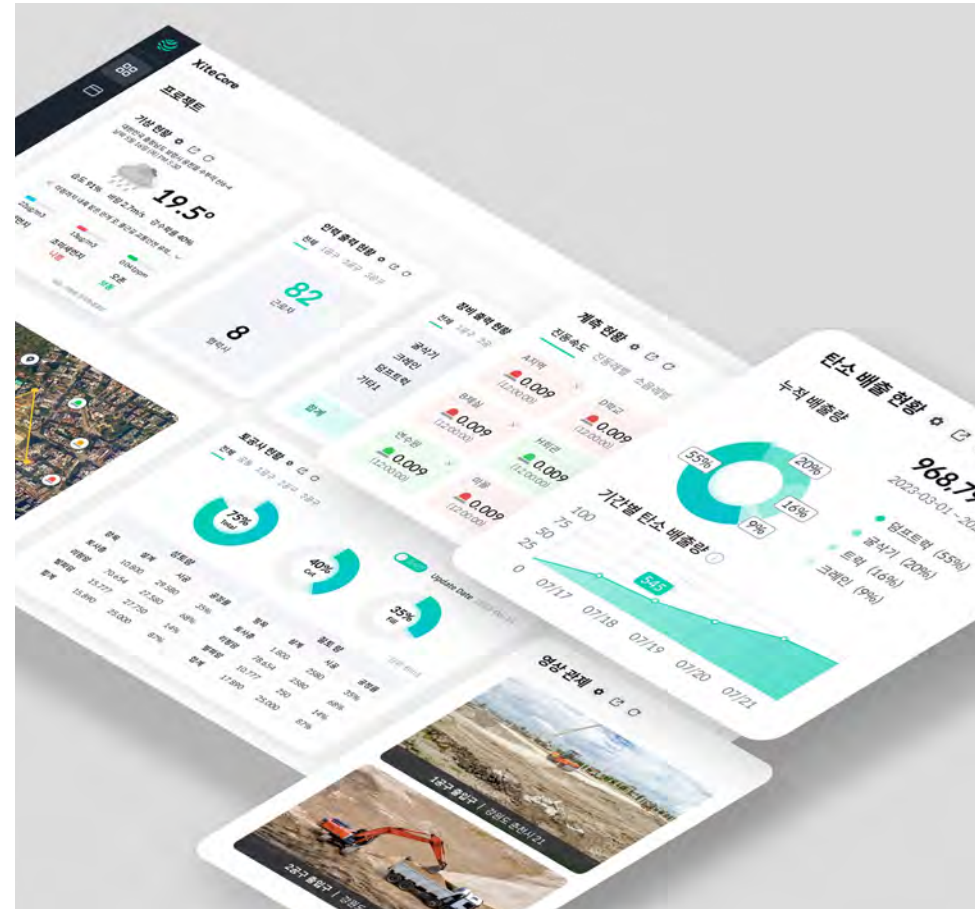
Negative Impact Mitigation Solutions for Construction Sites

XiteCloud, XiteCore, XiteSafety

It is essential to make digital transformation and introduce smart construction site solutions to prevent negative environmental impacts of construction sites and products such as fine dust, deforestation, noise, CH4 (methane), and NOx (nitrogen oxides). HD Hyundai Infracore’s “XiteCloud”, an integrated smart construction solution, contributes to mitigating negative environmental impact of construction sites by bringing together 3D measurements taken by drones, calculations on the amount of earthwork, and the layout of the construction site, and then connects them to a single cloud platform.

XiteCloud features XiteCore, an integrated data platform, and XiteSafety that protects workers’ safety. Unveiled in 2022, XiteCore is an integrated open dashboard platform capable of performing information connection, visualization, and surveillance required for construction projects.

It allows users to monitor worksite information in an integrated manner, while delivering eco-friendly values with additional features to track estimated CO2 emissions. Measurement information on noise and vibration can be monitored in real-time. CCTV monitoring detects fire and theft at worksites thus preventing safety accidents. XiteSafety is the solution introduced in response to the enforcement of Serious Accidents Punishment Act and latest safety trends. ‘XiteSafety’ is a system that utilizes antennas installed on construction equipment to detect tags worn on safety helmets of workers, thereby preventing potential hazards such as equipment-worker proximity and collisions. Tags on helmets also protect the safety of workers in the field by detecting where their location and potential danger factors.



Exhibition participation and awards

2022

- XiteCloud boasts technological prowess and innovation in CES2022, M&T Expo 2022 in Brazil, and BAUMA 2022 in Germany
- XiteCloud wins ‘Innovation Award’ in construction BIM category, demonstrates 3D design capability on top of existing construction platform and automation technology

2023

- XiteSafety wins ‘Innovation Award’ as construction site safety management platform at CES Awards



3D MG (Machine Guidance)

3D MG transmits real-time task information to the driver. The 3D MG system identifies equipment movements through a sensor attached to an excavator, compares them with 3D plans, and informs equipment operators of the situation. The equipment can be moved to the required location according to the operator's decision. HD Hyundai Infracore applies its in-house developed 3D MG system to equipment and connect it to XiteCloud to enhance construction site efficiency by preventing risks and protecting the workers at sites.

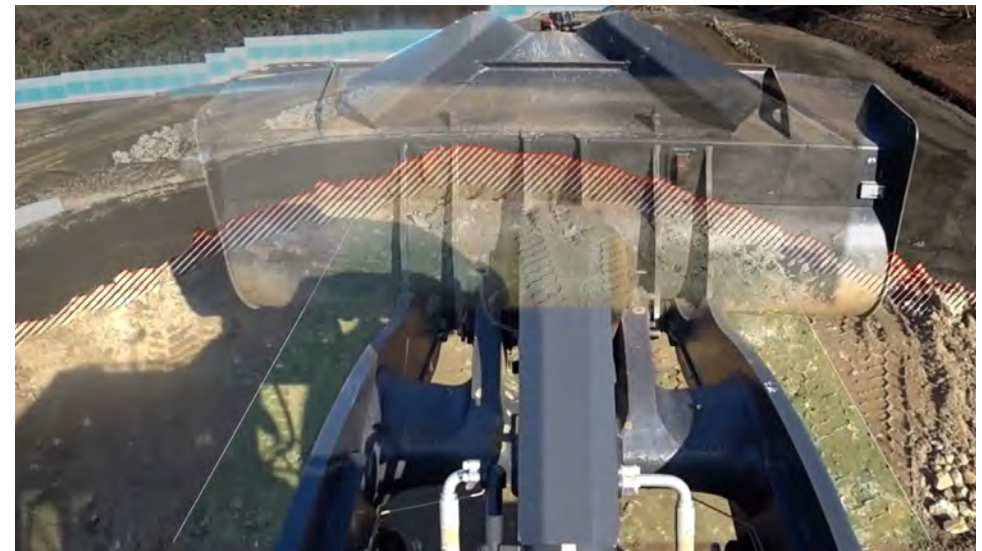
3D MC (Machine Control)

The 3D MC system is a semi-automated function that is activated by an operator's mere operation of the equipment arm, and that enables work according to previously-set 3D plans. This semi-automated function automates boom, bucket, and tiltrotator operations to result in increased productivity and accuracy as well as simplification of operators' work, leading to the effect of minimizing errors and costs. We are developing a demonstration model equipped with 3D MG/MC, through which we seek to verify commercial value and develop relevant service capabilities.

Transparent Bucket

The transparent bucket allows operators to see what is happening in front of the bucket through a monitor in the cockpit. This innovative system captures the blind spots on the front prone to safety accidents like gray area using cameras installed at the top and bottom of the equipment, and then uses a curved projection to display the combined images to the operator in real time. Additionally, it enhances work efficiency by providing forward visibility during loading and unloading operations or while transporting soil.

HD Hyundai Infracore first unveiled the transparent bucket technology at the CES 2020 and became the industry's first to launch a wheel loader equipped with this technology in 2021. At the construction equipment expo MATEXPO Awards held in Belgium in 2021, the transparent bucket won awards in the two categories of "Innovation" and "Safety" for being the world's first to develop and apply a construction equipment forward viewing function and for preventing safety accidents caused by blind spots. In 2022, the 'Construction Equipment Transparent Bucket' won the IR52 Jang Young-Sil Award in Week 30.



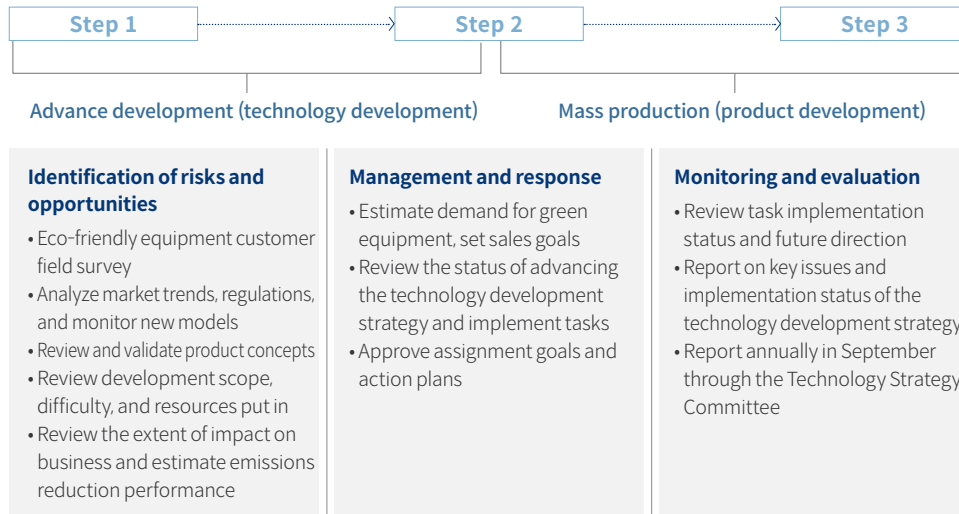
Transparent Bucket for
DEVELON Wheel Loaders



RISK MANAGEMENT

We prevent eco-friendly risks by developing eco-friendly products and establishing risk management processes.

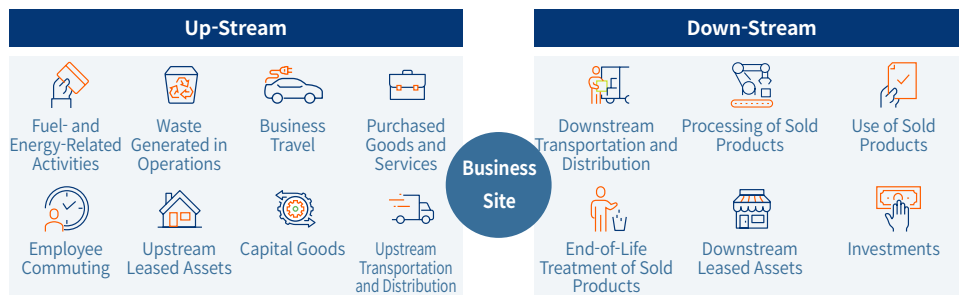
Risk Management Process



Metrics and Targets

Disclosure of Other Indirect Emissions (Scope 3)

HD Hyundai Infracore has established a consistent management system for Scope 3 emissions generated outside of our work sites in line with international trends such as the US Securities and Exchange Commission's mandatory Scope 3 disclosure. HD Hyundai Infracore manages Scope3 in an integrated manner based on the implementation standards.



Sales according to the Green Taxonomy

HD Hyundai Infracore has improved the existing eco-friendly product classification system by reflecting the EU Green Taxonomy and K-Taxonomy to continuously and systematically manage the development and sales of eco-friendly products. HD Hyundai Infracore's eco-friendly classification system is defined as products that apply clean technology and meet market regulations and solutions that reduce the negative environmental impact of construction sites and products. The company's eco-friendly sales in 2022 were KRW 1,563.7 billion. In 2022, HD Hyundai Infracore spent KRW 13.1 billion on eco-friendly technology development and KRW 10.9 billion on environmental investment and operating expenses.

Eco-friendly Sales (Unit: trillion KRW)



Eco-friendly product taxonomy

Eco-friendly product		Eco-friendly Solution	
Construction machinery with clean tech		Solutions to reduce negative environmental impacts of construction sites/products	
Transition to eco-friendly power	Eletrification	Smart Construction Site Solutions	Site Management
	Energy regenerating		Fleet Management
	Clean energy		Operation & Maintenance
Fuel efficiency	Improve fuel efficiency / Avoide fuel inefficiencies		
Reduce air pollutants	Optimize combustion		
	Engine Postprocessing		

1) Negative environmental impact scope: Fine dust, Deforestation, Noise, CH₄, NOx, CO₂



Supply Chain ESG



keyword

Supporting Supply chain ESG management

Index

Performance of fostering partners and establishing MES:

Total of 8 partners supported

UN SDGS



Governance

HD Hyundai Infracore is committed to building a sustainable supply chain. To ensure that ESG is embedded in the supply chain, we have established a system for our suppliers to lay and implement a foundation to respond to ESG-related issues such as ethical management, fair transaction, human rights, environment, and social issues.

Decision-making System for Supply Chain ESG



Strategy

Supply Chain ESG Management Policy

HD Hyundai Infracore has established the Code of Conduct for Suppliers to identify and prevent potential ESG risks in the supply chain and created a set of specific supply chain ESG management measures. The supply chain ESG management measures encompass ethics, environment, labor and human rights, safety and health, and management systems as defined in the Code of Conduct for Suppliers. The measures are applicable to all partners and their subcontractors who either supply products or services to HD Hyundai Infracore or signed business contracts. Our supply chain ESG management measures are based on global standards such as the UN Guiding Principles on Business and Human Rights (UNGPs), OECD Guidelines for Multinational Enterprises, and ILO's Fundamental Conventions.

[Supply Chain ESG Management Policy](#)

Management of Supply Chain Code of Conduct

HD Hyundai Infracore has established a set of the Code of Conduct for Suppliers to ensure a sustainable supply chain. The Code of Conduct for Suppliers is available on the HD Hyundai Infracore website on Labor and Human Rights, Safety and Health, Environment, Ethics and Fair Trade, and Management System.

[Code of Conduct for Suppliers](#)



Supply Chain Risks and Opportunities

HD Hyundai Infracore interacts with 547 suppliers. While the efficiency improves thanks to the complexity of the supplier ecosystem, globalization of supply, flexible production, the establishment of global locations, and improved delivery, they are also accompanied by supply chain risks. The quality of finished equipment depends on the supplier's ability to provide competitive parts, and the quality and technology of their parts directly influence consumer trust. HD Hyundai Infracore mitigates ESG risks across the supply chain by employing a comprehensive ESG risk assessment system. Simultaneously, it fosters sustainable growth by assisting suppliers in enhancing their quality competitiveness through a shared growth system.

Supply chain sustainability management

Classification	Response Activities
Risk and opportunity	Fair trade and unfair competition
Risk identification and evaluation process	Comprehensive evaluation system for the supply chain, ESG evaluation and ESG self-evaluation of suppliers, regular meetings with suppliers and collection of opinions
Risk mitigation measures	Operation of shared growth system (financial and ESG support within the supply chain), notification of the Fair Trade Commission's 4 action plans in the system
Evaluation of management indicators and effectiveness	Supply chain ESG evaluation, supplier ESG self-assessment (annual) performance tracking, shared growth index performance management

Supply Chain ESG Management Support Project

The global significance of sustainability issues in the supply chain is increasing, making effective supply chain risk management crucial for maintaining product competitiveness. In line with internal and external demands, HD Hyundai Infracore has defined and implemented a roadmap encompassing five key initiatives within the Supply Chain ESG Management Support Project. These initiatives include the development of a supply chain ESG promotion plan, the creation of ESG evaluation indicators, two-track training on ESG management, ESG self-diagnosis, and ESG due diligence and consulting.

	Establishment of a 3-year roadmap	Create a three-year roadmap for supply chain ESG management
	Establishment of supplier management plan	Consulting on how to manage suppliers in line with EU supply chain due diligence laws and other business environments
	Analyze ESG fundamentals	ESG Internal and external environmental analysis (regulations, etc.) / Analysis of best practices in other industries
	Configure ESG metrics	ESG diagnostic basics and partner industry-specific metrics (quantitative and qualitative)
	Organize and develop training materials	Develop training materials on ESG trends, needs and impacts, and specific implementation areas
	Conduct on- and offline training	Due diligence, tiered ESG training for suppliers
	Conduct an ESG self-assessment	Deploy indicator-based proactive diagnostics and self-assessment, review and analyze internal foundational data
	Self-diagnostic on-desk validation	Verify authenticity with self-check answers and attachments
	Due diligence and consulting, interviews, post-questions	Diagnose internal conditions, including stakeholder needs analysis, tiered interviews, and document review
	Analyze aggregate results	See comprehensive data from the assessment and understand your suppliers' true ESG risks



Establishment of Smart Factory MES for Strengthening Supplier Competitiveness

HD Hyundai Infracore helps core suppliers develop the capability to supply quality products at competitive prices on time by making innovative improvements in the areas of plant operations, quality assurance, and manufacturing technologies. We also make continuous efforts to foster them to become Leading Suppliers(LS)¹⁾ with top level competitiveness in the local market, setting a benchmark for other suppliers. The LS project, implemented based on the fostering manual for suppliers HDSEP since 2014, aims not only to solve problems facing suppliers but also to raise their fundamental competitiveness by enabling them to secure supply capacity and quality competitiveness in terms of a comprehensive ranking evaluation (supplier evaluation). We are also supporting suppliers' MES establishment on top of HDSEP since 2020. The implementation of MES is a prerequisite for suppliers to become members of the Cooperation Council facilitated by HD Hyundai Infracore. It is also a mandatory requirement in the comprehensive ranking evaluation process, aimed at fostering a virtuous partnership ecosystem.

- 1) LS: Leading Supplier, Suppliers with top local competitiveness that set a benchmark for other suppliers
- 2) HDSEP: Hyundai Doosan Infracore's supplier support program
- 3) MES: Manufacturing Execution System, manufacturing system

HD Hyundai Infracore's Supplier Fostering and MES Establishment Plan and Cases



Conflict Minerals

HD Hyundai Infracore complies with conflict minerals regulations to address social issues such as human rights violations, environmental destruction, and the flow of funds to conflict groups that occur when minerals are extracted. Conflict minerals are four major minerals (tin, tantalum, tungsten, and gold) that are produced in ten conflict countries (the Democratic Republic of the Congo (DRC), Sudan, Rwanda, Burundi, Uganda, The Republic of the Congo, Zambia, Angola, Tanzania, and Central Africa Republic). As a responsible corporate citizen, HD Hyundai Infracore is making efforts so that conflict minerals that are related to armed forces in conflict regions are not included in the supply chain for the production of our products. To this end, all HD Hyundai Infracore suppliers have to make efforts to not use conflict minerals when manufacturing goods. Going forward, we will actively participate in international efforts to ban the use of conflict minerals. As a responsible corporate citizen, we are committed to ensuring that conflict minerals linked to armed groups in conflict zones are not included in the supply chain for the production of our products.

Green Purchasing Policy

HD Hyundai Infracore is committed to promoting eco-friendly purchasing practices through its ESG procurement system. In line with our dedication to environmental management, we have developed robust green purchasing guidelines to drive cleaner production and the creation of high-quality, eco-friendly products. Our internal policy prioritizes the procurement of environmental and green-certified goods, while also considering factors such as quality and price. Additionally, our supplier selection process incorporates a scoring system that grants preferential treatment to green products, offering them an advantage over non-green alternatives. HD Hyundai Infracore remains steadfast in its efforts to progressively increase the proportion of green purchases, ensuring the establishment of a sustainable and environmentally conscious supply chain.

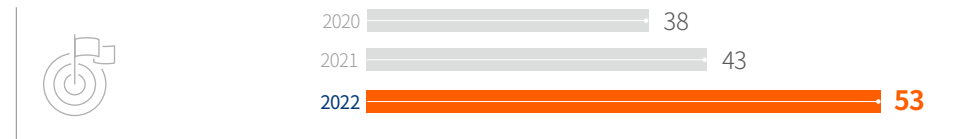


Supplier Communication Channels

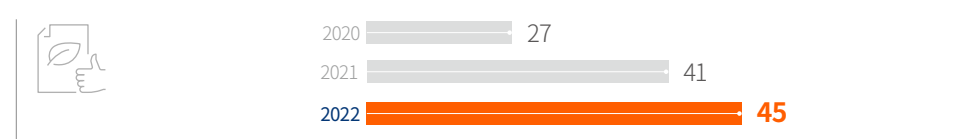
To strengthen communication with our suppliers, we regularly hold supplier meetings. At the meetings, we share major management status and discuss issues related to our suppliers, such as listening to their grievances.

Metrics and Targets

Fostering Leading Suppliers and Building MES for Smart Factory (Unit: companies)



Number of Suppliers That Received ESG Evaluation (Unit: companies)





Quality and Customer Satisfaction



keyword

Digital data-based quality management

Diversification of product portfolio

DI360

Index

Smart Maintenance Manage Hours:

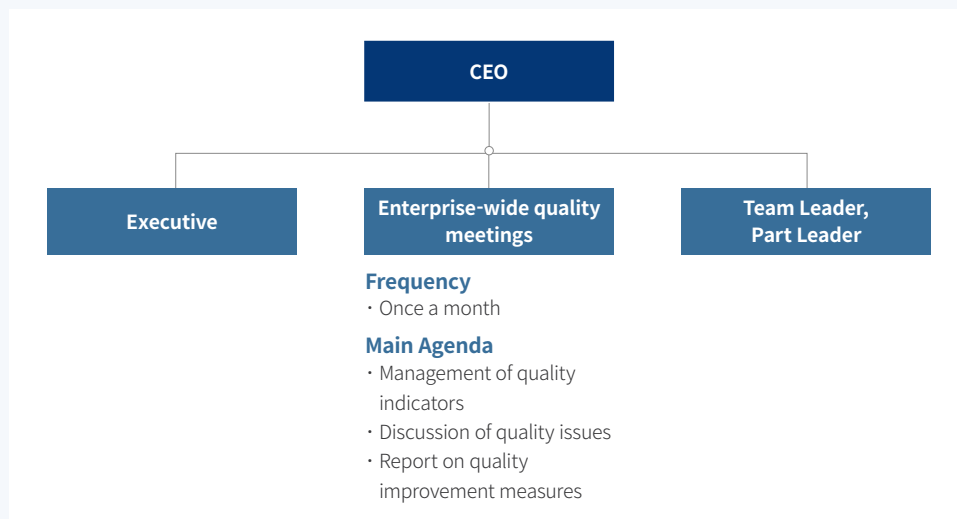
3,236,503^{hours}

UN SDGs



Governance

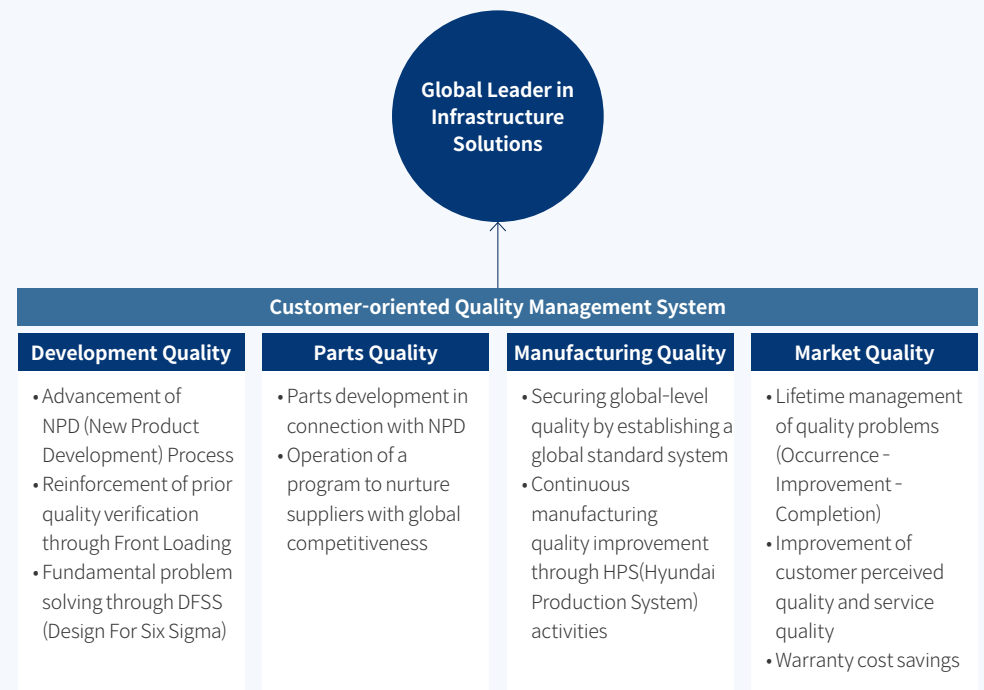
HD Hyundai Infracore maintains a company-wide integrated Quality Council, which serves as a platform for addressing quality issues and mitigating risks to enhance our quality infrastructure system and management. This Council, convened on a monthly basis, brings together the CEO, service executives, team leaders, and partners to assess key quality indicators, engage in discussions regarding significant quality-related matters, and present improvement plans.



Strategy

Under our vision of becoming a "Global Leader in Infrastructure Solutions", HD Hyundai Infracore has established the quality management system as our top-priority policy.

Quality Management System





Quality Management

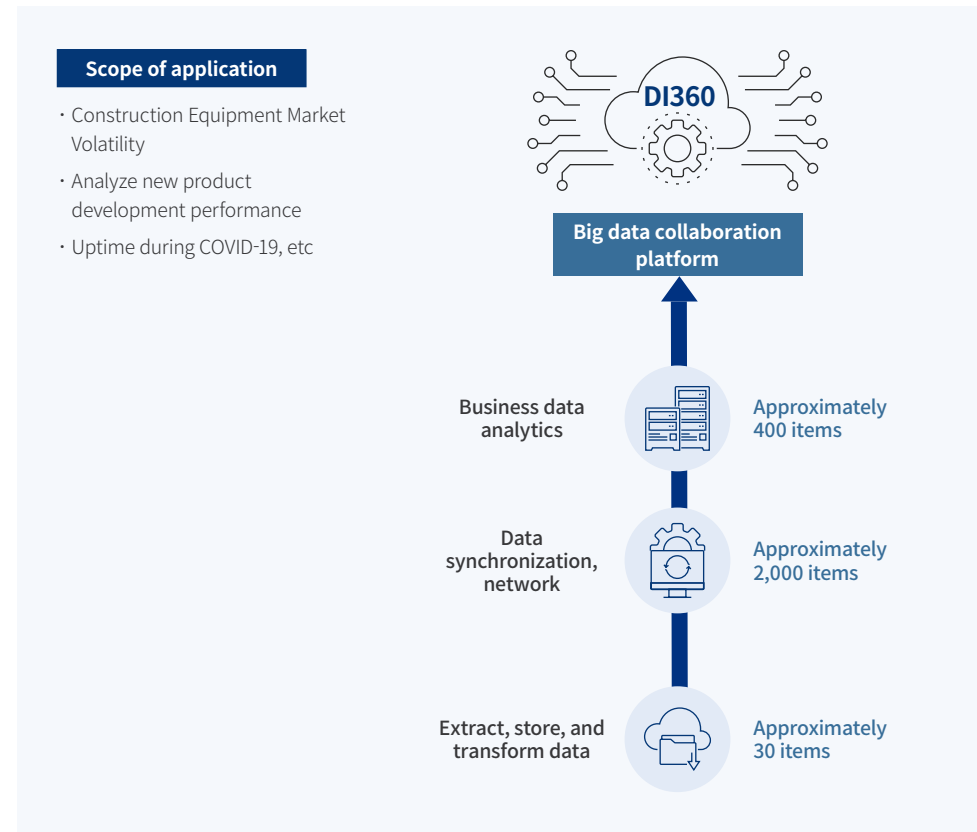
Quality Management through the PTS

PTS (Project Tracking System) is HD Hyundai Infracore's quality issue project management system. Utilizing the PTS, we continuously monitor the progress of market/process/preceding quality-related projects, customer VOC improvement areas, and improvement effects. We actively support ongoing quality improvement activities and drive the enhancement of improvement speed. In 2020, we utilized quality meetings including weekly topical issues and registered daily claim issues. to improve efficiency and establish a constant monitoring system, and will continue to manage quality issues in 2023.



Digital Data-based Quality Management System







HD Hyundai Infracore has developed a digital-based Statistical Process Control (SPC) system to enhance quality management practices at suppliers. This system enables the automatic real-time collection and monitoring of SPC data from suppliers, allowing us to evaluate their process management capabilities effectively. In 2019 and 2020, we successfully installed the system at 10 suppliers, followed by four in 2021 and five in 2022, aiming to elevate their quality management systems. In 2022, we further enhanced our capabilities by establishing a key regional 'Worst' display and integrating the automatic registration of PTS tasks on the DI360's Big Data Global Quality Metrics Dashboard screen. After the improvement, the sensing of recurring incidents has become easier, and work efficiency has improved.





Product Portfolio Enhancement

HD Hyundai Infracore is strengthening the sustained growth of customers by securing a balanced product portfolio, enhancing cost competitiveness based on operation optimization, and creating new revenue streams by entering adjacent businesses. Our wide-ranging specialty equipment solutions provide improved work productivity and a safe working environment, and the compact product line is configured to meet the diverse needs of customers. HD Hyundai Infracore will continue to introduce product lineups that provide convenience and safety to customers.

Equipment	Model name	Characteristics and advantages	
Backhoe Loader	DB100	<ul style="list-style-type: none"> - Maximize engine output over competitors' equipment and increase work efficiency (100hp) - 3-7% fuel efficiency advantage over competitors (JCB, CAT) 	
Motor grader	DG130, DG170, DG190 DG220	<ul style="list-style-type: none"> - Features spacious cabin with increased visibility - Increased operator comfort with suspension seats, air conditioner, LED light, auto leveling, etc. 	
Compact wheel loader	DL60, DL65, DL80, DL85 DL85TL	<ul style="list-style-type: none"> - High productivity with high reliability and lifting capacity 	
Mid-sized excavator	Global models: DX225LC-7X	<ul style="list-style-type: none"> - Full electro-hydraulic system and Machine guidance-Machine control-Weighting applied 	
	Domestic models: DX240LC-7X	<ul style="list-style-type: none"> - HDI's first excavator to respond to Smart CE, ensuring work accuracy and efficiency with exceptional fuel efficiency and features demanded by advanced construction markets 	
Special equipment	Pile driver (DX350LC-7, DX400LC-7, DX550LC-7)	<ul style="list-style-type: none"> - Specialized equipment designed to facilitate piling work at civil engineering sites where foundation work is required. - Front-end design ensures effective handling operations for sheet pile handling work 	
	Ultra-large demolition special equipment (DX800LC-7, DX1000LC-7)	<ul style="list-style-type: none"> - Demolition front and digging front can be conveniently replaced by applying hydraulic modular joint (automatic pin removal system), and each hose part is configured as a quick coupler for easy installation and removal - Tilttable cabin up to 40 degrees for better visibility over equipment on demolition targets - Equipped with boom and swing angle sensors to alert the operator when out of the safe working range during lowering and swinging, and the TMI monitor allows real-time viewing of the working radius 	
	Material handler (DX220W-7, DX400LC-7)	<ul style="list-style-type: none"> - Based on the 22-ton wheeled and 40-ton heavy-duty excavators, this specialized machine was developed to be useful for material handling operations such as scrap metal or waste disposal and loading and unloading lumber - Front with optimized geometry and reach to transport and load materials into wide, high spaces that regular excavators are unable to reach 	
Large equipment	DX350LCR-7	<ul style="list-style-type: none"> - 35-ton small slewing excavator for urban infrastructure and roadwork in North America - Reliability obtained through object recognition by around-view cameras and ultrasonic sensors 	
MEX (mid-sized excavator)	DX65MT-7, DX65W-7 DX62R/63-7, DX85R/89R-7	<ul style="list-style-type: none"> - Higher productivity, including enhanced lift capability and an upgraded cab - Currently expanding the Global MEX portfolio to meet the needs of a diverse set of clients worldwide with different models 	



Digital Marketing

HD Hyundai Infracore launched an online parts shop on WeChat in November 2018 and began to provide our purely genuine product one-stop services. Faced with COVID-19 circumstances, the Chinese construction and equipment market rapidly shrank by half year-on-year and many companies experienced difficulties with using an offline sales network. But our Chinese subsidiary achieved year-on-year growth of 7% in annual sales from online sales in 2022 to reach CNY 187 million (around 36 billion), on the back of the online parts shop. Also, the number of customers who actually made an online purchase grew by 23% to exceeded 10,000, becoming as a robust new sales channel. In 2023, we plan to continue targeted marketing outreach to create a virtuous cycle where those customers repurchase equipment.



Chinese Subsidiary's 2022 Online Sales Performance



	Sales	No. of customers who made an actual purchase
CNY	187 million (Year-on-year growth of 7%)	11,581 persons (Year-on-year increase of 23%)

Online Virtual Showroom and New Series Launching

In 2021, HD Hyundai Infracore opened a virtual showroom page that enables viewers to examine the New 7M Series on its emerging market website. The New 7M Series is a model that targets emerging markets where importance is placed on productivity and fuel efficiency. We have applied global platforms that have been used in North America, Europe, and other regions, and we have a lineup of both mechanical and electronic systems. As a result, we won the GRAND PRIX in the Construction Area of the Digital Media & Service Category of the “2021 Awards for New Digital Award”. In 2022, we'll introduce additional excavators and wheel loaders which can mount 360-degree views, and also launch virtual showroom pages on our global website, including Europe, in addition to our emerging markets website.

We are showcasing and promoting the new 7 Series, dozers, specialty equipment and more, which will be unveiled in 2022, on our YouTube channel ‘GulodosaTV’. Customers were able to interact with HD Hyundai Infracore on the channel by listening to explanations and commenting in real-time on the performance and appearance of the 7 Series as it was unveiled for the first time. A total of 5,500 people participated in the 2022 broadcasts, and we will continue to use the platform to announce details and improvements of the equipment while striving to understand customer needs by answering their questions.

Services Available on Virtual Showroom Page



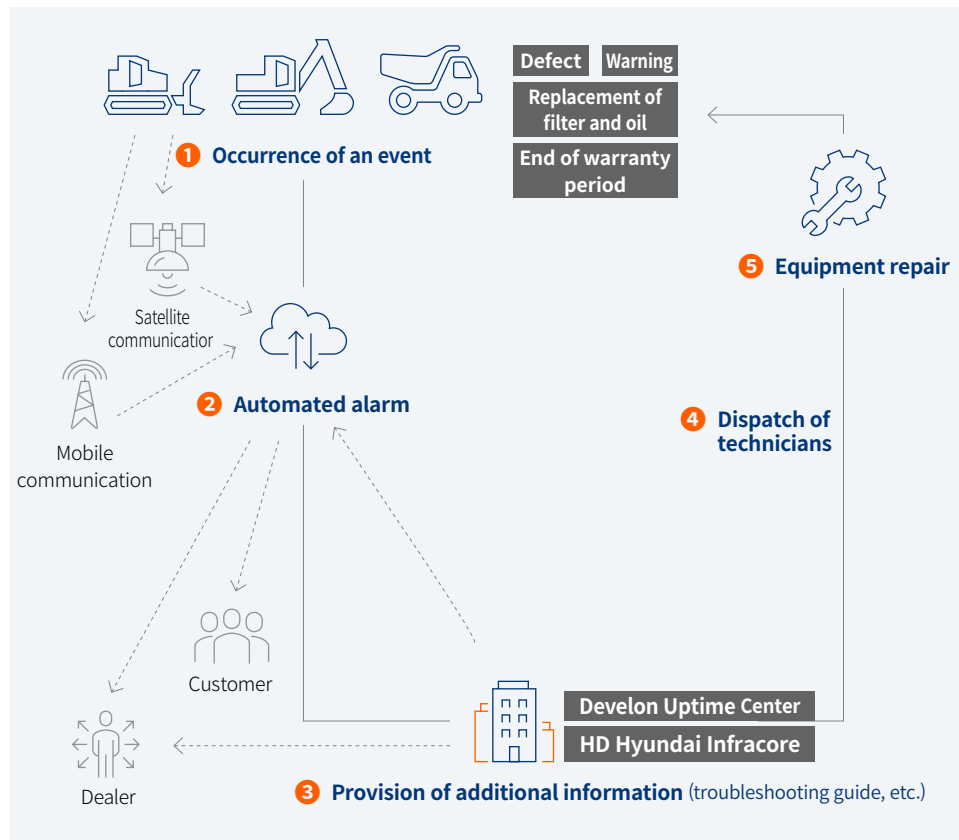
- 3D 360-degree view to look at major devices on New 7M
- Pop-up window to display key features of the equipment
- Enhance customer contact and consultation features
- Responsive website optimized for mobile devices



Expanding Digital Solutions

HD Hyundai Infracore is focusing on building a remote service system utilizing various data for global Product Support (PS). We are developing remote support solutions to proactively support customers' equipment through the Develon Uptime Center providing quick pre- and post-service responses, building a Virtual Class Room (VCR) to support non-face-to-face training, and expanding customer equipment maintenance contracts through Smart Maintenance. In 2023, we plan to increase customer satisfaction by providing fast and accurate remote service delivery led by our headquarters and planning programs with diverse customer perspectives to provide premium services that fully meet customer needs and go above and beyond.

Machine Monitoring Service Process

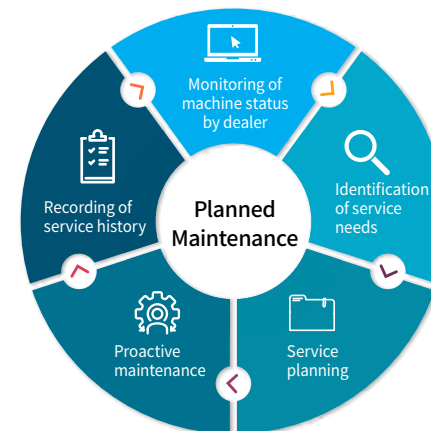


Expanded Operation of DevelonConnect Digital Platform

HD Hyundai Infracore operates a platform that expands customers' digital experience by providing such services as sales, equipment management, maintenance, and operated equipment monitoring. The DevelonConnect Digital Platform app provides overall services that are needed throughout the equipment lifecycle and handles purchase requests to dealers, Parts Book search, online Parts Shop and service requests in a single app. By doing so, we are providing our customers with a "seamless" digital experience that is device-agnostic.

Smart Maintenance

"Smart Maintenance" is a distinctive service solution program which provides preemptive maintenance services to customers based on the data on equipment status and operations collected through DevelonConnect. Launched in 2019, it is now available in 18 countries worldwide, and we sell Smart Maintenance service solutions that are regionally-tailored based on customer requirements in each region. In 2022, we secured a total of 718 contracts, an 18% increase over last year, to support maintenance in a variety of countries around the world. In addition to this, we actively utilize DevelonCONNECT-based services and provide customized reports using our Develon Uptime Center to reflect the needs of customers by region.





Develon Uptime Center

There is a need to advance the service system using tele-management system (TMS)-based equipment information to maximize customer machine uptime. The Develon Uptime Center standardizes the product monitoring and service-providing process to establish a system that enables HD Hyundai Infracore to directly manage customer equipment and aims to provide advanced services, such as remote and prior services for customer equipment. We are reinforcing the roles led by the HQ to ensure that customers are satisfied with the safe use of our equipment by strengthening the remote diagnostics and service contents through the Develon Uptime Center operation. In particular, in 2023, we aim to drive dealer-led Develon Uptime Center operations to manage customer equipment through key dealers globally to maximize customer equipment uptime through always-on equipment monitoring.

Strengthening the Dealer Support System in a Contactless Environment

HD Hyundai Infracore strives to strengthen dealer service capabilities for customer satisfaction management. We support the strengthening of dealer channel capabilities based on augmented reality-based service capabilities and training. We have developed a maintenance support solution (AR Guidance Application) to enhance service capabilities, and will continue to develop and launch service contents utilizing ICT.

Benefits of AR Maintenance Support Solution



- Convenient and intuitive equipment diagnostics and maintenance with AR technology
- Reduce time invested in field validation and training of service field equipment by providing hands-on guided workflows
- Convenient resolution of field issues with intuitive information on fault code-based troubleshooting through 3D augmented models guide

Strengthening Dealer Service Channel Capabilities

HD Hyundai Infracore has been making continuous efforts to enhance its global customer service capabilities by strengthening dealer service evaluation and training systems. In 2022, a number of new product line-up additions have increased the need to train dealer service personnel on new products and technologies. Amid the lifting of COVID-19 pandemic restrictions, we are actively refining the expertise of our dealer service personnel through comprehensive online training and technical support, leading to an enhanced customer value proposition.

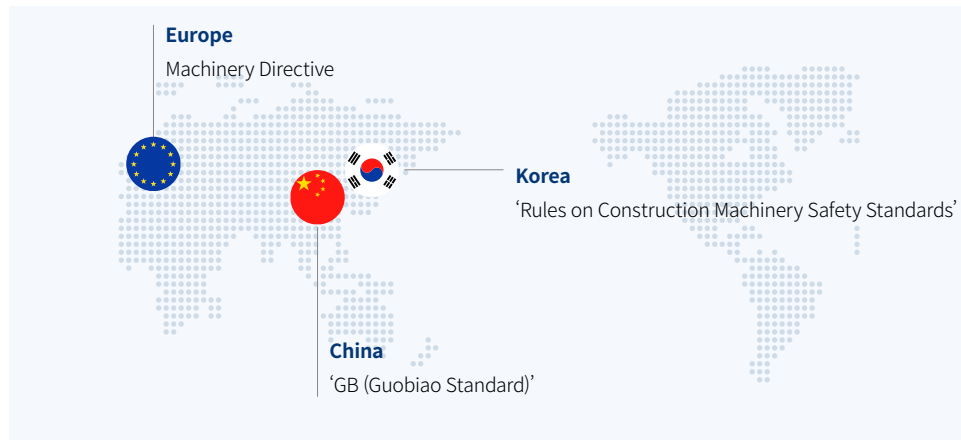




Risk Management

Compliance with International Safety Standards and Information Sharing

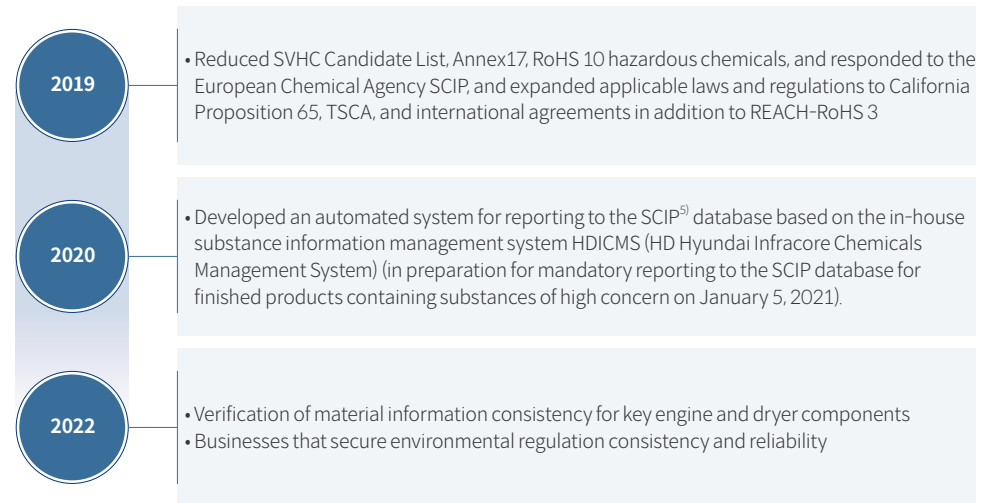
HD Hyundai Infracore sets up new product development and verification plans at the planning stage by reviewing technical regulations and international standards of various countries on safety and environment, including fire, noise, rollover, electromagnetic compatibility, and toxic chemicals. Through the Global Product Compliance Council (GPCC), a global collaborative chain, we share information on global safety regulations and standard trends and discuss proactive response measures. HD Hyundai Infracore complies with regulations of each country related to increased customer safety, including Safety Standards and the Product Liability Act, and takes all the necessary actions to prevent related accidents. To ensure safe operation and maintenance of our products, we provide customers with safety labels of three levels — danger, warning, and caution — according to the severity of the safety risks involved. We also specify matters that are critical to customer safety in a product manual. HD Hyundai Infracore complies with ISO 9244¹⁾ for the safety labels attached to its construction equipment and provides operator manuals for its machinery under ISO 6750²⁾.



1) ISO 9244: International standard specifications on general rules regarding construction equipment safety labels
 2) ISO 6750: International standard specifications on the format of construction equipment manuals (guidance and content)
 3) TSCA: Toxic Substance Control Act
 4) PFSA: Per- and Polyfluoroalkyl Substances
 5) SCIP: substances of concern in articles as such or in complex products

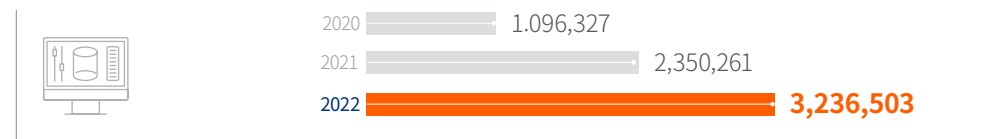
Material Information Management System

HD Hyundai Infracore makes various efforts to respond to chemicals regulations in different countries, including REACH/RoHS, TSCA³⁾, PFSA⁴⁾, and more. The scope of application of the relevant regulations is being extended from finished products to include parts. HD Hyundai Infracore included supplier's obligation to REACH/RoHS in the basic purchase contract form to raise suppliers' awareness of the importance of hazardous substance management. We also have been making efforts to assist suppliers with training and on-site guidance to improve the management competency of their staff, and helped them establish the management process. In 2023, we will continue to encourage supplier participation in responding to regulations and provide diverse training to help them enhance relevant capabilities.




Metrics and Targets

Smart Maintenance Manage Hours (Unit: hours)





Local Communities



keyword

Local community conservation

Dream School
(Employee-participated mentoring social contribution activities)


HD Hyundai Participate in the 1% Sharing Foundation
(1% salary sharing fund for employees)

Index

Employee Volunteer Hours

1,358 hours

UN SDGS



Governance

Operation of Corporate Community Involvement Committee

HD Hyundai Infracore spends donations after carrying out a comprehensive review of the public interest and appropriateness of programs and institutions, and the relevance of programs to the company's Corporate Community Involvement(CCI) direction. For the more transparent and proper collection of donations and execution thereof, we launched the CCI Committee, an organization that deliberates on and determines all matters related to donation, in 2017 and established relevant regulations. Led by the CEO, who also serves as the chairman of the ESG Management Committee, the CCI Committee is comprised of the CFO and executives in charge of legal affairs and ESG. The Committee deliberates where to spend donations followed by reviews of how much to spend on each proposed program considering each program's relevance to the company's business and its public nature together with the company's financial situation. In addition, donations worth 100 million or those deemed necessary to be reviewed by the BOD are deliberated and approved by the BOD.

Strategy

HD Hyundai Infracore seeks to growth together with local communities and realize a foundation for happy lives by promoting the founder's philosophy. The ESG/SharedGrowth Team promotes social contribution activities that take into account local characteristics based on community communication and social contribution guidelines. We hold workshops with staff in charge of CCI at our business sites, and share the CCI direction and major annual schedule, while incorporating local needs through staff in charge of local CCI. By doing so, we promote various CCI activities that address the needs of communities based on cooperation with reputable non-profit organizations in local communities. HD Hyundai Infracore aligns with the community involvement strategy of HD Hyundai Group to collaborate with local communities and encourage employee engagement in sharing activities. We also promote ecosystem conservation efforts in the community, striving to fulfill corporate social responsibility and drive sustainable contribution activities.

Strategic Directions of HD Hyundai's Social Contribution





Mutual Prosperity with Local Communities

Caring for the Underprivileged

HD Hyundai Infracore carries out various activities for the underprivileged, for example, by sharing kimchi prepared for the winter and briquettes and supporting social welfare organizations, including welfare facilities and soup kitchens.

We also engage in volunteer activities for the warmth of winter by delivering kimchi prepared by our employees to local communities in Incheon, Seongnam, and Gunsan. So far, we have delivered 57,025 packages of kimchi to a total of 11,051 households from 2011 to 2022. In 2022 also, we held a virtual Junior Engineering School class to introduce the principles of science and engineering to children at a local children's center in Incheon; donated to a facility for the disabled, a local children's center, and a migrant women's shelter in Incheon; donated to a facility for the disabled, a local children's center, and a soup kitchen in Gunsan; and donated goods to a soup kitchen in Ansan to replace volunteer club activities due to the COVID-19 situation. In the Incheon community, we held the 'Sharing Rice of Love' event to share rice with underprivileged neighbors every holiday. We continue to sponsor local welfare facilities by selecting the organizations of our employees' choice through periodic employee surveys. In 2023, we will continue to sponsor local welfare facilities and conduct employee-participated volunteer activities.

Construction Support for Hope Elementary Schools in China

Under the slogan of 'Building a beautiful society in China', our Chinese subsidiary has been participating in "Project Hope", a public service project that involves the provision of educational support for Chinese youth and improvement of the educational environment in underprivileged regions of China. The company has been supporting the construction of Hope Elementary Schools, thereby providing local youths with opportunities for education and contributing to the development of local education and sustainable development of the country. It also operates an honorary school principal system together with dealerships in China, and it has been holding the "Hope Travel Summer Camp" every summer since 2007. Under the honorary principal system, the CEOs of HD Hyundai Infracore dealerships are appointed as principals with the aim of encouraging participation of dealers and ensuring continued support for the schools. Also, teachers and students of Hope Elementary Schools from all around the country are invited to join the summer camp, which enables students to enjoy cultural experiences while having fun. Since 2001, we have planned to build a total of 37 Hope Elementary Schools in low-income areas of China and completed 34 schools. We continued to support them.

Local Community Conservation Activities

HD Hyundai Infracore is making diverse, active efforts to preserve the ecosystem in local communities where our future generations will live in. In 2022, 70 employees of HD Hyundai Infracore conducted environmental cleanup activities at Hwasu wharf and Hwadojin Middle School near the Incheon plant. As environmental cleanup activities were not implemented for two years due to COVID-19, more employees than usual participated to protect the local environment. In 2022 we will select one day in October as a day of service and conduct environmental cleanup activities near our workplaces. We continued our efforts to preserve the local ecosystem through volunteer activities. In 2023, we plan to expand environmental cleanup activities near workplaces across all sites, and we will expand our efforts to preserve local ecosystems by conducting pet beach preservation activities near our Incheon and Gunsan sites. Pet Beach means adopting a beach near your workplace and caring for it like your own pet, and it is a marine ecosystem restoration project organized by the Korea Marine Management Organization. Participants will participate in the Pet Beach program for two years and plan content on cleanup activities and marine environment protection.





Supporting Future Generations

Dream School

Since 2012, HD Hyundai Infracore has been running ‘Dream School’, a dream-finding program for youth based on mentoring, together with World Vision, an international NGO devoted to humanitarian aid across the world. Middle and high school students serve as Dream School mentees and receive five years of support for activities such as self-exploration education, professional mentoring, and access to professionals. The first year of Dream School mainly consists of “Dream Leaders” activities where a mentor and mentee meet once a month to discover the mentee’s area of interest and dream. In the second year, the “Dream Project” that is combined with an entrepreneurship program is executed to improve youth’s problem-solving capabilities. After mentoring activities during the second and third years of junior high school, mentees spend the next three years of high school materializing their individual dreams, including professional experiences and individualized coaching in self-exploration. To strengthen the mentees’ support system, we also provide training for guardians. In 2022, we organized a summer camp for mentors and mentees to spend time together to build rapport and empathy. The theme for the middle school camp was "Dreams and Community," and the theme for the high school camp was "Recovery and Connection. HD Hyundai Infracore will continue to be a company that supports the youth who will lead society to develop their dreams.

Performances in Dream School Program (2012~2022)



Mentees find their dreams with Dream School

481 persons

Mentors who grew together with children

414 persons

People who have worked with DreamSchool

509 persons



Support Based on the Company’s Core Competencies

HD Hyundai Infracore leverages its engineering knowledge and products for social contribution activities such as disaster recovery support, donation of educational equipment, and junior engineering classes.

Support for Natural Disaster Relief

In the event of disasters at national level, HD Hyundai Infracore provides construction equipment, such as excavators, wheel loaders, and Mini/Compact construction machinery. We provided construction equipment and donated money for the 2018 Indonesia earthquake. We provided 11 medium-sized excavators for recovery from the Uljin-Gangneung wildfires in March 2022. We also supported earthquake recovery work in Turkuye in 2023 by providing 10 medium-sized excavators.

Donation of Models for Education

HD Hyundai Infracore donated excavators, parts, and engines made for testing during the product development stage to the relevant departments of universities and vocational high schools for the purpose of education. In April 2020, we donated a D34 engine to the Gimje Campus of Korea Polytechnics. In 2021, we donated a prototype engine for educational purposes to the Inpyung Automotive High School.

The Junior Engineering Class

Launched in 2008, the Junior Engineering Class is a talent donation circle with a history of 14 years, run by HD Hyundai Infracore’s R&D executives and employees. In 2022, the Geumchang Regional Children’s Center in Incheon is holding hands-on classes for elementary school students, such as making sound-sensor light clocks and drones, to learn scientific principles in an easy and fun way. In 2023, we will expand our efforts in the Seongnam area by hosting a junior engineering class at the Hansol Regional Children’s Center at the Hansol Regional Children’s Center near the Seongnam site.



Promoting the Culture of Employee Participation in Social Contribution

1% Salary Sharing Fund for Employees

HD Hyundai Infracore participates in the HD Hyundai 1% Nanum Foundation and conducts social contributions in areas such as local communities, care for the underprivileged, and self-reliance of future generations. HD Hyundai 1% Nanum Foundation adds 99% hope energy to the sharing value of 1% of employees' salaries to support the underprivileged in our society and deliver a warm and healthy society.

In 2021, HD Hyundai 1% Nanum Foundation launched a project to support people with disabilities, provided agricultural products sets to the marginalized in the Seoul metropolitan area, and expanded the Hope Sketch project. In 2022, it donated a silver car to the elderly in Dong-gu District Office in Incheon and Seongnam City through the Donor Suggestion Project¹⁾.

1) Donor Suggestion Project (currently Happy Supporters), an initiative that leverages 50% of the donor's contribution into projects



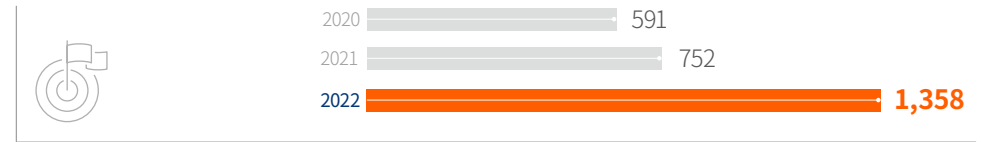
Building a System for Employee Engagement

HD Hyundai Infracore runs diverse support programs, such as the CCI diligence and indolence system and reward system, to encourage the voluntary participation of employees in CCI activities.

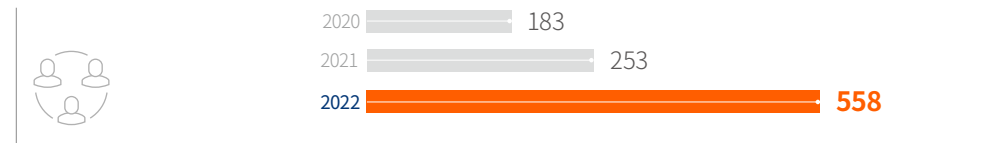


Metrics and Targets

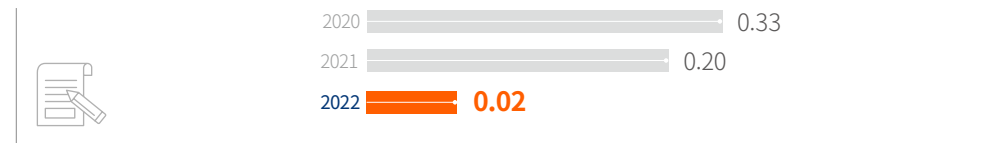
Total volunteer hours (Unit: hours)



Number of employees participating in social contribution activities (Unit: persons)



CCI expenses as a percentage of revenue (Unit: %)





Safety and Health



keyword

Health and Safety Management System (ISO 45001) Operations

Safety Culture Activities

Index

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UN SDGs

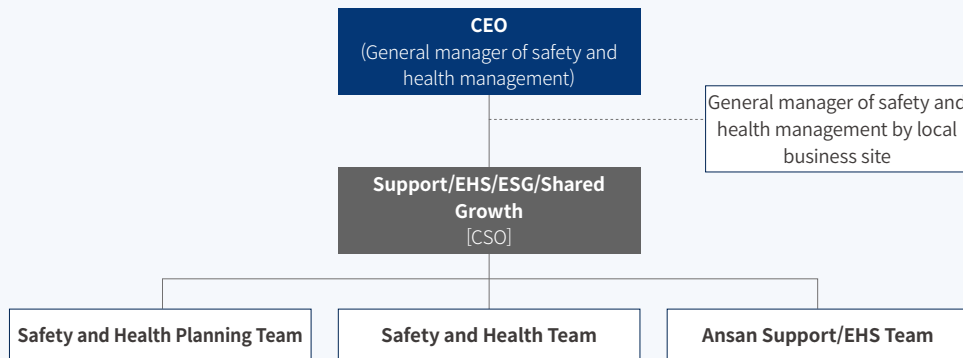


Governance

Safety and Health Organization and Decision-Making Structure

HD Hyundai Infracore is strengthening its autonomous safety culture and safety and health management system under the leadership of the Safety and Health Team, Safety and Health Planning Team, and Ansan-Support EHS Team under the Chief Safety Officer (CSO) in charge of Support-EHS, ESG, and Shared Growth. The BOD and the Safety and Health Management Committee conduct final deliberations, resolutions, and decisions on safety and health issues in order to promote company-wide management of safety and health as a priority value. The Chief Executive Officer (CEO) makes decisions on key issues for the implementation of the safety and health management policy, and reports key issues to the BOD and the Safety and Health Management Committee, the premier decision-making body, to facilitate decision-making.

Safety & Health Management Organization



Safety and Health Decision-making Bodies and Key Roles

Classification	Convocation	Agenda	주관	주요 실적
BOD	Annual	Approval of safety and health plans	BOD	Report on plans for 2023 Dec. 15, 2022
Safety & Health Management Committee	Semiannual	Inspection and reporting on management's performance of safety and health obligations	CEO, senior outside directors	Feb. 21, 2022 (1st) Jul. 12, 2022 (2nd)

Strategy

HD Hyundai Infracore established strategic tasks based on the EHS management vision of 'Global Leading Green Company' and HD Hyundai's core value of 'Safety for All'. The annual EHS plan and key tasks that are established every year are expanded and applied as a KPI of the executive in charge and relevant departments, and managed along with the EHS organization. The five strategic tasks for EHS management were established in order to share key elements of its EHS management strategies both internally and externally. They are composed of five sub principles, including the operation of the environmental safety management system, and induce company-wide participation in environmental safety management based on the EHS management policy.

5 Strategic Tasks for EHS Management

Global Leading Green Company				
Operation of the EHS Management System Evaluation on advance EHS management indicators / Certification on EHS management systems at overseas sites / Enhancement of EHS competencies	Shared growth with suppliers Achievement of shared growth in EHS with suppliers and inhouse contractors	Response to climate change Efforts to reduce GHG emissions / Expansion of a culture of GHG reduction	Expansion of eco-friendly products Continuous development of eco-friendly products / Expansion of the production of eco-friendly products	Enhancement of communication with society Disclosure of environmental management information / Reinforcement of social contribution activities related to EHS



Health and Safety Policy

HD Hyundai Infracore has established and operates a health and safety policy to prevent industrial accidents and create a comfortable working environment by establishing standards for occupational safety and health and clarifying responsibilities. The health and safety policy applies company-wide, including work sites, supply chains, and sales channels, and covers all stakeholders, including employees and suppliers.

Health and Safety Management System (ISO 45001)

HD Hyundai Infracore continue to conduct improvement activities to identify and eliminate industrial accident risk factors that may arise from corporate activities through ISO 45001 standard for health and safety, and through safety inspections on hazardous machines and equipment and the Process Safety Management (PSM) system. We have also established and revised our internal EHS standards in accordance with ISO 45001 certification. In particular, as various safety and health-related laws and government guidelines such as the Serious accident Punishment Act have been strengthened in recent years, in order to comply with laws and regulations and manage risks, we have prepared improved procedures for identifying hazards and risk factors, conducted special inspections and measures, taken measures to establish and implement measures to prevent recurrence in the event of a disaster, expanded safety investments such as special budgets for safety and health, improved various safety systems, and strengthened safety organizations and leadership to fulfill our obligations to ensure safety and health. The company's safety and health activities are evaluated for appropriateness through semi-annual deliberations and resolutions of the Safety and Health Management Committee, and continuous improvement activities are carried out by reflecting them in the safety and health plan and environmental safety and health policy through annual performance evaluation.

Environmental Health and Safety Policy (EHS Policies)



At HD Hyundai Infracore, all employees comply with the policy of respecting humanity and preserving the environment in all corporate activities, and enhancing the enrichment of human life and the future value of the earth.

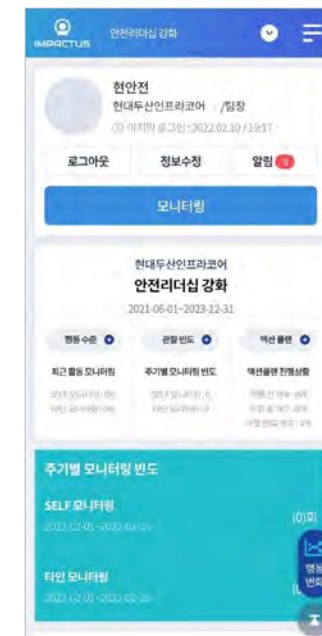
Area	Definition
Operation of the EHS System	We establish, operate, and continue to develop a system designed to improve EHS impacts of our products, activities, and services.
Compliance with EHS Regulations	We adhere to national and international EHS regulations, develop new relevant technology, and seek measures to apply and minimize risks, thus establishing strict internal management standards, and faithfully implement them
Development of Eco-friendly Technology to Boost Customer Safety	We place top priority on our customers' health and safety and develop eco-friendly technologies, and then preserve resources and energy to actively contribute to sustainable environmental conservation and fight against global warming.
Realization of Zero Occupational Accident	We encourage all suppliers as well as employees to participate, create a pleasant and safe people-centered work environment, improve the health and quality of the lives of all our employees and suppliers, and thus achieve a zero-accident workplace. In addition, we focus on minimizing our environmental impact and carrying out pollution prevention activities to contribute to environmental conservation.
Communication with Stakeholders	We expand communication with our stakeholders and disclose EHS performance transparently to continue to grow as a trusted and respected company that fulfills its social responsibilities.



Safety Culture Activities

HD Hyundai Infracore implemented a project to establish a safety culture to foster safety awareness among leaders and workers. In 2021, we formed the Safety and Health Planning Team under the Support/EHS/ESG/Shared Growth Organization and promoted the first safety culture project jointly organized by labor and management in Korea. Major activities in 2022 include safety leadership mind-set (internalization) training and one-on-one coaching for leaders to strengthen their ability to spread safety values. For employees, we conducted on-site customized Behavior Based Safety (BBS) mind-set (internalization) training to help build a safety consensus. We continue to promote efforts to establish safety as a culture by holding various events and promotions to activate natural safety conversations with colleagues. We also observe Safety Day every April to recognize and reward sites for their efforts to create a safe workplace. At the 2022 Safety Day event, employees and business partners pledged their resolve to create a safe workplace by taking the "Zero Accident Safety Resolution" together.

Safety Day (every April)	<ul style="list-style-type: none"> Identify safety and health champions and share best practices Recognize and reward site safety and health activities Safety pledges and zero-disaster resolutions
Build and adapt safety culture apps	<ul style="list-style-type: none"> Build app to engage in safety culture activities <ul style="list-style-type: none"> Safety leader: Reflecting on my safety values and behaviors Workers: Reflecting on my safety behaviors and those of my coworkers; Reflecting on the safety awareness of our leaders
Safety awareness assessment (yearly)	Leaders, conduct worker safety awareness assessment to determine the level of safety awareness in workplace and improve and set direction for safety culture project
Safety culture events	<ol style="list-style-type: none"> Safety Culture Start Event (one-time only): Accept safety culture cheer messages to encourage workers to access the app Safety Culture Activity Recognition (Semi-Annual): Recognizing and rewarding Behavior-Based Safety (BBS) champions Recognize safety culture leaders (quarterly) and workers (monthly): Recognize and reward leaders and workers who participate in voluntary safety culture initiatives Safety Behavior Video Contest: Create a video of the top 10 safety behaviors employees committed to and run a contest
Safety and health slogan contest	Hold a safety and health slogan contest to ensure that anyone visiting the work sites understands and embraces safety awareness on site. 26 slogans selected are posted as signage for all regions





Safety Management

Worksite Hazard Management

HD Hyundai Infracore implements a discussion-based risk factor identification process with its employees to encourage them to manage risk factors by themselves in the first place by observing and improving potentially hazardous behaviors. In 2022, we strengthened self-management activities for risk factors, and thus identified hazardous behaviors and safety risk factors and improved them.

Serious Disaster Prevention Activities

HD Hyundai Infracore has expanded its management's Safety Walk to strengthen safety management for serious disasters and conventional accidents, and expanded its on-site legal compliance assessment from once a year to twice. The legal compliance assessment is an internal evaluation indicator that reflects rewards based on self-assessment of safety and health improvement activities at the site, and evaluates general items such as risk assessment, compliance with occupational safety and health laws, number of accidents, and risk communication activities. In 2022, we conducted a special diagnosis by an external expert on fire explosion and major disaster prevention to proactively check and improve risk factors that may cause fire accidents and major disasters, achieving an improvement rate of 92.6%, and plan to reach 100% by 2023.

Process Safety Management Activities

HD Hyundai Infracore operates the Process Safety Management (PSM) system to prevent serious industrial accidents in the production process. Through the system, those businesses create a report on comprehensive, scientific prevention activities, such as process risk assessment and establishment of a safe operation and emergency plan, and submit to the government, after which the government examines and reviews the report and has the respective worksite implement preventive activities to prevent fatal industrial accidents. In 2022, we conducted regular PSM audits for our Incheon and Gunsan plants, which are conducted every four years, and as a result of the audit, the Gunsan plant achieved an S grade. HD Hyundai Infracore continuously improves and manages annual self-audits and change management committees.

Operation of Advanced Integrated Management System of Safety and Health

HD Hyundai Infracore has established and operates a database covering all areas such as laws and standards, chemicals, laboratory safety, fire facility management, employee medical examination history, and occupational health management by utilizing the HI-EHS integrated management system. The integrated management system is based on the global safety and health management system (ISO45001) standard and operates on the principles of safety management planning, implementation, verification, and action.

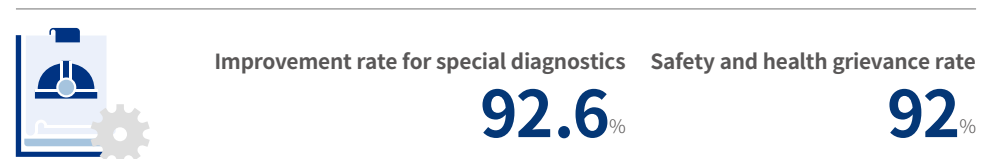
Safety Training

HD Hyundai Infracore provides safety training aimed at encouraging voluntary participation and level improvement by promoting safety and health leadership at all levels, awareness change, knowledge cultivation and self-development. During the first quarter in 2022, we focused on a small-group, online training curriculum to minimize impacts caused by COVID-19. Then from the second quarter, we raised employees' safety awareness by conducting technical position training and intensive training for safety managers including team leaders and part leaders. We are also working to prevent atypical work safety accidents by strengthening EHS training to employees in charge of facility/construction and suppliers.

Participants in Safety & Health Training



Health and Safety Improvement Rate





Emergency Response

HD Hyundai Infracore operates an integrated control center to respond to unexpected emergencies. This is to operate an emergency response system, disseminate real-time status of disasters and emergencies, respond quickly, and ensure the safety of the workplace and surrounding areas. We respond to natural disasters such as typhoons and earthquakes in accordance with the emergency response manual, and conduct scenario-specific response drills for fire and oil leakage emergencies depending on the nature of the business. In 2022, we supplemented the contractor management regulations and emergency response scenarios to prevent major disasters, and conducted a total of 97 emergency response drills across all work sites.

Fire Prevention and Inspection

To prevent fires related to electricity, overheating, and dust, HD Hyundai Infracore has been upgrading its firefighting facilities and improving its firefighting capabilities. The company conducts fire monitoring and response through the operation of a 24-hour disaster prevention center and inspects its own firefighting facilities, and in 2022, it conducted a special diagnosis for fire and major disaster prevention and achieved an improvement rate of 88%. In 2023, we plan to conduct two periodic inspections of legal firefighting facilities and, for the first time, conduct external expert diagnostics to prevent accidents at dangerous goods facilities. We also conduct emergency response drills once a quarter for employees at our Incheon Global Business Center (GBC) to prevent large-scale casualties in the event of an accident, and participants in the drills strengthen their emergency response capabilities through CPR and rescue handkerchief training and practice.



Health Management

Managing Occupational Disease

HD Hyundai Infracore strives to prevent occupational diseases such as noise-induced deafness and musculoskeletal disorders. To this end, we hold TF Meeting on Noise Process Improvement (semi-annual) and the Musculoskeletal Disorder Improvement Working Council meeting (monthly), which is composed of EHS, labor union officials, worksite managers, and employees in charge production. We also arrange for medical professionals to visit worksites regularly as part of our efforts to improve employees' safety and care for their health. As the number of workers suffering from hearing problems has been increasing, HD Hyundai Infracore has set the principle to fundamentally minimize noise-generating processes while also offering hearing protection gears, and providing education on the proper use of them. In 2022, we carried out special check-ups and completed work transition for employees requiring attention.

Health Management Programs

In helping its employees manage their health, HD Hyundai Infracore is conducting preventive management activities for three diseases (dyslipidemia, liver disease, and hypertension) that occur mainly among employees. For major activities, we provide doctor consultations, health newsletters, health campaigns, and low-sodium diets. When health and wellness issues arise due to infectious diseases such as COVID-19, we operate the Emergency Situation Room to conduct preventive activities and promptly relay the relevant information to our employees, including countermeasures. We pay for mandatory vaccinations for six diseases - yellow fever, cholera, malaria, typhoid, hepatitis A, and tetanus - designated internally for employees who go on business trips to countries with limited healthcare.





Mental Health and Job Stress Management Program for Employees

To manage employees' mental health, we conduct stress surveys to manage the mental health of its employees, and based on the survey results, it runs a professional stress management program, with a particular focus on high-risk employees. We ensure that our employees can access counseling services whenever necessary through the psychological counseling office within an affiliated clinic and an external counseling center. Launched in April 2014, the "HUGIN" program specializes in psychological counseling and partners with external professional organizations to provide free professional counseling in all areas where psychological counseling is needed, including work, personal concerns, family, children, parenting, and career. We also provide training and stress assessments to protect the health of emotional workers, and specialized training for our Employee Assistance Program (EAP) representatives. Since 2021, we have been training field managers as peer counselors for mental health management, and by 2023, all field managers will have completed the peer counselor course. We also conducted healing programs for crisis departments with relationship conflicts between employees or job instability.

Certified as Excellent Worksite in Employee Health Promotion

HD Hyundai Infracore's Gunsan Plant was first designated as an Excellent Worksite in Employee Health Promotion in November 2015, and re-certified in February 2022 in recognition of its exemplary in-house health promotion activities, including a health management program, a musculoskeletal disorder prevention program, and a job stress prevention program. The Excellent Worksite certification is the most important health industry-recognized certification, which involves a comprehensive evaluation of 40 items in six areas, such as organizational culture, health promotion activities and programs, and environmental management. Designated worksites are awarded the benefit of priority recommendations for a government reward and commendation.



Risk Management

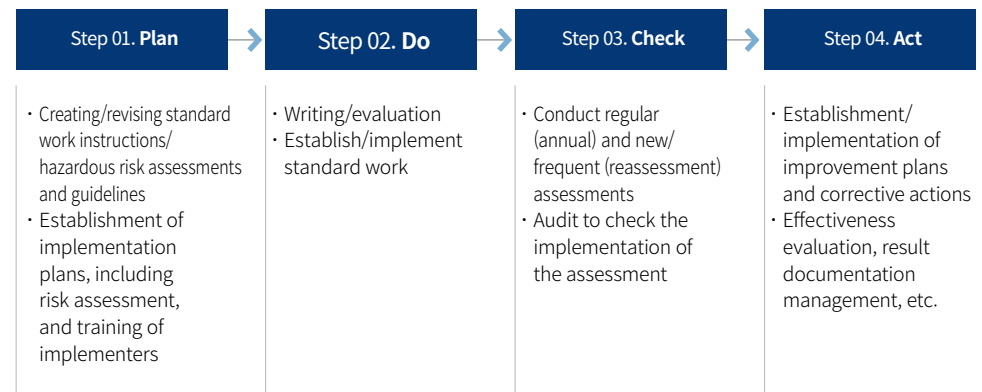
Health and Safety Performance Monitoring

HD Hyundai Infracore conducts annual performance analysis to continuously improve and develop its performance. The company has developed company-wide EHS management evaluation indicators and applied them to our business sites in Korea and China. We also strive to improve the execution capability of our EHS management system and raise the management standards by reflecting the EHS management evaluation to the performance indicators of the executives or related departments. We will further strengthen our execution capabilities by strengthening required competencies based on clear EHS standards and systems linked to our value chains, such as purchasing and production, and by applying EHS management to all business operations.

Risk Assessment Process

HD Hyundai Infracore operates on the 'Risk Factor Self-Management' system, in which not only field managers but also general employees find potential risk factors in the work process by themselves, analyze the risk level, and improve it. Periodic risk assessment is conducted at the beginning of each year, and all processes and work activities, risk factor analysis, and conclusion of improvement activities are conducted in accordance with the risk assessment guidelines. In addition, risk assessments are conducted from time to time on the installation, relocation, change, dismantling, and expansion of machinery and equipment at the worksites, process changes, and EHS accidents, and the methodology is based on the periodic assessment method. In 2022, we identified and improved 2,788 potential risk factors, providing EHS technical support to internal partners and risk assessment recognition support. In 2023, we plan to expand and strengthen training and evaluation to involve all employees in regular risk assessments.

Risk Assessment Process





Internal Supplier Council

HD Hyundai Infracore organizes Internal Supplier Council to share safety and health information with 23 internal suppliers and to raise safety awareness among representatives of internal partners. In addition to sharing safety and health best practices and major activities of each supplier, the Internal Supplier Council listens to the opinions of suppliers on safety and health and reflects and improves them to further strengthen the safety and health system with suppliers.

Symbiotic Cooperation Program

HD Hyundai Infracore participated in a symbiotic cooperation program organized by the Korea Occupational Safety and Health Agency in 2022, with 10 internal suppliers participating in activities to strengthen the safety and health system, achieving a grade of 'A' as a result of the evaluation. In 2023, we will expand participation to include not only internal suppliers but also external suppliers, and continue to support the establishment and strengthening of suppliers' safety and health systems through safety and health consulting support for major suppliers.

Prevention-focused Worksite Safety Management

HD Hyundai Infracore has established the establishment of a system of prevention activities, internalization of risk factor self-management activities, and monitoring and evaluation of compliance with laws and regulations as mid- to long-term goals to achieve an accident-free workplace. In addition, we are focusing on further improving safety devices to prevent serious accidents, building a safety culture with labor and suppliers, and strengthening the organization and workforce.

Assess supplier safety capabilities

In 2018, we established the definition and criteria for key suppliers to support and improve ESG activities and more systematic supply chain ESG management. Based on this, we investigated the status of our key suppliers and conducted an assessment of ESG issues such as human rights protection, ethical management, and EHS during OSA (On Site Assessment) to identify suppliers with high ESG risks. OSA, which was planned in 2020, was suspended due to the impact of COVID-19 and resumed in 2021. HD Hyundai Infracore plans to enhance its ability to manage ESG issues through ESG assessment and improvement activities linked to supplier assessments.

Metrics and Targets

HD Hyundai Infracore manages accident rate and fatality rate for employees and internal partners. By doing so, we aim to prevent minor accidents from repeating and becoming a major accident, and to further strengthen supplier's safety management. Accident rate indicators are managed as a major key performance indicator (KPI) of respective executives, based on which we plan to further promote a safety management culture. Results of analyzing accidents that occurred at our worksites in the past five years from 2018 to 2022 indicate that accidents continue to go down thanks to continuous strengthening of safety activities. However, we also found that conventional accidents, such as jamming, fall, and bump, have been occurring continuously, with unstable practices and behaviors being the root cause of 66% of such accidents. To prevent accidents, we plan to continually identify and improve the near miss frequency rate (NMFR).

Number of Self-management Cases for Risk Factors in 2022



HD Hyundai Infracore

2,788 cases

In-house suppliers

1,137 cases



ESG FACTBOOK



Environmental
Social
Governance

61
65
73



Environmental

2030 goals

GHG Emissions Intensity

76% reduction (by 2020)

Renewable Energy Utilization

81%

Renewable Energy Adoption

107 MWp

Energy Usage

2,073 TJ

Cumulative THC air emissions improvements

43,286 kg

Water Consumption

598,686 ton

ZWTL as a Landfill Agent

Maintained **GOLD** status

Environmental Management Implementation System

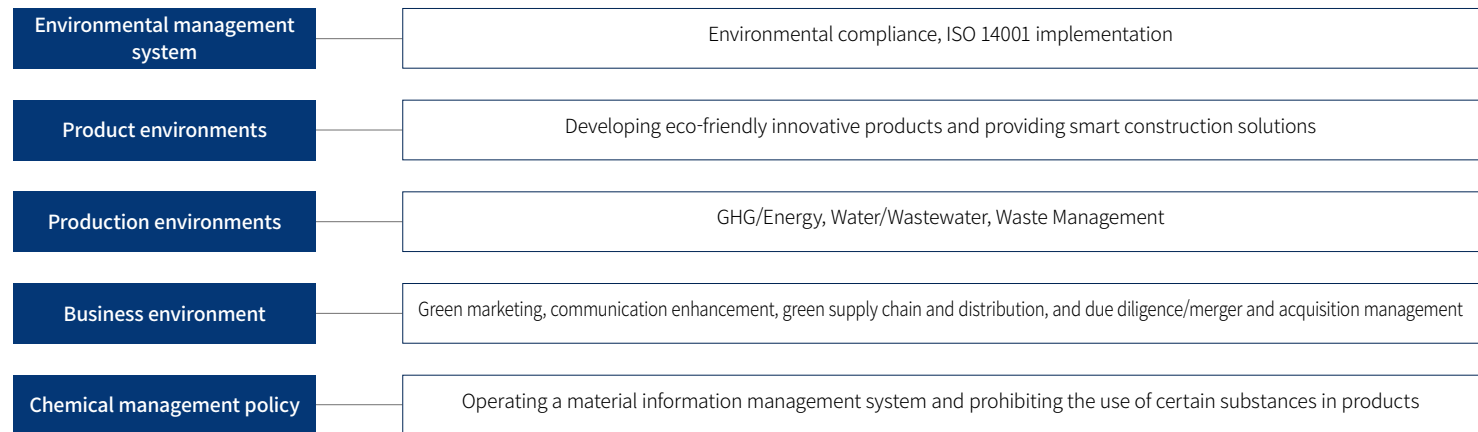
HD Hyundai Infracore considers the environment as a top priority sustainable value and strives to realize environmental management.

Establishment of Environmental Management Policy

HD Hyundai Infracore has published environmental management policies for environmental management system, product environment, production environment, business environment, and chemical management for all stakeholders in order to pursue sustainable growth by strengthening environmental management activities in the entire value chain of the company.

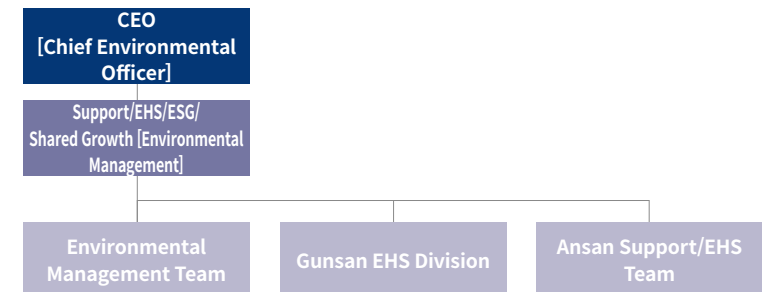
[Environmental Management Policy](#)

Configuring Environmental Management Policies



Environmental Management Implementation Organization

HD Hyundai Infracore conducts final deliberations, resolutions, and decisions at the ESG Committee, a committee under the BOD, to promote environmental management company-wide. The Chief Executive Officer (CEO) makes decisions on key issues for the implementation of the environmental policy and reports to the BOD and the ESG Committee, the premier decision-making body, for decision-making.

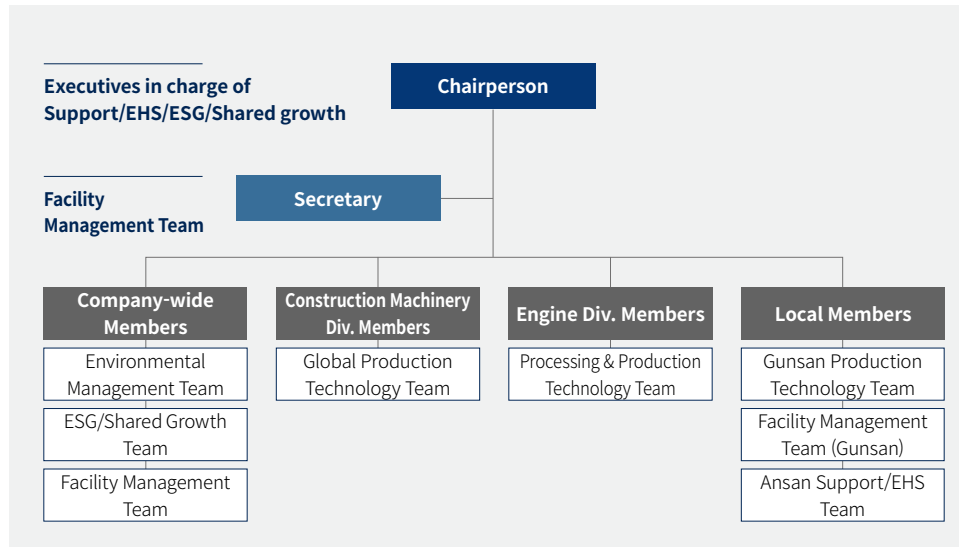




Energy Management Council

HD Hyundai Infracore operates the Energy Management Council to respond to the rapidly changing internal and external energy business environment. The Energy Management Council shares monthly energy performance and unit performance by headquarters. The energy unit is managed as the company's main goal (KPI). The main tasks of the Energy Management Council include establishing an annual company-wide energy use plan, establishing a basic plan for rationalizing energy use, organizing company-wide energy management training and events, and setting guidelines for energy units. Internally, the energy management regulations are specified and systematically managed.

Operation of Energy Management Council



Environmental Management System (ISO14001)

HD Hyundai Infracore has put an Environmental Management System in place based on international standards, and examines the operation of its Environmental Management System and the level of compliance with relevant laws and regulations by conducting internal and external inspections every year. Our global business sites continue to put efforts in minimizing environmental pollution and damage that can arise from corporate activities by earning such international standards as the ISO 14001 environmental management certification. In 2022, we implemented tasks mainly in the direction of minimizing worksite environmental impact and strengthening the environmental risk management system. We also strived to establish an ESG culture, respond to climate change, minimize environmental impact, upgrade the integrated environment monitoring system, and advance compliance .

Environmental Education

HD Hyundai Infracore conducts environmental education for the purpose of establishing an environmental management system for employees and understanding the environmental management environmental management for field managers. In 2022, 29 EHS-related personnel and 20 EHS internal auditors, 85 new employees, and 20 practitioners of RE100 response and greenhouse gas emissions. and greenhouse gas emission practitioners.

Program	Description	Target	Participants
EHS Keyman Training	Understanding ISO 14001 and ISO 45001 requirements	EHS Keyman	29
EHS Internal Auditor Training	ISO 14001, ISO 45001 internal audits and how to respond	EHS personnel	20
New employee onboarding	Understanding sites environmental management - Environmental management and corporate values, environmental legal and regulatory trends, climate change mitigation and carbon neutrality	New employees	85
Climate change and RE100 responses	RE100 Action Plan to address climate change	RE100 response practices and GHG emitting facility representative	20

Environmental Management

HD Hyundai Infracore's ESG Management Committee is tasked with managing indicators with high impact on local communities, such as fine dust, waste, and wastewater. HD Hyundai Infracore manages all environmental impact substances it emits at levels below 40% of the legal standards, with stricter control. As of 2022, we operate the environmental management policy internally and apply HD Hyundai Infracore's environmental management policy to all employees, subsidiaries, and suppliers. In addition, we are promoting management activities for a sustainable environment through the establishment and phased implementation of specific environmental targets for air, water, and waste at a level of 40% reduction from the BAU in 2030.

Raising Resource Utilization Efficiency

HD Hyundai Infracore promotes activities to improve the efficiency of resource use and reduce the emission of various pollutants generated in the production process in order to efficiently use finite resources and minimize environmental impact on the earth and local communities. In 2021, we established and improved departmental targets for material environmental impacts based on environmental impact assessments based on the number of substances in each process to improve resource utilization efficiency in the production process. Our environmental impact is continuously monitored and we have set a goal of reducing our footprint by 8% from the 2022 baseline.

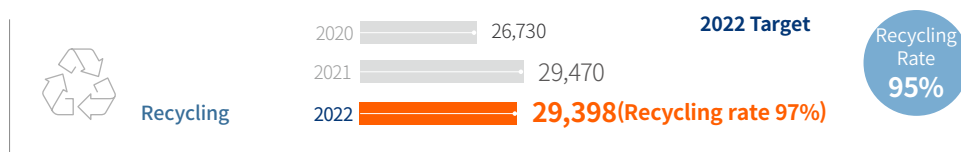
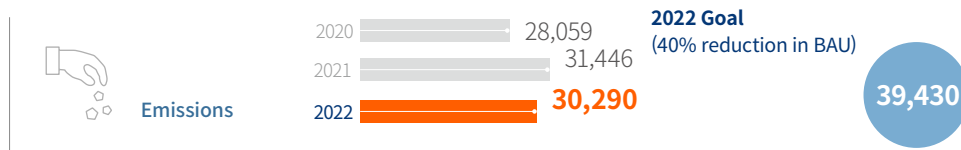


Reuse and Recycling of Waste

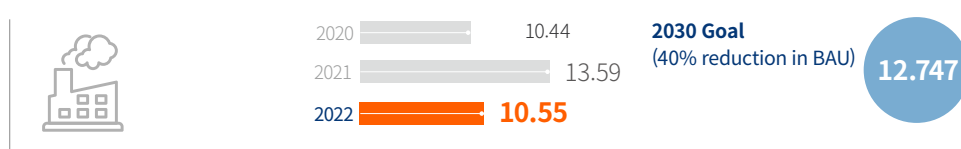
To ensure the efficient use of limited resources at all of its business sites in Korea and China, HD Hyundai Infracore pursues design optimization, checks its plant facilities, and maintains them in the optimal operational state, thereby conserving resources in its daily operations. Through waste emission reduction activities in 2022, we achieved an emission reduction of 18,662 tons compared to the baseline, and recycled a total of 29,398 tons of generated waste, contributing to the recycling economy. The Incheon Plant has earned the Gold ZWTL¹⁾ Validation (95~99%) by promoting a continuous resource reuse policy. HD Hyundai Infracore is making various attempts to reduce the reclamation of wastes and to maximize recycling. Through active investments in wastewater treatment facilities, we reduced the water content of wastewater treatment sludge, leading to a 60% or more waste reduction from the 2021 level. In addition, we are continually engaging in activities that are aimed at raising the resource recycling rate at business sites, such as collecting fine dust that is generated during the process step and using it as manufacturing fuel of brick and cement. HD Hyundai Infracore will expand the scope of management to include supplier wastes at our work sites, in addition to wastes from our business sites, to improve our recycling level.

1) Zero Waste to Landfill: Validation for zero waste to landfill. This is a US-based Underwriters Laboratory (UL) validation, and a grade is assigned according to the waste recycling rate: Platinum (100%), Gold (95-99%), and Silver (90-94%).

Waste and recycling performance and goals (Unit: ton)



THC total (Unit: ton)



Management of Air Pollutants

HD Hyundai Infracore conducts continuous improvement activities such as process changes and introduction of eco-friendly technologies to reduce air pollutants generated in the production process. We are reducing air pollutant emissions by installing prevention facilities and high-efficiency filters with BAT¹⁾ technology at each work site and investing in low-NOx burners²⁾. In addition, we are carrying out improvement activities to minimize the generation of pollutants through substitution of eco-friendly raw materials and process changes in the production process according to the plan. By doing so, we achieved a reduction of 4.13 tons of THC³⁾ emissions compared to the 2022 baseline, and we are continuing to improve as planned. In addition to strictly measuring pollutants beyond the legal self-measurement intervals, we have established a full-time monitoring system using IoT technology to establish and manage standards for emissions below 40% of the legal standard.

1) Best Available Technology
 2) Method to adjust the mixing characteristics of fuel and air, or to control the oxygen concentration and flame temperature in the combustion zone
 3) Total hydrocarbons

Water Quality Management

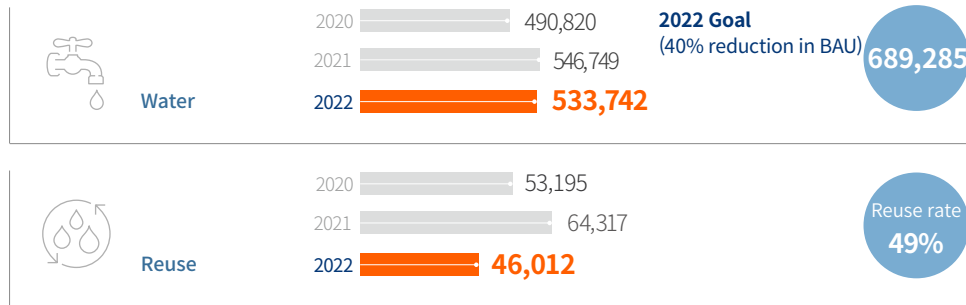
All wastewater generated from production processes goes through a series of physical, chemical, and biological treatment process at the wastewater treatment facility in business sites, and is purified before final discharge. Pollutants deposited at plant sites can be discharged into the ocean with rainwater. HDI therefore operates non-point pollution source reduction facilities to remove the environmental risk of polluting nearby ocean waters. Clean rain water is discharged after going through a vortex device and a fiber-type filter. The Incheon Plant reduced the amount of chemicals used for wastewater treatment, separately treated non-degradable wastewater, and made other improvements by conducting a technical diagnosis of its wastewater treatment practices in 2018. It also installed a device for measuring influent wastewater, which enabled the wastewater treatment based on raw water concentration to maximize wastewater treatment efficiency. Also, a dehydrator performance improvement construction was carried out to manage the wastewater treatment sludge water content, resulting in reduced waste. Wastewater of the Incheon and Gunsan Plant goes through a wastewater treatment facility which then flows into each respective local government's sewage treatment plant for treatment. More than 49% of the wastewater at the Incheon Plant goes through in-house treatment at a wastewater recycling facility and is reused, enabling minimized outside discharge of pollutants. HD Hyundai Infracore also set an internal standard on water pollutant discharge concentration at around 40% of the legal requirement, as part of our commitment to complying with environmental laws and regulations



Water Management

HD Hyundai Infracore manages water sources and tracks the status of water intake to effectively reduce water usage and expand water reuse. The Plant has been also operating a wastewater recycling system designed to recycle some of the effluent discharged from its wastewater treatment facility and reuse it for the manufacturing processes, and has continued to expand ways to use recycled effluent. It reused 49% of its wastewater for manufacturing processes and others in 2022, thereby recording 41,150 tons in annual recycled water consumption. Through wastewater reclamation and rainwater reuse systems, it reused 4,862 tons of water for landscaping and coolants. To reduce water use, we achieved a reduction of 155,532 tons of water use compared to the baseline in 2022 through continuous improvement activities such as process changes and introduction of eco-friendly technologies in addition to reuse, and we are conducting continuous improvement activities according to our plan.

Water Use and Reuse Performance Goals (Unit: ton)



Strengthening Environmental Emergency Response System

HD Hyundai Infracore has established an emergency response system against environmental spills, including a pollutant leakage block system at the Incheon Plant to minimize the chances of environmental accident and its consequences. We increased the number of floodgates to six to minimize the risks of pollutant leakage by rainwater. We also further strengthened our environmental monitoring system by installing pollutant detection sensors, building automatic water gate shutdown systems, replacing old wastewater pipes, and the improvement of mark-up management of environmental facilities. We also use an integrated IoT-based monitoring system to reduce environmental risks, respond to environmental regulations, and prevent environmental accidents. The system keeps environmental facilities, including dust collectors, in optimal condition and reliably controls pollutant emissions. It also responds immediately to pollution spills outside of our operations due to environmental incidents. In 2022, we expanded the oil leakage detection and emergency shutdown system.

Chemical Substance Information Management System

HD Hyundai Infracore makes various efforts to respond to hazardous chemicals regulations, including the EU’s REACH/RoHS 3, and the “Act on the Registration and Evaluation etc. of Chemical Substances” and the “Chemicals Control Act” of Korea.

We conducted a complete inspection on hazardous chemicals used throughout our work processes in 2015; conducted a study on the possibility of replacing some of hazardous chemicals, and replaced or removed 11 types of chemicals subject to management under The Chemicals Control Act in 2016. As of 2022, we have replaced a total of 53 hazardous chemical products to establish a zero-hazardous chemicals workplace.

We have established a database of product raw materials and used substances inventory to systematically monitor and manage them, and based on this, we strive to disseminate related chemicals-related systems and management methods by conducting internal and external partner training every year.





Social

Employees are the most important resource for a company's growth and success. HD Hyundai Infracore creates a diverse, fair and inclusive workplace to deliver an environment for employees' happiness and work engagement. To this end, we strive to make a work environment where all employees can enjoy the values of diversity, fairness, and inclusion through human rights management, respect for diversity, talent development, and organizational culture.

Human Rights Management

Human Rights Management Policy

HD Hyundai Infracore is committed to protecting the human dignity and value of our stakeholders, including employees and business partners. As a participant of the UN Global Compact (UNGC), HD Hyundai Infracore supports the Ten Principles of the UNGC on Human Rights, Labour, Environment, and Anti-Corruption, and complies with the International Bill of Human Rights and the International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work. In 2022, HD Hyundai Infracore declared human rights management and regulations on practicing human rights management.

Strengthening the Management of Human Rights Risks

As a global company, HD Hyundai Infracore is committed to fulfilling its responsibilities regarding human rights. To this end, we have set the establishment and implementation of human rights risk management system as one of our ESG strategic tasks, monitored by the concerted efforts of the ESG Committee. In addition, to handle human rights complaints, we accept reports of sexual harassment, verbal and physical violence through the Help Line at the Human Rights Protection Center (previously called the Gender Equality Center) and the group's ethics management reporting site, and proceed to investigate human rights complaints and handle complaints after verifying the facts.

General Principles of Human Rights Management

Non-discrimination

We respect diversity and prohibit any form of discrimination based on gender, age, race, disability, religion, political affiliation, or national origin.

Labor compliance

We comply with the legal working hours in each country in which we operate, and pay all employees fair compensation for their work, including payslips.

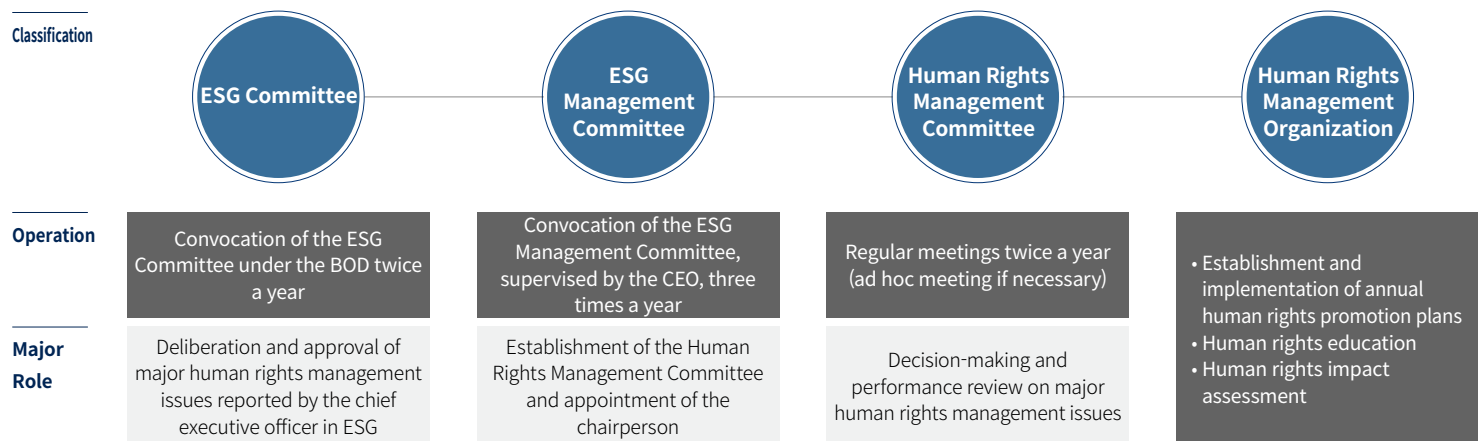
Preventing workplace bullying and sexual harassment

We recognize that workplace harassment and sexual harassment are illegal acts that cause loss of work motivation and decreased productivity and our employees actively cooperate in prevention and practice to eradicate workplace harassment and sexual harassment.

Freedom of association and collective bargaining

We guarantee freedom of association and collective bargaining in accordance with the Constitution of the Republic of Korea and the Labor Relations Act, and do not discriminate against union formation, membership, or activities.

Human Rights Management Promotion System





Human Rights Impact Assessment

To identify the status of human rights within the organization, we reviewed the reports received through our reporting channels and the outcomes of our Focus Group Interview(FGI), and established and operate a process for responding to violations of human rights based on the results of our studies. To raise awareness concerning the importance of the human rights of our employees, we expanded the existing Gender Equality Center into the Human Rights Protection Center. In addition, we have continued to provide on/offline education to our office workers and technicians, customized to their different working environments, since 2017 with a goal of enhancing employee awareness of human rights.

With the establishment of the Human Rights Management Committee in 2022, we conducted our first Human Rights Impact Assessment based on the Human Rights Committee Standard Form. The Human Rights Management Committee deliberated on the results of the human rights impact assessment through the self-diagnosis of the departments in charge, and will pursue internalization of ESG management through updating evaluation indicators and participatory evaluation by external experts.

Scores for Each Category of Human Rights Impact Assessment Results



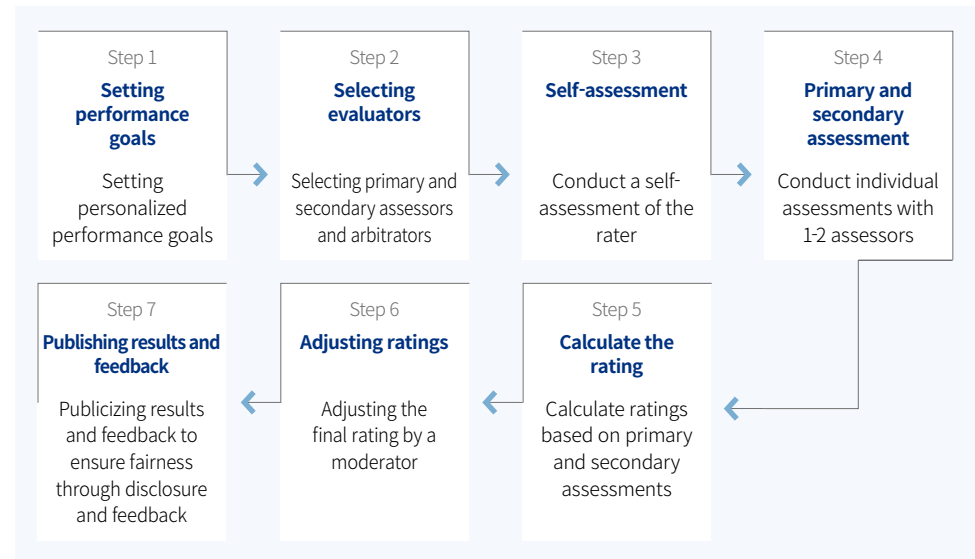
Protecting Employee Diversity

HD Hyundai Infracore respects employees' individual characteristics. Their employment, evaluation, and compensation are not discriminated against on the grounds of gender, religion, disability, age, social status, country of origin, nationality, ethnic backgrounds, race, skin color, physical conditions, marital status, pregnancy, childbearing, family type or status, ideology, political opinions, sexual orientation, educational backgrounds, or military service. We do not discriminate against or limit gender in job assignments and strive to ensure the diversity of our workforce.

Fair Compensation and Evaluation

HD Hyundai Infracore operates an evaluation system by focusing on nurturing of individual employees from a long-term perspective, and connects this with employee compensation. We evaluate employees' competencies and performance every year based on work, and leaders provide feedback to team members on evaluation results. In 2022, we improved the evaluation and reward system by integrating the evaluation, promotion, and reward system processes for employees of the three construction equipment companies, streamlining unnecessary procedures.

Remuneration process





Human Resources Development

Enhancing Functional Competency

Building the FC System

HD Hyundai Infracore operates the FC¹⁾ diagnosis and fostering system to strengthen employees' job skills and supports the cycle of 'growth through work'.

1) Functional Competency, A map that defines the competencies employees need to perform their duties successfully and to set their roadmap for personal growth in line with their level of competencies.

FC-based Competency Building Training

HD Hyundai Infracore operates an in-house job academy to strengthen the fundamental competitiveness of its employees based on the FC system.

Benefits of in-house job academies



- Internal experts design their own lectures to offer practical help
- Develop new courses or update the existing ones by reflecting technology trends every year
- Employees can take courses anytime anywhere by using diverse smart devices
- Nurture experts capable of understanding business and data analysis, management, and utilization as set out in the company's digital transformation direction

In-house Function Academy Operations

Professional Development Framework Activities

2020	<ul style="list-style-type: none"> • Recognized as a pioneering case by the Human Resources Development Service of Korea in January Enhance Academy courses aligned with FC
2021	<ul style="list-style-type: none"> • Adopted the micro learning platform "CELEB" to build a mobile-based learning infrastructure so that all employees can access the learning platform without having to use a PC • Developed contents for micro learning to nurture technical experts based on the FC system
2022	<ul style="list-style-type: none"> • Established R&D FC (job competency) system to create synergy between HD Hyundai 3 construction machinery companies ('22-'23) Expanded the number of in-house instructor candidates and operated a total of 31 courses and 62 sessions of job training

System to Foster Technical Staff

HD Hyundai Infracore operates a systems for its technical staff to encourage them to pursue personal development and have a clear vision.

Position and promotion system	Create vision for the growth of technical staff
Assessment system for technical staff and addition of technical specialist courses	acknowledged as an Expert or Meister
Improve competencies of individual technical staff	<ul style="list-style-type: none"> • Create vision of growth for technical staff with two development paths - the 'technical specialist track' and the 'field leader track' • Field leader track: develop into executives in charge of production sites
Addition of technical managing director²⁾ and technical specialist³⁾ course	Technical expert track: Develop into technical meister
Establishment of FC system	<ul style="list-style-type: none"> • Establish technical staff Functional Competency (FC) system to complete the training system to strengthen members' job expertise • Prioritize and develop curriculum by analyzing real-world demand based on FC diagnosis results
Operation of technical staff CA(Change Agent)	Act as an issue resolution facilitator for the organization
Implementation of Global benchmarking program	Implementation of lobal benchmarking program

* Number of master technicians with all licenses : 189 master technicians

2) Workforce with leadership and hands-on talent, serving as a production team leader within the production executive organization

3) Experts in the field and top technical craftsmen with specialized skills and high competitiveness

Competency-building Programs

The technical job training system was established through cooperation between our production executives and on-site VOCs.

Goals of Technical Job Training System and Indices

Goal	271 courses in total to be developed and operated in stages according to priority
Progress status	The technical job training system was established through cooperation between our production executives and on-site VOCs, and 271 courses in total are now being developed, in stages according to priority.

Accomplishments of the technical transfer and certification support learning club (Cumulative for 2022)

Course offerings and completions	63 courses / 350 completions
Number of Master Technician as of December 2022	160 persons
Those who obtained two or more Master Technicians	18 persons
Number of master technicians with all licenses	189 persons



Nurturing Global Leaders

HD Hyundai Infracore has established a human resources development system, with a particular focus on the right balance between leadership and expertise, aimed at fostering “global leaders who can lead the way in organizational changes and innovation”. Individual employees develop their training plans according to their strength and competency levels, and participate in various education programs suited to their growth path.

Nurturing Global Leaders

HD Hyundai Infracore offers Junior Group Competency-Strengthening Course and Leader Coaching Program to nurture global leaders. As of 2022, a total of 638 students completed the simulation course, where a group of business juniors experienced business in a realistic business environment.

Pre-training for Overseas Expatriates

Starting in 2020, all language courses were offered online due to COVID-19. Through online live classes, we continued to run “Let’s Do Biz English”, a course designed for employees to learn and practice business English so that they can immediately use it in actual work. We also have developed a nine-week intensive Chinese learning program offered online for employees who will be working as an expatriate in China. The language courses are run based on a process of selecting employees so that the courses are provided to employees who need them for work in connection with their respective function. We offer a separate e-learning program for employees seeking to improve their language skills in a self-directed way.

Organizational Culture

Improving the Way of Working

Operating Department-specific CA Channel

HD Hyundai Infracore operates Change Agent (CA)¹⁾ channels for each executive organization. During the CA’s Core Time, they share their opinions on improvements to enhance work efficiency within the organization. They also form a healthy communication culture and improve the way of working. Since joining the HD Hyundai, CAs have been serving as a bridge for the convergence of organizational cultures and the creation of synergies.

1) A professional who leads and plans all the changes required to develop a corporate culture

Improving Office Work Productivity

Since 2018, HD Hyundai Infracore has implemented the company-wide campaign and action plans to boost work efficiency. Starting in 2020, we increased office work productivity by implementing tasks aimed at reducing inefficient work, such as adopting more efficient ways of working, helping employees strike the right work-life balance, and strengthening our execution capabilities. Meetings and reports were made more efficient through diverse work upgrade activities.

Promoting Culture of Communication and Consideration

We are promoting a culture of communication and consideration to build an organization where employees are at the center of change. To that end, we operate online and offline grievance mechanisms, the Human Rights Protection Center, and the company website. In addition, we have been sharing media coverage about the company and public notices that we have made externally through an internal portal since 2016. Moreover, we have been sharing with our employees the corporate vision, including key business strategies, new businesses, and new growth drivers, through an annual “CEO Talks” to ensure transparent communication of corporate activities.

Communication and consideration



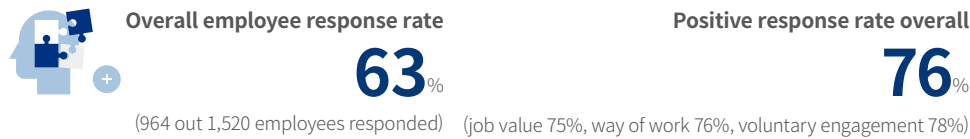
- Inspection on corporate culture
- Operation of flexible work system
- EAP operation
- Family-friendly management
- Establishment of a foundation for stable life
- Offering of a chance to recharge



Organizational Culture Survey

For management activities that reflect the experiences and opinions of employees, we developed an organizational culture diagnosis tool that measures employees' job value, way of work, and voluntary engagement, and conducted a survey on all office workers

Organizational culture survey results in 2021



Work-Life Balance

HD Hyundai Infracore reflects leaves and working hour reduction systems stipulated in the Labor Standards Act and Equal Employment Opportunity and Work-family Balance Assistance Act in internal regulations and makes internal notices, enabling employees to freely use systems for maternity protection and work-life balance. We received family-friendly company certification in 2022.

Operation of Flextime

In Korea, HD Hyundai Infracore operates a flextime system to support its employees' work-life balance. When working hours need to be altered as a means of improving work productivity and efficiency, employees can freely adjust their work hours. In 2022, we continued to encourage working from home and strengthened our flexible work arrangements based on our virtual work guide.

Support for Building a Stable Life

In Korea, HD Hyundai Infracore offers industrial accident insurance, supports medical costs, and carries out regular medical checkups to protect its employees in the events of health emergencies or accidents. We also help our employees financially through loans for their children's tuition fees and housing support measures.

Employee Assistance Program

HD Hyundai Infracore runs the Employee Assistance Program (EAP) which offers counseling and education on health, finance, and other matters. In Korea, we are operating an in-house psychological counseling center 'HUGIN'.

Recharging Opportunities

In Korea, HD Hyundai Infracore encourages its employees to take a two-week concentrated vacation or a one-week year-end leave before or after the first week of August when domestic plants halt their operations. Through this concentrated vacation system, we are encouraging free use of vacation. In addition, we support employees' life of leisure and recharging opportunities through family programs that support traveling, camping, performances, and other cultural life.

Adherence to a co-prosperity labor culture and labor policies

Self-Assessment for Child and Forced Labor in the Workplace Results: 0 cases	<ul style="list-style-type: none"> Conduct ESG assessments for all domestic operations and key international operations
Signed a guideline agreement with the Ministry of Labor and Employment to protect working conditions for in-house subcontractors	<ul style="list-style-type: none"> Stay compliant with regular checks Subcontracting in-house with fair trade compliance Proper operation
12th consecutive labor agreement without a strike	<ul style="list-style-type: none"> Manage labor relations with mutual trust and respect
Leverage labor-management communication channels	<ul style="list-style-type: none"> Wellness subcommittee outside of regular labor-management meetings Share highlights at quarterly management briefings
China Public Limited Company Organization	<ul style="list-style-type: none"> Gonghoe, a workers' organization, is organized under the Gonghoe Act, which is similar to the Korean Labor Standards Act. Selected by vote of the KKK committee Monthly meetings are held to share important changes and site-related opinions Wage discussions are held annually



Policies to Support Family-friendly Management (Korea)

	Program	Details	Targets and Period
Pregnancy	Caring for pregnant women	Parking permit for pregnant employees	Pregnant female employees
		Pregnant employee badges, stickers, and parking permit	
		Use of affiliated hospitals, in-house lounges, internal and external psychological counseling centers, if needed	
	Working hours during pregnancy	Limit overtime, night, and weekend work	
Demand change to an easy type of work			
		Apply for a change in when to come to and leave work	
		Reduce working hours by two hours a day without a wage cut	Pregnant female employees (Until the 12th week and after the 36th week of pregnancy)
	Prenatal checkup leave	Guarantee paid time for regular health checkup	Pregnant female employees (until the 28th week of pregnancy: once every four weeks; the 29th to the 36th week: once every two weeks; after the 37th week: twice per week)
Childbirth	Maternity leave	Childbearing leave of 90 days (120 days for twins) (10-day leave for male employees whose wives give birth)	Female employees who give birth to a child
		Miscarriage (abortion) leave of 5 days - 90 days (leave duration varies depending on pregnancy period)	Female employees who have a miscarriage or abortion
	Congratulations for childbirth	Cash and gift	Employees who have childbirth
	Paternity for spouse	10-day leave	Employees whose spouses gave birth
Childcare	Leave for childcare	Up to a year for each parent	Employees with children aged less than 8 years or second graders in elementary school
	Reduced working hours for childcare	Reduction of 15-35 working hours per week (Up to a year, the period that was not used during the leave for childcare can be added)	
	In-house daycare center	Daycare centers in Incheon, Bundang, and Gunsan	<ul style="list-style-type: none"> • Employees with children between the ages of 0 and 5 (Pangyo center) • Increased support for early childhood education expenses for children who did not go to school at the in-house daycare center (4 to 6 years old: KRW 500,000 per month)
Family	Family care leave	A maximum 90 days a year to take care of family members suffering from an illness, accident, or old age	Employees
	Family care vacation	In case of taking care of family members suffering from an illness, accident, or old age (included in the family care leave period)	
	Reduced working hours for family care	Reduction of 15-30 working hours per week when an employee makes an application to take care of a family member, for his/her own health, or for self-development, no more than 1 year	



Win-win Growth

Win-win Growth Structure

HD Hyundai Infracore has established a 'virtuous circle of partnerships' system to grow together with its suppliers. and strives to develop its suppliers into global companies. In addition, we promote various activities to support the improvement of suppliers' ESG capabilities and fulfill our roles and responsibilities in building a healthy economic ecosystem. to build a healthy economic ecosystem.

HD Hyundai Infracore's Shared Growth Activities



[HD Hyundai Infracore Introduction to Shared Growth Activities](#)

Supplier Capacity Building Program

Building Win-Win Partnerships

HD Hyundai Infracore regards shared growth with our suppliers as the source of competitiveness, and practices win-win management with the goal of establishing a “virtuous cycle of partnerships”. In the virtuous cycle of partnerships, HD Hyundai Infracore’s unique technologies, quality, and management system are disseminated to suppliers to raise their competitiveness, and the suppliers that grew through this process take part in businesses with us, leading to shared growth. This system enables HD Hyundai Infracore and its suppliers to build an even stronger partnership by improving the competitiveness of the overall system ranging from production to supply and by sharing the profits generated through the improvements with suppliers. The virtuous cycle of partnerships also means that we go beyond the previous relationship with our suppliers that is limited to purchasing and subcontracting. To this end, we run various support programs, such as suppliers’ improvement of job and technical competencies, financial support, and field guidance, while also building a win-win growth culture by generating synergies with suppliers. In addition, to promote suppliers’ participation in shared growth activities, we reflect their participation in shared growth and their performance in the overall evaluation of suppliers.

Expanding Participation in Benefit Sharing System

The benefit sharing system is an agreement made between large companies and small and medium-sized enterprises (SMEs) to improve suppliers’ capabilities to deliver high-quality goods on time and share the benefits. It is an iconic model for the creation of a healthy corporate ecology. HD Hyundai Infracore collects suppliers’ suggestions regarding new product development, parts localization, quality improvements, and design changes through the benefit sharing system. In 2022, we registered 10 benefit sharing programs made by our partners. HD Hyundai Infracore will improve the fundamental competitiveness of our suppliers and the company by expanding the benefit sharing system to primary and secondary suppliers, and will establish a culture of mutual synergy and fair subcontracting transactions.



Strengthening Communication with Suppliers

To strengthen communication with suppliers, we are strengthening the sharing of business strategies and mutual exchange mainly through the Cooperation Council. Also, the HD Hyundai Infracore CEO directly visits major suppliers to hear their opinions and identify improvement directions. In China, senior executives attend a meeting with suppliers twice a year, share the purpose of shared growth, and encourage commitment to realizing win-win growth.

Integrated Cooperation Council

For active and efficient communication with suppliers, we launched the “Integrated Cooperation Council” in 2015 that integrated several cooperation councils. The Council shares the company’s business plans, quality policies, and the latest global trends including environmental restrictions, and aligns the strategies of the company with the suppliers and strengthens mutual exchanges.

Strengthening Supplier Communication Channels

HD Hyundai Infracore operates the Shared Growth Hotline to actively listen to and resolve supplier difficulties. In addition, we publish a regular newsletter that includes information on our various shared growth programs, external support programs, diverse training programs, and outstanding cases of shared growth activities, thereby quickly providing useful information to suppliers. We also provide health checkup services to the CEOs of suppliers who participate in Cooperation Council activities as well as their spouse, in our efforts to strengthen cooperative relations.

Win-Win Growth Highlights

Competitiveness Enhancement Support Center	<ul style="list-style-type: none"> • Dedicated staff from the Supplier Development Team and Shared Growth Team visits suppliers to help conduct innovative activities • In 2022, 202 employees¹⁾ were dispatched to support innovative activities
Management Doctor System	<ul style="list-style-type: none"> • Organized by the SME Support Center of the Federation of Korean Industries • Recommendation of large suppliers and screening process to improve the management environment of suppliers and resolve problems
Industrial Innovation Campaign	<ul style="list-style-type: none"> • Dispatching consultants to suppliers based on contributions, building productivity innovation smart factories construction, etc. <ul style="list-style-type: none"> - 50 suppliers will be supported from 2018 to 2023 - Criteria for selecting Industry Innovation Movement partners: overall rating, trade importance with HD Hyundai Infracore, dependence • Awards for excellent industry innovation business <ul style="list-style-type: none"> - Daechang Forging Co.,Ltd. and Seoyon Topmetal received Prime Minister’s Award and Industrial Service Medal in 2022
Competency Building Training for Suppliers’ Staff and seminars for suppliers	<ul style="list-style-type: none"> • FTA Special Training, Introducing Partners’ Shared Growth Program and Encouraging Activities 2 seminars for managers to introduce and encourage activities • Special training on preventing serious accident and ESG management strategies for suppliers accidents

1) Fair Trade Commission standard: 1 person = total supporting hours/8HR/5Days

Financial Support Key Accomplishments for Suppliers



HD Hyundai Infracore contributes to suppliers’ enhancement of their financial soundness by providing them with four types of financial support - direct support, indirect support, mixed support, and special support.

Director Support		Indirect Support	Mixed Support	Special Support
Capital expenditures	Criminal Defense Support	Network Loan, Family Business Loans	Shared Growth Fund	
7 companies 3 billion won	17.8 billion won	30 billion won	78.5 billion won <small>(43.5 billion won in contributions, 61.2 billion won in loans, 78%)</small>	1.4 billion won <small>Industrial innovation movement, Win-Win supporters, technical assurance Win-Win agreement)</small>



Governance

Governance

Operation of BOD

HD Hyundai Infracore convened a total of seven BOD meetings in 2022, and approved and reported on issues such as the disposal of treasury shares in 2021, the establishment of the ESG Committee and its operating regulations, and the 2022 Safety and Health Plan. We established and published the BOD Regulations in October 2000 and have been operating the BOD in compliance with the BOD Operating Regulations to date.

Composition of BOD

The Board of Directors, as the company’s highest decision-making body, has been delegated the right to make decisions related to corporate management from shareholders in accordance with the relevant laws and the company’s Articles of Incorporation. The BOD of HD Hyundai Infracore consists of two internal and three outside directors who were transparently appointed through an AGM as of the end of December 2022.

Increasing Director Expertise

We provide training to enable outside directors to fulfill their duties. In 2020, we enhanced outside directors’ expertise by appointing new directors, outside directors, and company introduction. We also provided training on the internal accounting management system organized by KPMG Samjung Accounting Corp. at the HD Hyundai Group Audit Committee Workshop in September 2022 to enhance their expertise and capabilities as directors and audit committee members.

Board professional development training accomplishments and plans

Sep. 2022	Workshop for the Audit Committee of the Group: Education on internal accounting management system by Samjung Accounting Firm
Feb. 2023	Introduction to the company and education for newly appointed independent directors
Sep. 2023	Plan to conduct workshop for the Audit Committee of the Group

Independence and Transparency of BOD

HD Hyundai Infracore’s Board of Directors operates with independence and transparency in mind. In order to be independent of the majority or major shareholder, inside directors are recommended by the Board of Directors and elected at the shareholders’ meeting. Outside directors are elected by the General Meeting of Shareholders, and candidates are selected by the Outside Director Nomination Committee. Appointments are made based on considerations such as equity ownership, interests in the company, employment with competitors, diversity and stakeholder representation. To ensure an impartial board, the chairperson of the board of directors selects the best candidates based on a variety of factors, including competence, performance, and experience. The procedure is in accordance with Article 35 of the company’s Articles of Incorporation and Article 5 of the Board of Directors’ Regulations

Board of Directors and subcommittees





Board Skill and Diversity Matrix

Internal Director



Cho Young-cheul (male)

Oh Seung-hyun (male)

Outside Director



Yoon Sung-soo (male)

Chun Myeong-ho (male)

Kang Sun-min (female)

Classification		Cho Young-cheul (male)	Oh Seung-hyun (male)	Yoon Sung-soo (male)	Chun Myeong-ho (male)	Kang Sun-min (female)
Year of birth		1961	1965	1962	1968	1972
Date of appointment		Sep. 10, 2021	Mar. 21, 2022	Mar. 28, 2018	Mar. 27, 2023	Mar. 27, 2023
현직Current position		CEO	CEO	Outside Director	Outside Director	Outside Director
Major roles		<ul style="list-style-type: none"> • General corporate management • ESG Committee 	<ul style="list-style-type: none"> • General corporate management 	<ul style="list-style-type: none"> • Audit Committee Chairperson • Internal Transaction Committee • Nominating Committee Chairperson • ESG Committee 	<ul style="list-style-type: none"> • Audit Committee 	<ul style="list-style-type: none"> • Audit Committee • Internal Transaction Committee • Nominating Committee • ESG Committee Chairperson
Major careers and expertise	경영	○	○	○		○
	재무	○				
	기술		○			
	산업	○	○			
	ESG	○	○	○	○	○
	법률				○	
	정책				○	
	회계			○		○



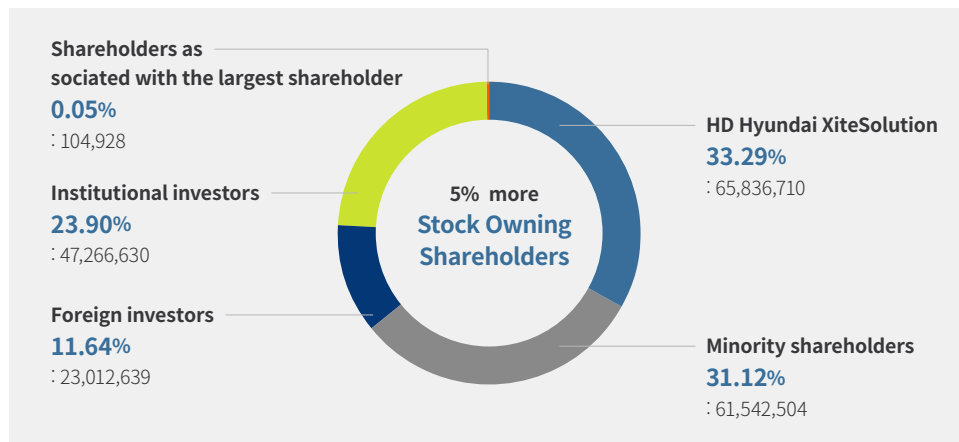
BOD Evaluation and Remuneration

HD Hyundai Infracore has regulations in place to pay performance incentives to CEOs and executives based on internal self-assessment and performance over a period of time. The remuneration of registered directors, outside directors, and audit committee members is paid within the limit of 5 billion as approved by the general meeting of shareholders on March 21, 2022.

Composition of Shareholders and Equity

HD Hyundai Infracore is an affiliate of the Hyundai Heavy Industries Group's Construction Machinery Sector, with 15 consolidated subsidiaries being operated across the globe. As of the end of 2022, the parent company's ordinary share capital was 197,763 million through capital reduction without consideration and capital increase after spin-off, and the parent company's shareholders consist of HD Hyundai XiteSolution (33.29%) and others.

Shareholders owning 5% or more of the stock (As of December 31, 2022)



Shareholder Return Policies and Rights Protections

All common shares of HD Hyundai Infracore have one voting right per share, and dividends are paid to enhance shareholder value. Dividends are determined based on investments, operating performance, cash flow, and more. The dividend per share and total dividend for the current fiscal year is 240 and 47,477 million, respectively, and will be proposed at the Annual General Meeting of Shareholders scheduled for March 27, 2023. In addition, matters that have a significant impact on shareholders' rights, such as changes in the business and ownership structure of the company, such as mergers, asset transfers, and business transfers, are specified in the Articles of Incorporation as resolutions of the general meeting of shareholders, and practical protection measures for dissident shareholders and general shareholders are implemented.

In addition, we notify shareholders of the location and agenda of the general meeting of shareholders four weeks in advance of the meeting so that they can fully review the agenda.

Dividend Policy

<p>Dividend considering profit scale and future growth</p>	<p>Dividend payout ratio of 30% or higher (Net profit based on separate income statement)</p>	<p>Consideration of investment plan, cash flow, financial structure, and dividend stability</p>
-------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------

Promoting External Communication

HD Hyundai Infracore collects the expectations and demands of various stakeholders such as shareholders, investors, and customers when making major decisions and complies with the disclosure regulations set forth by law. We disclose the operation status and activities of compliance program.

Public Activities

	<p>Financial</p> <ul style="list-style-type: none"> • Disclosing Interim Results of Operations • Quarterly Reports, Business Reports • Listed Price - Special Shareholders' Meeting Disclosures • Disclosure of changes in equity 	<p>Non-financial</p> <ul style="list-style-type: none"> • Operational Status of the Fair Trade Compliance Program • Disclosure of ESG activities such as integrated reports • Holding corporate briefings, etc.
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Internal Controls

Integrity & Risk Management

Based on the belief that ethical management is the foundation for a trusted, respected company, HD Hyundai Infracore fully establishes an ethical corporate culture through transparent management and continuous innovation and thus fulfills its responsibilities towards society.

Internal Accounting System

HD Hyundai Infracore established the Hyundai Infracore Internal Control Assessment System (HICAS), an internal control evaluation system, in 2006, with the goal of improving its operational transparency and providing stakeholders with reliable information. Also, the internal accounting management organization is a support organization for the audit committee, and the audit committee has the right to consent to the appointment of the head of the support organization to ensure its independence, and supports the audit committee to efficiently and effectively manage and supervise financial risks. Since 2019, we have been carrying out control assessments, including company-level control, work-level control of sales, purchasing, production, inventory, finance, quality, and general, in addition to IT control, by taking the “Act on External Audit of Stock Companies” into consideration, and assessment results are reported as stipulated in the Act. Our Chinese subsidiary has been operating the internal accounting system since 2014, and plans to apply the amendment in accordance with matters stipulated in the Act.

Corruption Risk Assessment

Corruption risk assessment is an internal control system through which a company identifies potential corruption risks and manages the changes required in response to actual risks. HD Hyundai Infracore conducts corruption risk assessments on 32 items, including unfair financial reporting, asset misappropriation, and corruption. Based on the results of the 2022 corruption risk assessment, we have managed risks by reflecting them in the internal accounting management system and internal audit plan, and conducting risk assessments annually.

Transparent Management

Implementation Policy of Ethics Management

In order to practice fair and transparent management, HD Hyundai Infracore has established ethical standards such as the Ethics Charter, Code of Conduct, and Guidelines for Practicing Business Ethics, and based on these, operates a systematic and practical ethical management system through education, promotion, and various practice programs. In addition, specific job ethics codes are applied to six jobs that require stricter ethical awareness: procurement, human resources, sales, finance and accounting, design, and computerization.

HD Hyundai’s Ethical Management Implementation Structure

 <p>Code of Ethics</p>	 <p>Code of Conduct</p>	 <p>Code of Conduct for Specific Position</p>	 <p>Guidelines on Practicing Work Ethics</p>
<p>Implicit declaration of HD Hyundai’s management philosophy based on ethical management</p>	<p>Sector-specific elaboration of the Code of Ethics and standards of ethical conduct</p>	<p>Additional ethical obligations and specific standards of conduct for professional roles requiring high ethical standards</p>	<p>Specific standards for judging behavior and handling work to practice ethical management</p>
 <p>Code of Ethics for Suppliers</p>		 <p>Ethical Management Implementation Program</p>	 <p>Training and Promotion</p>
<p>Fair and transparent trade and ethical standards for mutual benefit and shared prosperity with suppliers</p>		<p>Specific systems and procedures for building and developing a fair and transparent corporate culture</p>	<p>Efforts to actively practice and spread ethical management among employees</p>



Enhancing Employees' Ethical Awareness and Risk Management

Every year, employees check the level of ethical management through self-diagnosis of ethical management compliance to enhance their understanding of relevant regulations and seek improvements. We also analyze unethical acts and risks in advance through continuous monitoring of ethical management, and take improvement measures for weak processes. We listen to opinions from employees and suppliers to diagnose the level of ethical management practices and collect opinions on improvement needs to check implementation. In addition, we conduct annual ethical management training and cyber training, and produce and promote ethical management promotional videos to enhance employees' understanding and compliance. The contents of the training include examples of various unethical issues such as anti-corruption and discrimination, and there is time to form a consensus through questions and answers. In particular, to promote the internalization of ethical management throughout the company, all new hires and those in positions of responsibility are required to take ethical management training. Through training, new hires understand HD Hyundai Infracore's ethics charter and policies, and those in positions of responsibility have the ability to work based on ethical judgment in all business decision-making processes. In addition, the Code of Conduct for Suppliers has been implemented and operated since 2005 to support the establishment of a culture of ethical management practices at suppliers and to establish transparent and clean commercial practices.

The Code of Conduct for Suppliers consists of the provisions that suppliers must conduct business transparently and fairly when conducting business with the company, comply with relevant laws and regulations to maintain fair trade, and prohibit the provision of financial benefits, entertainment, and hospitality to employees. In addition, we provide a variety of supporting activities to our suppliers, such as assisting them in establishing ethical management regulations and practice programs, providing collective training when introducing ethical management, and providing promotional materials.

HD Hyundai Infracore's employees are responsible for properly understanding and complying with internal regulations, including business-related laws and ethical codes. In addition, the company's ERP system, e-procurement system, internal control evaluation system, and compliance program are linked to the company's operational systems to enhance transparency and efficiency. The legal and internal control teams are conducting audit activities on ethical management and evaluating the design and operation of internal controls.

Pledge of Ethics and Completion of Stakeholder Report

In order to establish a transparent ethical management system, HD Hyundai Infracore requires newly hired employees and suppliers which register for the first time to sign Pledge of Ethics that sets out the main points of the Code of Conduct. All office position employees and technical position managers are required to submit a statement of interests on an annual basis, with an aim to remind them of the strict compliance standards.

Communicating and Promoting Ethical Management

HD Hyundai Infracore discloses the Code of Conduct on its website and operates a reporting center that can be accessed by internal and external stakeholders with ease. In addition, the CEO sends letters to suppliers and we provide training through general supplier meetings to encourage our suppliers to practice the Code of Conduct.

Statement of interest collection rate



2022
98%



Establishment of Fair-Trade Practices

HD Hyundai Infracore adopted the compliance program (CP) in 2002 to ensure transparent business operations and fair competition. CP is an internal compliance system and code of conduct established and operated by the company to comply with antitrust laws and regulations. We provide training to proactively prevent violations of antitrust laws and regulations and strive to detect and correct violations at an early stage. HD Hyundai Infracore discloses its practices, compliance manual, and compliance organization on its website, and expresses its strong commitment to fair trade through the CEO's declaration of compliance. In 2022, we maintained and strengthened our compliance activities and overhauled our internal processes, including revising and distributing the compliance manual to reflect fair trade-related laws and regulations, such as the requirements of the fair trade in subcontracting laws.

Four Trading Practices



- Sign a win-win agreement for cooperation for shared growth between large and small businesses
- Supplier selection and management
- Establish and operate subcontracting internal review committee
- Good documentation and retention in subcontracting transactions



Cyber Consultation System for Suppliers on Unfair Trade Practices

We strive to establish a culture of fair subcontracting transactions by operating a cyber consultation system that allows employees to report and inquire about suspected unfair trade practices related to our company to the compliance management organization. To enhance the effectiveness of the reporting system, we prohibit the disclosure of informant information and allow anonymous reporting. In case an informant suffers from disclosure of identity or discriminatory treatment due to the report, the Ethical Management Team can help with protecting measures or remedy.

Activities to establish fair trade order in 2022

	• Adoption of Subcontractor's Technical Data Request Management (STDM) to protect the technical data of subcontractors
	• Creation of technical data request form in the system
	• Sign confidentiality agreement to protect subcontractors' technical data
	• Monitor the compliance with subcontracting laws in areas such as the imposition of price cuts and order cancellations, and continue to examine work processes related to technical data
	• Corrective actions in a timely manner for cases suspected of violation of laws
	• Small and online training on fair transaction laws • Enhance employees' compliance awareness, and prevention and investigation of antitrust violations • Participants in the basics of subcontracting-related laws and dealers-related laws: a total of 1,008

Compliance with the Anti-graft Law

In 2022, HD Hyundai Infracore conducted employee awareness raising, constant monitoring, and legal advice on compliance with the Anti-graft law for all domestic employees and expatriate employees in China. We are complying with the "Improper Solicitation and Graft Act", also known as the anti-graft law, which took effect in South Korea on September 28, 2016. The Act applies to employees and their spouses of all public institutions, including constitutional agencies, central administrative agencies, and local governments, schools, and media outlets. The Act forbids improper solicitations to public officials and other relevant persons, and prohibits them from accepting financial or other advantages.



Risk Management

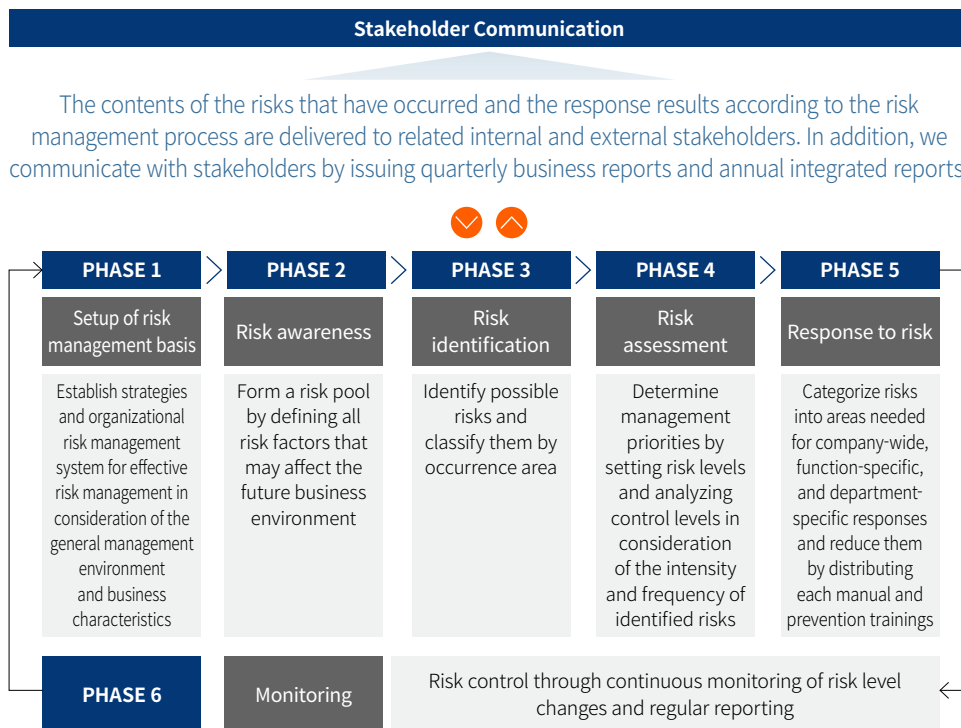
Risk Management Organization

HD Hyundai Infracore’s monthly management meetings and ESG Management Committee meetings participated by senior management identify potential risks and take early preventative measures against such risks. Meanwhile, in the ESG Management Committee, held three times a year, the committee members identify mid- to long-term non-financial and emerging risks against our company and minimize the impacts of potential risks by setting countermeasures based on our ESG strategic tasks. It reports these ESG issues at the ESG Committee under the BOD and receives approval. Risks are categorized into financial, non-financial, and emerging risks.

Risk Management Process

HD Hyundai Infracore manages a risk process that enables timely identification and prompt response to risks that hinder corporate value. The risk management process consists of identifying the possibility of risk occurrence, assessing the impact on the company in case of risk occurrence, establishing countermeasures, monitoring changes in risk levels, and reporting at all times based on an organic reporting system.

Risk Management Process



Financial Risk

HD Hyundai Infracore classifies financial risks into four types – market risk, credit risk, liquidity risk, and capital risk – and manages them by type.

Risk Type	Monitoring Target	Details	Response Activity
Market	Foreign currency	<ul style="list-style-type: none"> Forward-looking transactions Recognized assets and liabilities Net investment for overseas operations 	<ul style="list-style-type: none"> Reduction of profitability volatility due to exchange rate changes with natural hedge through exports and imports
	Interest rate	<ul style="list-style-type: none"> Floating interest deposits and borrowings 	<ul style="list-style-type: none"> Minimization of external borrowings based on retained funds Reduction of high-interest debt Improvement of short- and long-term borrowing structure Regular monitoring of interest rate trends
Credit	Contract	<ul style="list-style-type: none"> Contracts for transaction and investment 	<ul style="list-style-type: none"> Credit policy operation Risk assessment of bonds with potential default and reflection them in the consolidated financial statement
Liquidity	Debt and operating fund	<ul style="list-style-type: none"> Failure in financial debt redemption Unable to raise business funds 	<ul style="list-style-type: none"> Establishment of 3-month and annual fund management plans Sales, investment, and finance activities Fund balance forecast Securing the required amount of liquidity in advance
Capital	Capital stock	<ul style="list-style-type: none"> Maintenance of optimal capital structure Capital cost savings 	<ul style="list-style-type: none"> Debt ratio-based capital structure management Adjustment of shareholder dividend size Return of capital stock Issuing new shares and selling assets to reduce debt



Non-financial Risk

HD Hyundai Infracore categorizes non-financial risks into product, ethics and compliance, the environment, safety, and disaster risks. We conduct activities aimed at improving product quality to ensure customer safety and satisfaction in cooperation with our suppliers, while also making continued efforts to ensure customers' safe use of our products. We make ethical management the basis of decision-making by establishing the Code of Conduct and conducting activities to promote CP. In addition, we undertake preemptive risk management based on transparent management, thereby ensuring the safety of our management environment. To avoid risks due to pollutant discharge and environmental accidents, HD HYUNDAI INFRACORE strives to use resources more efficiently, reduce ecological footprint of its business sites, and strengthen systems for preventing environmental accidents based on the EHS management systems. HD Hyundai Infracore minimizes safety risks and increases employee awareness of health and safety by focusing on preventative action and offering extensive health and safety training. We have expanded our health and safety management systems to include our suppliers and outsourcing companies, thereby strengthening the monitoring system of safety accident. We have also made it mandatory for all visitors to our business sites to watch safety training videos. In accordance with our own emergency incident response system, we have established crisis response manuals and emergency notification systems for 20 essential items of infrastructure in each area. This has enabled us to respond promptly to threats to employee safety.

Emerging Risk

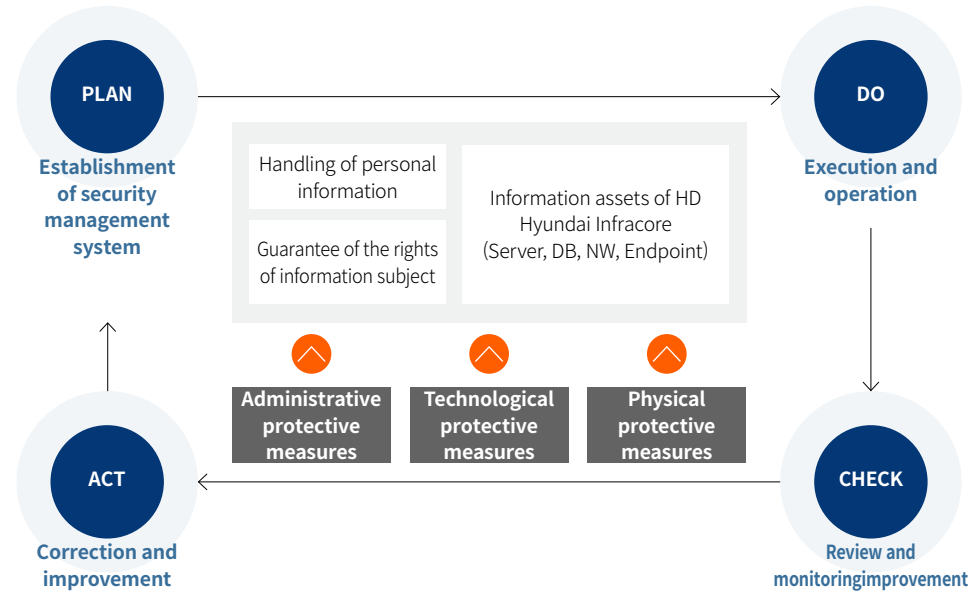
HD Hyundai Infracore identifies emerging risks that are relevant to the company based on the global economy, consumer sentiment, culture, and institutional changes, and integrates them into the company's operations.

Risk type	Background	Our Response
Global economic slowdown	<ul style="list-style-type: none"> Fluctuating demand from energy, construction, and automotive industries Impact of national SOC investment policies Changes in pricing competitiveness by country due to exchange rate fluctuations 	<ul style="list-style-type: none"> Aim for entry into new markets so as to diversify the company's global portfolio. <ul style="list-style-type: none"> Construction equipment: Strengthen performance in advanced markets Engine: Establish a JV for aftertreatment business. Review and respond to market, credit, liquidity, and capital structure risks through monthly management meetings.
Accelerating transition to low-carbon economy	<ul style="list-style-type: none"> Major countries are announcing net-zero policies and accelerating the transition to a low-carbon economy, while also strengthening GHG emission regulations. There is stronger demand for eco-friendly construction equipment mainly in advanced countries and expanded construction site zero emission regulations. Increasing investor demand for climate change response. 	<ul style="list-style-type: none"> Established a detailed plan to achieve worksite carbon neutrality by 2050. <ul style="list-style-type: none"> Calculate sales volume-based product carbon emissions to reduce carbon emissions in the product in-use stage Established a plan to transition to eco-friendly power and to develop and launch equipment with improved fuel efficiency (electric excavator, hybrid powertrain, etc.).
Lack of skilled manpower	<ul style="list-style-type: none"> A shortage of skilled labor in the construction industry is making it difficult to staff large projects and increasing safety risks. 	<ul style="list-style-type: none"> Increase Efficiency and Safety with Unmanned and Automated Construction Sites <ul style="list-style-type: none"> CONCEPT-X Demonstration in 2019 Launch of 'XiteCloud', an integrated construction site control solution in 2021 Expanded operation of XiteCore and XiteSafety solutions based on 'XiteCloud' in 2022
Digital transformation becomes a part of daily life and the metaverse expands	<ul style="list-style-type: none"> The Fourth Industrial Revolution and the pandemic made digital transformation a part of daily life, and the expansion of e-commerce and the metaverse is gaining speed. 	<ul style="list-style-type: none"> The opening of DI360, a big data collaboration platform, in 2020 has enabled integrated analysis and sharing of data that was previously managed by department.
Collapse of the supply chain and soaring raw material prices	<ul style="list-style-type: none"> The global supply chain is at risk of collapsing due to such factors as Russia's invasion into Ukraine, and raw material prices are soaring. 	<ul style="list-style-type: none"> Conduct monitoring of matters related to supply chain, such as the operation status of companies and the state of the logistics chain, frequently. <ul style="list-style-type: none"> When a supply chain risk is expected, establish and execute measures with relevant departments, including production. Conduct monitoring of raw material prices; Calculate and manage HD Hyundai Infracore's EBIT impact due to raw material price increases; and Conduct monitoring of peer trends and take response.
Personal information protection and information security	<ul style="list-style-type: none"> Increased security threats related to personal and corporate information, including hacking and smishing Possible human rights violations in the event of a breach of personal information collected, handled, or stored in the course of company operations 	<ul style="list-style-type: none"> Conduct information security management system risk assessment led by the information security team <ul style="list-style-type: none"> Identify vulnerabilities and implement action plans, conduct employee information security training, and certify ISMS (Information Security Management System) certification



Information Security

Information Security Implementation System



Information Security Policy

In 2015, HD Hyundai Infracore fully upgraded and revised the general information security policy and guidelines for information security in order to comply with various legal requirements related to the company and prevent damages by managing security risks arising internally and externally. Since the upgrade, we have been updating the policy, if needed, after an annual review, and sharing the information security policy on the internal company portal. In 2022, a new National Core Technology Security Guideline was established to comply with the Industrial Technology Protection Act.

Information Security Policy Components

Security regulations	Personnel security guidelines	Business secret protection guidelines	Information asset and information device security management guidelines	Information system security guidelines
Facility security guidelines	Security audit guidelines	Security accident response guidelines	Cloud security guidelines	National core technology security guidelines

Information Security Disclosure

Cyber breaches and digital disruptions that occur during the development of DT are directly affecting corporate management, including economic damage, loss of external credibility, and user inconvenience. HD Hyundai Infracore has appointed a Chief Information Security Officer (CISO) to reinforce clear responsibilities and roles around information security. In addition, HD Hyundai Infracore transparently discloses the status of investment and manpower in the information protection sector and the activities it has undertaken to protect information through the annual information protection disclosure, while striving to provide stakeholders with confidence in risk management.

Information Security Training

HD Hyundai Infracore conducts information protection education for all employees once a year and the legally-mandatory personal information protection education. The education covers the importance of protecting company information, the company's security policy, security for PC use, email security, and personal information protection for the purpose of raising employees' security awareness. In addition, we conduct a malicious email simulation drill every quarter to prevent malicious emails for risky actors who view attachments or click links. In the event of an information security issue, employees report it to their department heads and the information security department in accordance with the security incident response guidelines, and the information security department handles it according to the process for each type of incident.

Training name	Training on information protection and privacy
Training period	Nov. 28 ~ Dec. 25, 2022
Training targets	1,446 office workers
Completion rate	98%



APPENDIX



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GRI Content Index	84
ESG Fact Sheets	88
SASB Index	101
Initiative	102
TCFD Index	103
GHG Emission Verification Statement	104
Independent Assurance Report (Scope3)	105
Independent Assurance Report (Integrated Report)	107
Global Network	109



Impact Valuation

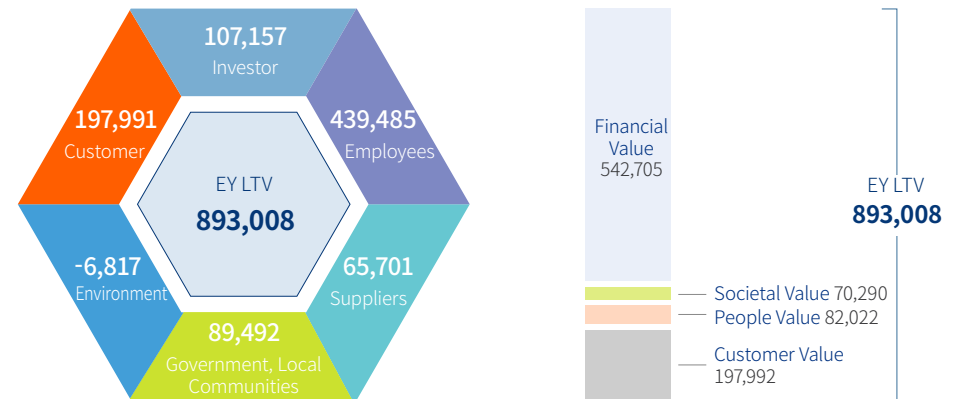
There is not only value that can be explained by financial statements but also different value according to diverse forms and perspectives, and all types of tangible/intangible value should be measured and managed according to a company’s strategic priorities. HD Hyundai Infracore recognizes the importance of non-financial value, and in order to examine the value delivered to stakeholders by the company’s management activities in 2022, we measured it by using the EY Long-Term Value method and converted it into financial value. EY Long-term Value recognizes the limitations of the value measurement method that is commonly used in the market, and aims to explain the company’s long-term value by measuring intangible value and non-financial value. EY set measurement indices by value category through a four-step process that is based on the EY Long-term Value Framework to identify and measure the company’s long-term value creation areas.

HD Hyundai Infracore measured value delivered to stakeholders from a company’s long-term growth perspective, among corporate activities conducted throughout 2022, by categorizing it into four value categories of the EY Long-term Value Framework, and discloses the results in this report. Our non-financial value calculated using the EY Long-term Value Framework is KRW 893 billion. It can be estimated that long-term intangible value and non-financial value that are provided to stakeholders through HDI’s management activities but are not measured or discussed total KRW 893 billion. Going forward, we will continue our businesses with the goal of offering long-term value to our stakeholders.

Value Recognition Criteria and Measurement Indices of the EY Long-term Value

Category	Value Recognition	Major Measurement Indices
Customer Value	Value that is generated for the customer in the long term through a company’s provision of products and services. Recognizes value that can be provided to the customer from a long-term perspective other than value directly exchanged by the act of purchasing.	<ul style="list-style-type: none"> • Product R&D • Customer communication • Follow-up management after sales • Supplier technology development
People Value	Recognizes value that was provided to make long-term improvements to the quality of life of company employees and supplier employees.	<ul style="list-style-type: none"> • Support for improving work environment of suppliers • Employee training activities • Safety accidents • Safety and health activities • Activities to protect maternity and pursue diversity
Societal Value	Recognizes value that provides a long-term impact on the environment and society where the company exists	<ul style="list-style-type: none"> • Greenhouse gas emissions • Air pollutant emissions • Waste discharge • Water pollutant discharge • Creation of jobs • Contribution to local communities
Financial Value	Recognizes value provided to stakeholders for long-term, sustainable growth of a company’s financial value.	<ul style="list-style-type: none"> • Dividend and interest costs • Tax • Wage

HD Hyundai Infracore’s Long-term Value Measurement Results (Unit: KRW in millions)



* This measurement was taken by using national statistics and research results based on data that is managed by the company. The currency value used for measurement may change according to new research results. Since integrity of measurement results cannot be verified, they cannot be regarded as part of a financial disclosure.

* Measurement period: Jan 1 - Dec 31, 2022

* Based on separate financial statements



GRI Content Index

Statement of use: HD Hyundai Infracore has reported in accordance with the GRI Standards for the period from 1 January 2022 to 31 December 2022.

- GRI 1 used : GRI 1: Foundation 2021
- Applicable GRI Sector Standard : N/A

General Disclosures				
GRI Standard	Disclosure	Location	Explanation	
	2-1	Organizational details	9, 73-75, 88	
	2-2	Entities included in the organization's sustainability reporting	2	
	2-3	Reporting period, frequency and contact point	2	
	2-4	Restatements of information	88, 92, 94	
	2-5	External assurance	106	
	2-6	Activities, value chain and other business relationships	40	
	2-7	Employees	91-92	
	2-8	Workers who are not employees	91	Calculated on the last day of the fiscal year, based on headcount
	2-9	Governance structure and composition	73-75	Based on our Board Diversity Policy, we strive to have a board that does not represent the interests of any one group.
GRI 2: General Disclosures 2021	2-10	Nomination and selection of the highest governance body	74-75	
	2-11	Chair of the highest governance body	74	
	2-12	Role of the highest governance body in overseeing the management of impacts	12, Corporate Governance Report 37	
	2-13	Delegation of responsibility for managing impacts	12	
	2-14	Role of the highest governance body in sustainability reporting	18	The ESG Management Committee, comprised of executives The ESG Management Committee, which is composed of executives linkages with management activities to finalize key issues and the annual ESG strategy and finalize the annual ESG strategy
	2-15	Conflicts of interest	73, Corporate Governance Report 55-56	
	2-16	Communication of critical concerns	79-80	



General Disclosures				
GRI Standard		Disclosure	Location	Explanation
GRI 2: General Disclosures 2021	2-17	Collective knowledge of the highest governance body	73-74	
	2-18	Evaluation of the performance of the highest governance body	75, Corporate Governance Report 39, 64	
	2-19	Remuneration policies	75, Corporate Governance Report 65, Business Report 389-390	
	2-20	Process to determine remuneration	75, Business Report 389-390	
	2-21	Annual total compensation ratio	99	
	2-22	Statement on sustainable development strategy	4-5	
	2-23	Policy commitments	12, 39, 41, 54, 61, 65, 66, 81, 102	
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	2-27	Compliance with laws and regulations	99-100	
	2-28	Membership associations	100, 102	
	2-29	Approach to stakeholder engagement	20	
	2-30	Collective bargaining agreements	93	
Material Topics				
GRI 3: Material Topics 2021	3-1	Process to determine material topics	18	
	3-2	List of material topics	19	
GHG and Energy Management				
GRI 302: Energy 2016	GRI 3: Material Topics 2021	3-3	Management of material topics	23-29
		302-1	Energy consumption within the organization	95
		302-3	Energy consumption outside of the organization	95
		302-4	Reduction of energy consumption	29



Development of eco-friendly technologies and products

GRI Standard		Disclosure	Location	Explanation
GRI 3: Material Topics 2021	3-3	Management of material topics	30-38	
	305-1	Direct (Scope 1) GHG emissions	97-98	
	305-2	Energy indirect (Scope 2) GHG emissions	97-98	
GRI 305: Emissions 2016	305-3	Other indirect (Scope 3) GHG emissions	97	
	305-4	GHG emissions intensity	97	
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	98	

Supply Chain ESG

GRI 3: Material Topics 2021	3-3	Management of material topics	39-48	
GRI 308: 공급망	308-2	Negative environmental impacts in the supply chain and actions taken	40	
GRI 414: Supplier Social Assessment 2016	414-2	Negative social impacts in the supply chain and actions taken	91	
GRI 206: Anti-competitive Behavior 2016	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	100	

Quality and customer satisfaction

	3-3	Management of material topics	42-48	
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Contribution to local communities

GRI 3: Material Topics 2021	3-3	Management of material topics	49-52	
GRI 413: Local Communities 2016	413-1	Operations with local community engagement, impact assessments, and development programs	50-52	a-1, a-2, a-8 Not applicable



Safety and health

GRI Standard		Disclosure	Location	Explanation
GRI 3: Material Topics 2021	3-3	Management of material topics	53-59	
	403-1	Occupational health and safety management system	54	
GRI 403: Occupational Health and Safety 2018	403-2	Hazard identification, risk assessment, and incident investigation	58	
	403-3	Occupational health services	57-58	
	403-4	Worker participation, consultation, and communication on occupational health and safety	57	
	403-5	Worker training on occupational health and safety	56	
	403-6	Promotion of worker health	57-58	
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	57	
	403-8	Workers covered by an occupational health and safety management system	54	
	403-9	Work-related injuries	89	



ESG Fact Sheets

Economic

Economic Growth: Sales Records

Classification	Unit	Scope of data	2019	2020	2021	2022
Sales	KRW million	Consolidated	4,128,136	3,988,104	4,593,665	4,756,114
Operating income	KRW million	Consolidated	375,435	264,445	264,508	332,547
Net income	KRW million	Consolidated	395,698	285,074	567,836	229,551
Sales	KRW million	Separate	3,102,184	2,712,338	3,618,065	4,204,908
Operating income	KRW million	Separate	178,187	89,362	190,710	282,247
Net income	KRW million	Separate	53,024	(37,858)	29,341	207,607

Financial Soundness: Financial Status

Classification	Unit	Scope of data	2019	2020	2021	2022
Total assets	KRW million	Consolidated	11,338,593	12,026,887	4,782,290	4,736,668
Total liabilities	KRW million	Consolidated	7,071,041	7,537,888	3,412,466	3,101,627
Total equity	KRW million	Consolidated	4,267,552	4,488,999	1,369,824	1,635,041
Total assets	KRW million	Separate	4,965,757	5,180,809	3,503,272	3,731,594
Total liabilities	KRW million	Separate	3,490,347	3,679,161	2,412,266	2,378,226
Total equity	KRW million	Separate	1,475,410	1,501,648	1,091,006	1,353,368

Research & Development

Classification	Unit	Scope of data	2019	2020	2021	2022
R&D personnel	Persons	Korea	739	749	750	721
R&D investment	KRW million	Korea	149,291	136,231	135,642	161,190
R&D investment per sales	%	Korea	4.80	5.02	3.74	3.82

Intellectual properties

Classification	Unit	Scope of data	2019	2020	2021	2022
Application ¹⁾	Cases	Global ³⁾	3,914	4,285	2,763	2,441
Registration ²⁾	Cases	Global ³⁾	2,871	3,224	1,955	1,758

1) Sum of cases that are in the state of waiting for an evaluation, being under an evaluation, or completed registration, after a patent application on the base date, and includes the number of cases of registration

2) No. of cases that were registered after an evaluation, following a patent application on the base date, and are maintaining registration status

3) Number of intellectual property rights applications and registration made at home and abroad; Based on consolidated financial statements

Retirement pension system reserves

Classification	Unit	Scope of data	2019	2020	2021	2022
Retirement pension system (DB)	KRW million	Korea		-	220,432	182,172
Retirement pension system (DC)	KRW million	Korea		-	22	56

Quality Management

Classification	Unit	Scope of data	2019	2020	2021	2022
No. of ISO 9001-certified worksites ¹⁾	Sites	Korea	4	4	4	4
	Sites	Global	3	3	3	3

1) Changed past data to reflect HDIN certification

Human Capital Return on Investment¹⁾

Classification	Unit	Scope of data	2019	2020	2021	2022
Human Capital Return on Investment	KRW million	Korea	62	32	67	100

1) Newly disclosed item in 2022



Customers

Privacy Protection

Classification	Unit	Scope of data	2019	2020	2021	2022
Customers information leakages	Cases	Korea	0	0	0	0
	Cases	China	0	0	0	0

Product labeling

Classification	Unit	Scope of data	2019	2020	2021	2022
Cases of violation of laws related to health and safety of products and services	Cases	Korea	-	-	0	0
Cases of violation of laws related to product and service information labeling	Cases	Korea	-	-	0	0

Customer Satisfaction

Classification	Unit	Scope of data	2019	2020	2021	2022
Customer satisfaction survey ¹⁾	%	China	81	98	97	98

1) VOC Customer satisfaction survey collection rate

Safety and Health

Occupational Safety and Health

Classification	Unit	Scope of data	2019	2020	2021	2022
Occupational accident rate	%	Korea	1.05	0.57	0.88	1.07
LTIR ¹⁾	200,000 hours	Korea	1.17	0.61	0.73	0.95
TRIR ²⁾	200,000 hours	Korea	1.99	1.15	1.14	1.60
LWSR ³⁾	200,000 hours	Korea	70.31	32.24	58.69	64.05
LTIR (contractor) ⁴⁾	200,000 hours	Korea	0.33	0.16	0.41	0.16
Contractor fatalities	Persons	Korea	0	0	1	0
Employee fatalities	Persons	Korea	0	0	0	0
Occupational accident rate	%	China	0.00	0.08	0.00	0.00
LTIR ¹⁾	200,000 hours	China	0.00	0.08	0.00	0.00
TRIR ²⁾	200,000 hours	China	0.00	0.08	0.00	0.00
LWSR ³⁾	200,000 hours	China	0.00	1.99	0.00	0.00
Contractor fatalities	Persons	China	0	0	0	0
Employee fatalities	Persons	China	0	0	0	0

1) LTIR (Lost Time Incidents Rate): Number of incidents involving more than one-day closure of workday per 100 workers, Total number of lost time cases / Total number of hours worked by employees * 200,000 (Number of incidents is based on incidents by employees of HDI)

2) TRIR (Total Recordable Incidents Rate): Number of recordable incidents that require treatment for injuries or illness per 100 workers, Total number of injuries and illnesses / Total number of hours worked by employees * 200,000

3) LWSR (Lost Workday Severity Rate): Number of lost work days experienced per 100 workers, Total number of lost work days / Total number of hours worked by employees * 200,000

4) Based on the number of in-house contractors

No. of safety training participant

Classification	Unit	Scope of data	2019	2020	2021	2022
Safety training participants (employees)	Persons	Korea	-	-	2,518	2,299
Safety training participants (contractors)	Persons	Korea	718	787	778	784



Occupational Illness Frequency Rate

Classification	Unit	Scope of data	2019	2020	2021	2022
OIFR ¹⁾	%	Korea	0.315	0.107	0.176	0.285

1) OIFR (Occupational Illness Frequency Rate): Number of workers who have occupational illness and other related illness/Total workers (Number of workers is based on employees of HDI; and application of calculation formula of the Korea Occupational Safety and Health Agency)

Health and Safety Management System

Classification	Unit	Scope of data	2019	2020	2021	2022
No. of business sites with ISO 45001 (OHSMS) ¹⁾ Certification	Sites	Global	-	4	5	5
Ratio of business sites with ISO 45001 (OHSMS) ²⁾ Certification	%	Global	-	67	83	71

1) Occupational Health and Safety Management System

2) Data Coverage : Korea worksites, overseas production sites

Grievance Handling

Classification	Unit	Scope of data	2019	2020	2021	2022
Ratio of completed Safety and Health Grievance ¹⁾	%	Korea	100	100	93	92

1) Occupational Safety and Health Committee agenda completion rate

Shared Growth

Shared Growth

Classification	Unit	Scope of data	2019	2020	2021	2022
Number of suppliers received financial support	Companies	Korea	53	56	56	52
Amount of financial support ¹⁾	KRW billion	Korea	43.5	43.5	43.5	43.5
Ratio of cash settlement cases	%	Korea	0.2	0.2	0.3	0.3
Number of payments	Times	Korea	Once a month	Once a month	Once a month	Once a month
Support for developing technology	Cases	Korea	22	22	22	28
Support for protecting technology	Cases	Korea	6	6	6	5
Education support training courses ²⁾	Courses	Korea	12	19	21	3
Staff at suppliers who completed education support trainings ²⁾	Persons	Korea	96	37	265	183
Education support training hours	Hours	China	108	127	100	98
Competitiveness enhancement support operation days ³⁾	man-day	Korea	195	248	183	202
Competitiveness enhancement support operation days	man-day	China	357	357	357	357
Provision of casting molds to strengthen suppliers' part development capacity	Companies	Korea	134	135	196	135
Provision of casting molds to strengthen suppliers' part development capacity	KRW billion	Korea	28.7	20.2	29.7	17.8
Provision of casting molds to strengthen suppliers' part development capacity	Companies	China	77	77	77	77

1) Fixed amount of shared growth fund contribution

2) Based on educational performance submitted for shared growth index evaluation

3) Fair Trade Commission standard: 5 days=1 person (1 day=8 hours, Based on the application period of punctuality)



Suppliers

Classification	Unit	Scope of data	2019	2020	2021	2022
Total number of suppliers	Companies	Korea	569	577	558	547
Tier 1 suppliers	%	Korea	100	100	100	100

Supply Chain ESG Management

Classification	Unit	Scope of data	2019	2020	2021	2022
No. of suppliers that received an ESG inspection	Companies	Korea	116	N/A	41	45
EHS support	Companies	Korea	55	49	15	33
EHS support	Companies	China	13	14	12	9
Amount of suppliers that received an ESG support program	KRW billion	Korea	2.8	2.3	2.2	3.0

Employees

Employment

Classification	Unit	Scope of data	2019	2020	2021	2022
Number of employees	Persons	Global	4,603	4,467	4,482	4,465
Number of employees	Persons	Korea	2,860	2,791	2,841	2,809
Number of employees	Persons	China	1,255	1,205	1,195	1,161

By job

Classification	Unit	Scope of data	2019	2020	2021	2022
Office	Persons	Korea	1,622	1,587	1,536	1,434
Technical	Persons	Korea	1,238	1,204	1,305	1,375
Office	Persons	China	562	556	556	559
Technical	Persons	China	693	649	639	602

By employment type

Classification	Unit	Scope of data	2019	2020	2021	2022
Permanent	Persons	Korea	2,718	2,683	2,625	2,538
Ratio of permanent employees	%	Korea	95	96	92	90
Permanent(male)	Persons	Korea	2,478	2,449	2,409	2,332
Permanent(female)	Persons	Korea	240	234	216	206
Temporary ¹⁾	Persons	Korea	92	60	168	245
Temporary(male)	Persons	Korea	81	55	157	242
Temporary(Female)	Persons	Korea	11	5	11	3
Ratio of temporary employees	%	Korea	3.4	2.3	5.9	8.7
Temporary	Persons	China	39	45	44	41
Ratio of temporary employees	%	China	3.1	3.7	3.7	3.4

1) Restatement of data due to change in the measurement methodologies (advisors, advisory staff, and outside directors excluded)



Diversity

Classification	Unit	Scope of data	2019	2020	2021	2022
Disabled(total) ¹⁾	Persons	Korea	35	36	34	31
Disabled(executives)	Persons	Korea	-	-	-	-
Disabled(senior manager)	Persons	Korea	5	5	5	6
Disabled(manager)	Persons	Korea	30	31	29	25
Veterans(total) ²⁾	Persons	Korea	92	92	90	90
Veterans(executives)	Persons	Korea	-	-	-	1
Veterans(senior manager)	Persons	Korea	-	-	-	27
Veterans(manager)	Persons	Korea	-	-	-	62
Elderly(total) ³⁾	Persons	Korea	327	412	483	428
Elderly(executives)	Persons	Korea	-	-	-	8
Elderly(senior manager)	Persons	Korea	-	-	-	37
Elderly(manager)	Persons	Korea	-	-	-	391
Below 30 years old	Persons	Korea	-	-	-	351
Between 30 and 50 years old	Persons	Korea	-	-	-	1900
Above 50 years old	Persons	Korea	-	-	-	642
Male	Persons	Korea	2,608	2,551	2,613	2,600
Female	Persons	Korea	252	240	228	209
Disabled ¹⁾	Persons	China	0	0	0	0
Elderly ³⁾	Persons	China	9	11	13	10
Male	Persons	China	1,071	1,022	1,011	985
Female	Persons	China	184	183	184	176

1) Based on MY HR; national disabled classification (levels 1-6)

2) Based on MY HR; national merit recipients (person with a merit number or someone approved)

3) Above the age of 55 (Excluding executives)

New Hires

Classification	Unit	Scope of data	2019	2020	2021	2022
Number of new hires	Persosns	Korea	40	23	32	189

Ratio of Female in Workforce

Classification	Unit	Scope of data	2019	2020	2021	2022
Ratio of management	%	Korea	2.6	0	0	0
Ratio of leader ¹⁾	%	Korea	2	3	2	2
Ratio of manager ²⁾	%	Korea	7	8	8	8
Ratio of female in all management positions ³⁾	%	Korea	3	3	3	3
Ratio of revenue-generating functions ⁴⁾	%	Korea	4	5	5	7
Ratio of STEM-related positions ⁵⁾	%	Korea	3	4	4	5

1) Ratio of female positions (leader level)/total position holders

2) Ratio of female's senior manger/overall senior manager

3) Ratio of female senior manager/total employees

4) Ratio of female in charge of Construction Engineering Division and Engine Division

5) Ratio of female's senior manager level in charge of construction machinery product development and engine product development

Turnover and Tenure

Classification	Unit	Scope of data	2019	2020	2021	2022
Turnover rate	%	Korea	1.10	1.40	2.05	3.62
20s	%	Korea	2.26	2.44	2.17	9.76
30s	%	Korea	1.19	1.64	2.58	4.42
40s	%	Korea	0.75	1.42	2.51	3.16
50 and above	%	Korea	0.52	0.32	0.34	0.98
Average continuous years of service ¹⁾	Years	Korea	13.49	14.51	15.37	14.82
Continuous years of service(male)	Years	Korea	14.11	15.13	15.94	15.36
Continuous years of service(female)	Years	Korea	7.05	7.94	9.01	8.62

1) Restatement of data due to change in the measurement methodologies (Count only permanent employees)



Parental Leave and Childcare Leave

Classification	Unit	Scope of data	2019	2020	2021	2022
Number of employees on parental leave (male)	Persons	Korea	118	117	96	109
Number of employees on parental leave (female)	Persons	Korea	11	12	11	11
Number of employees eligible for childcare leave(male)	Persons	Korea	926	908	878	899
Number of employees eligible for childcare leave(female)	Persons	Korea	65	68	69	57
Number of employees on childcare leave(male)	Persons	Korea	19	26	38	52
Number of employees on childcare leave(female)	Persons	Korea	22	10	15	13
Number of employees returning to work after childcare leave(male)	Persons	Korea	19	25	28	14
Number of employees returning to work after childcare leave(female)	Persons	Korea	11	16	12	7
Continue to work rate for 12 months after childcare leave(male)	%	Korea	100	100	100	100
Continue to work rate for 12 months after childcare leave(female)	%	Korea	100	100	100	100
Number of employees on parental leave (male)	Persons	China	53	41	27	23
Number of employees on parental leave (female)	Persons	China	17	10	11	4
Return to work rate after parental leave	%	China	100	100	100	100

Evaluation & Compensation

Classification	Unit	Scope of data	2019	2020	2021	2022
Ratio of employees who receive a personnel evaluatoin(total) ¹⁾	%	Korea	96.4	97.6	93.8	91.3
Ratio of employees who receive a personnel evaluatoin(office workers)	%	Korea	96.1	96.4	95.7	97.3
Ratio of employees who receive a personnel evaluatoin(technical workers)	%	Korea	93.8	96.0	88.8	83.2
Ratio of employees who receive a personnel evaluatoin(male)	%	Korea	96.5	97.5	93.7	90.8
Ratio of employees who receive a personnel evaluatoin(female)	%	Korea	95.6	97.9	95.2	98.6
Average employee salary(total)	KRW million	Korea	85	85	92	96
Average employee salary(male)	KRW million	Korea	88	88	94	98
Average employee salary(female)	KRW million	Korea	57	58	68	72

1) Restatement of data due to change in the measurement methodologies(Employees ratio)

Labor Union

Classification	Unit	Scope of data	2019	2020	2021	2022
Union membership rate	%	Korea	94.4	94.4	94.3	90.0



Talent Nurturing

Classification	Unit	Scope of data	2019	2020	2021	2022
Total number of employees trained	Persons	Korea	2,860	2,791	2,841	2,809
Average annual training hours per person	Hours	Korea	40.6	37.6	46.6	41.9
Average training expenses per person	KRW 1,000	Korea	750	400	381	573
Total number of employees trained	Persons	China	1,255	1,205	1,195	1,161
Average annual training hours per person	Hours	China	14.9	10.2	18.1	16.8
Average training expenses per person	KRW 1,000	China	352	369	372	189

Human Rights

Classification	Unit	Scope of data	2019	2020	2021	2022
Participation rate in education on human rights protection and sexual harassment prevention	%	Korea	95.8	97.1	99.8	99.1
Number of human rights complaints received	Cases	Korea	2	3	3	4
Completion rate of human rights complaints	%	Korea	100	100	100	100

Community Involvement

Classification	Unit	Scope of data	2019	2020	2021	2022
Number of employees who participated in CCI activities (including double count)	Persons	Korea	970	183	253	558
Number of employees who participated in CCI activities (excluding double count)	Persons	Korea	440	56	51	366
Number of employees who participated in CCI activities	Persons	China	1,892	1,201	561	473
Total hours of CCI activities	Hours	Korea	3,902	591	752	1,358
CCI investment	KRW billion	Korea	8.64	8.91	7.24	1.05
CCI investment	KRW billion	China	0.15	0.35	0.12	0.07
CCI investment per sales ¹⁾	%	Korea	0.28	0.33	0.20	0.02
Employee participation rate in the salary fraction donation campaign/1% participation in sharing	%	Korea	73	72	71	50
Annual fund raised by the salary fraction donation campaign/1% participation in sharing ¹⁾	KRW million	Korea	143	141	120	203
Employees participated in the salary fraction donation campaign/1% participation in sharing	Persons	Korea	1,979	1,961	1,885	1,443

1) From 2022, the system was changed to 1% participation in sharing after the abolition of the employee salary fraction donation



Environment

Environmental KPI

Classification	Unit	Scope of data	2019	2020	2021	2022
CDP Climate Change	Grade	Global	-	-	C	B

Environmental Expenditure and Investment

Classification	Unit	Scope of data	2019	2020	2021	2022
Environmental investments and operating costs	KRW billion	Korea	7.9	13.2	7.1	10.9
Cleantech R&D investment ¹⁾	KRW billion	Korea	-	-	-	13.1
Eco-friendly sales ¹⁾	KRW billion	Korea	-	-	-	1,563.7
Percentage of non-polluting vehicles ¹⁾	%	Korea	0	0	0	0.1

1) Newly disclosed item in 2022

Environmental Management System

Classification	Unit	Scope of data	2019	2020	2021	2022
Worksites with ISO 14001 (EMS) ¹⁾ certification	Sites	Global	4	5	5	5
Ratio of Worksites with ISO 14001 (EMS) ²⁾ certification	%	Global	80	83	83	71

1) Environmental Management System

2) Data Coverage : Korea worksites, overseas production sites

Non-renewable Material

Classification	Unit	Scope of data	2019	2020	2021	2022
Scrap metal	ton	Korea	34,225	23,560	27,362	27,492
Scrap metal intensity	ton/KRW million	Korea	0.011	0.009	0.008	0.007

Renewable Material

Classification	Unit	Scope of data	2019	2020	2021	2022
Sand (molding sand)	ton	Korea	18,406	17,284	15,691	14,958
Sand intensity	ton/KRW million	Korea	0.006	0.006	0.004	0.004

Energy Consumption

Classification	Unit	Scope of data	2019	2020	2021	2022
Total energy consumption	TJ	Korea	2,145	1,733	2,040	2,039
	TOE	Korea	51,232	41,392	48,725	48,701
- Intensity	TJ/Sales (KRW million)	Korea	0.00069	0.00064	0.00056	0.00048
	TOE/Sales (KRW million)	Korea	0.01651	0.01526	0.01347	0.01158
- Energy savings ¹⁾	TJ	Korea	14	47	50	53
- Reduction in energy costs ¹⁾	KRW million	Korea	168	544	565	612
Direct energy (fuel) consumption	TJ	Korea	444	364	426	417
Indirect energy (electric power) consumption	TJ	Korea	1,702	1,369	1,611	1,621
Other energy consumption	TJ	Korea	0	0	3	3
Renewable energy consumption	TJ	Korea	0	0	0	0
Total energy consumption ²⁾	TJ	China	228	250	206	152
- Intensity	TJ/Sales (KRW million)	China	0.00017	0.00017	0.00017	0.00015
- Energy savings	TJ	China	137	135	114	75
- Reduction in energy costs	KRW million	China	75	87	64	45
Direct energy (fuel) consumption	TJ	China	16	28	27	32
Indirect energy (electric power) consumption	TJ	China	0	0	0	0
Other energy consumption	TJ	China				
Renewable energy consumption	TJ	China				

1) Based on Energy Consumption Report

2) Error made in previous reporting periods

Remanufacturing

Classification	Unit	Scope of data	2019	2020	2021	2022
Sales of remanufactured parts	KRW billion	Korea	0.77	0.65	0.52	0.55



Water Withdrawal (Domestic)

Classification	Unit	Scope of data	2019	2020	2021	2022
Total water withdrawal	ton	Korea	639,668	490,820	546,749	533,742
Rainwater	ton	Incheon	867	339	3	210
Groundwater	ton	Incheon	0	0	0	0
Third-party water (Industrial Water+Domestic Water)	ton	Incheon	560,845	431,181	477,204	468,657
Groundwater	ton	Gunsan	0	0	0	0
Third-party water (Industrial Water+Domestic Water)	ton	Gunsan	57,683	49,818	55,276	48,660
Groundwater	ton	Ansan	0	0	0	0
Third-party water (Industrial Water+Domestic Water)	ton	Ansan	18,868	7,959	8,576	9,331
Groundwater	ton	Boryeong	1,405	1,524	5,690	6,884
Third-party water (Industrial Water+Domestic Water)	ton	Boryeong	0	0	0	0

Water Withdrawal (Overseas)

Classification	Unit	Scope of data	2019	2020	2021	2022
Total water withdrawal	ton	China	93,289	89,784	61,021	58,249
Rainwater	ton	China	0	0	0	0
Groundwater	ton	China	0	0	0	0
Third-party water (Industrial water+Domestic water)	ton	China	93,289	89,784	61,021	58,249

Water Consumption (Domestic)

Classification	Unit	Scope of data	2019	2020	2021	2022
Total Water Consumption	ton	Korea	639,668	490,820	546,749	533,742
Water Consumption Intensity	ton/KRW million	Incheon	0.189	0.176	0.132	0.127
Rainwater	ton	Incheon	867	339	3	210
Groundwater	ton	Incheon	0	0	0	0
Third-party water (Industrial water+Domestic water)	ton	Gunsan	560,845	431,181	477,204	468,657
Groundwater	ton	Gunsan	0	0	0	0
Third-party water (Industrial water+Domestic water)	ton	Ansan	57,683	49,818	55,276	48,660
Groundwater	ton	Ansan	0	0	0	0
Third-party water (Industrial water+Domestic water)	ton	Boryeong	18,868	7,959	8,576	9,331
Recycled or reused water ¹⁾	ton	Boryeong	1,405	1,524	5,690	6,884
Water supply (business+life)	ton	Boryeong	0	0	0	0
Reused and recycled water ¹⁾	ton	Korea	56,771	53,195	64,317	46,012

1) Wastewater reuse and recycled, rainwater recycling

Water Consumption (Overseas)

Classification	Unit	Scope of data	2019	2020	2021	2022
Water Consumption	ton	China	93,289	89,784	61,021	58,249
Surface water	ton	China	0	0	0	0
Groundwater	ton	China	0	0	0	0
Third-party water (Industrial Water+Domestic Water)	ton	China	93,289	89,784	61,021	58,249



Water Discharge

Classification	Unit	Scope of data	2019	2020	2021	2022
Total water discharge	ton	Korea	594,118	349,507	376,653	368,073
Emissions of effluents	ton	Korea	87,137	82,097	77,792	53,288
Effluents intensity	ton/KRW million	Korea	0.028	0.030	0.022	0.013
Groundwater	ton	Korea	1,405	1,524	5,690	6,884
Total water discharge	ton	China	88,624	85,295	57,970	55,337
Emissions of effluents	ton	China	71,878	64,588	49,875	42,330
Effluents intensity ¹⁾	ton/KRW million	China	0.053	0.043	0.041	0.041
Surface water	ton	China	0	0	0	0
Groundwater	ton	China	0	0	0	0
BOD	mg/L	Incheon	7.4	11.0	16.4	9.7
COD(-2021)→TOC(2022)	mg/L	Incheon	10.6	18.5	20.5	6.5
Suspended solids	mg/L	Incheon	4.0	1.4	9.2	0.5
BOD	mg/L	Gunsan	103.2	76.1	98.8	48.4
TOC	mg/L	Gunsan	143.5	95.6	108.2	59.6
Suspended solids	mg/L	China	8.5	7.8	19.2	8.5
COD	mg/L	China	21.5	24.0	35.0	19.3

1) Restatement of data due to change in the measurement methodologies (China sales)

Emissions of Greenhouse Gas (Domestic) (Including Direct and Indirect Emissions)

Classification	Unit	Scope of data	2019	2020	2021	2022
Total (scope 1+ 2) ¹⁾	tonCO ₂ eq	Korea	112,186	90,447	105,016	104,268
Intensity ¹⁾	tonCO ₂ eq/ KRW million	Korea	0.036	0.033	0.029	0.025
Scope 1+2+3	tonCO ₂ eq	Korea	112,189	1,141,816	1,115,188	1,082,176
Scope 1	tonCO ₂ eq	Korea	29,550	23,961	27,834	26,552
Scope 1 Intensity	tonCO ₂ eq/ KRW million	Korea	0.010	0.009	0.008	0.006
Scope 2 (Location-based)	tonCO ₂ eq	Korea	82,639	66,486	77,184	77,718
Scope 2 Intensity (Location-based)	tonCO ₂ eq/ KRW million	Korea	0.027	0.025	0.021	0.018
Scope 3	tonCO ₂ eq	Korea	-	1,051,369	1,010,170	977,905
① Purchased goods and services	tonCO ₂ eq	Korea	-	4,766	5,913	8,415
② Capital goods	tonCO ₂ eq	Korea	-	-	-	1,983
③ Fuel- and energy-related activities	tonCO ₂ eq	Korea	-	10,225	15,197	12,243
④ Upstream transportation and distribution	tonCO ₂ eq	Korea	-	-	-	35,275
⑤ Waste generated in operations	tonCO ₂ eq	Korea	-	710	824	592
⑥ Business travel	tonCO ₂ eq	Korea	-	505	3,523	1,557
⑦ Employee commuting	tonCO ₂ eq	Korea	-	7,193	6,829	7,539
⑧ Upstream leased assets	tonCO ₂ eq	Korea	-	-	-	-
⑨ Downstream transportation and distribution ¹⁾	tonCO ₂ eq	Korea	-	-	-	313
⑩ Processing of sold products	tonCO ₂ eq	Korea	-	-	-	-
⑪ Use of sold products	tonCO ₂ eq	Korea	-	1,027,969	977,855	909,988
⑫ End-of-life treatment of sold products	tonCO ₂ eq	Korea	-	-	-	-
⑬ Downstream leased assets	tonCO ₂ eq	Korea	-	-	-	-
⑭ Franchises	tonCO ₂ eq	Korea	-	-	-	-
⑮ Investments	tonCO ₂ eq	Korea	-	-	-	-

1) Limited to greenhouse gas emissions generated during the transportation of products produced by HD Hyundai Infracore to dealers.



Emissions of Greenhouse Gas (Overseas) (Including Direct and Indirect Emissions)

Classification	Unit	Scope of data	2019	2020	2021	2022
Total (scope 1+2)	tonCO ₂ eq	China	29,214	33,442	26,436	15,769
Intensity ¹⁾	tonCO ₂ eq/ KRW million	China	0.022	0.022	0.022	0.015
Scope 1	tonCO ₂ eq	China	9,012	9,044	7,617	5,001
Scope 1 intensity	tonCO ₂ eq/ KRW million	China	0.007	0.006	0.006	0.005
Scope 2 (Location-based)	tonCO ₂ eq	China	20,201	24,398	18,819	10,768
Scope 2 intensity (Location-based)	tonCO ₂ eq/ KRW million	China	0.015	0.016	0.015	0.011

1) Restatement of data due to change in the measurement methodologies(China sales)

Emissions of Air Pollutants (Domestic)

Classification	Unit	Scope of data	2019	2020	2021	2022
NOx ¹⁾	ppm	Korea	5,129	4,287	4,783	6,665
SOx	ppm	Korea	689	50	104	462
VOCs	ppm	Korea	13,555	10,443	13,590	10,548
Dust ¹⁾	ton	Korea	22.71	11.45	13.73	20.92
Dust Intensity	ton/KRW million	Korea	0.000007	0.000004	0.000004	0.000005

1) Restatements of 2020, 2021 data due to error made in previous reporting periods.

Emissions of Air Pollutants (Overseas)

Classification	Unit	Scope of data	2019	2020	2021	2022
VOCs	mg/m ³	China	2.82	5.22	6.39	2.85
Dust	mg/m ³	China	2.76	2.69	3.82	3.60

Emissions of Ozone-depleting Substances

Classification	Unit	Scope of data	2019	2020	2021	2022
CFC, HCFC, CH ₃ Br, R-22	ppm	Korea	0	0	0	0

Waste Generation

Classification	Unit	Scope of data	2019	2020	2021	2022
Waste generated ¹⁾	ton	Korea	38,021	28,059	31,446	30,290
Non-hazardous waste ¹⁾	ton	Korea	34,205	24,413	28,845	27,803
Hazardous waste ¹⁾	ton	Korea	3,816	3,646	2,602	2,488
Non-hazardous waste intensity ¹⁾	ton/KRW million	Korea	0.011	0.009	0.008	0.007
Hazardous waste intensity ¹⁾	ton/KRW million	Korea	0.001	0.001	0.001	0.001

1) Restatement of data due to change in the measurement methodologies (Reflection of waste amount at Ansan Parts Distribution Center)

Waste Conversion and Treatment

Classification	Unit	Scope of data	2019	2020	2021	2022
Total waste	ton	Korea	38,021	28,059	31,446	30,290
Recycled waste	ton	Korea	35,660	26,730	29,470	29,398
Waste incinerated without energy recovery	ton	Korea	1,958	984	1,575	851
Waste landfilled	ton	Korea	37	22	36	42
Recycling rate	%	Korea	95	95	95	97
Non-hazardous waste recycling rate	%	Korea	96.8	95.8	96.1	98.1
Hazardous waste	%	Korea	75.8	81.4	67.5	85.2
Total waste ¹⁾	ton	China	4,878	5,155	4,825	4,502
Recycled waste ²⁾	ton	China	2,836	3,080	3,003	3,321
Waste incinerated with energy recovery	ton	China	1,969	1,714	1,560	999
Waste incinerated without energy recovery	ton	China	0	0	0	0
Waste landfilled	ton	China	73	361	262	181
Recycling rate	%	China	58	60	62	74
Non-hazardous waste recycled ²⁾	ton	China	2,836	3,080	3,003	3,321
Recycling rate of non-hazardous waste	%	China	70	71	74	82
Recycling rate of hazardous waste	%	China	-	-	-	-

1) Includes both hazardous and non-hazardous waste

2) Waste steel, waste wood



Transparent Management

Corporate Governance

Classification	Unit	Scope of data	2019	2020	2021	2022
Attendance rate of directors in BOD meetings	%	Korea	92.9	97.1	94.4	100
Percentage of female directors	%	Korea	0.0	0.0	0.0	0.0
Board Average Tenure	years	Korea	3.8	3.8	3.8	3.3

CEO-to-Worker Remuneration Ratio

Classification	Unit	Scope of data	2019	2020	2021	2022
CEO remuneration ¹⁾	KRW million	Korea	1,443	581	1,815	913
Average remuneration per employee	KRW million	Korea	89	86	95	96
CEO-to-Worker Remuneration Ratio	%	Korea	16.2	6.8	19.1	9.5

1) Average value of the total remuneration of the two CEOs

Ethical Management

Classification	Unit	Scope of data	2019	2020	2021	2022
No. of worksites audited for ethical standards	Cases	Korea	-	-	2	1
Ratio of worksites audited for ethical standards	%	Korea	-	-	50	20
No. of worksites audited for ethical standards	Cases	Overseas	-	-	0	0
Ratio of worksites audited for ethical standards	%	Overseas	-	-	0	0
Ethical management training ¹⁾	Persons	Korea	-	-	0	1,471
Ethical management training ²⁾	Persons	Overseas	-	-	0	21
No. of executives and employees who were informed of the anti-corruption policies	Persons	Global	-	-	-	1,561
Ratio of executives and employees who were informed of the anti-corruption policies	%	Global	-	-	-	98
No. of partner companies who were informed of the anti-corruption policies	Persons	Korea	-	-	-	345
"Ratio of partner companies who were informed of the anti-corruption policies "	%	Korea	-	-	-	89
No. of corruption cases	Cases	Korea	0	0	1	2
No. of corruption cases resulted in dismissal or disciplinary actions	Persons	Korea	0	0	- / 4	- / 4
No. of corruption cases in which contracts of partner companies were terminated or not renewed	Cases	Korea	0	0	0	0
Collection rate of statement of interests form ³⁾	%	Global	100	100	98	98

1) After being merged in to HD Hyundai Group in the second half of 2021, conduct the first ethics training supervised by the group in 2022

2) Expatriates working overseas

3) Employees in Korea + Expatriates working overseas



Actions Taken Against Code of Conduct Violations¹⁾

Classification	Unit	Scope of data	2019	2020	2021	2022
Disciplinary action	Persons (Percentage)	Korea	5 (71%)	11 (61%)	5 (55%)	8 (80%)
Warning or lesser measure	Persons (Percentage)	Korea	2 (29%)	7 (39%)	4 (45%)	2 (20%)
Total	Persons (Percentage)	Korea	7 (100%)	18 (100%)	9 (100%)	10 (100%)

1) Includes violation of human rights, workplace harassment, sexual harassment, honesty and transparency (misconduct, corruption, information security, conflict of interest, etc.), and fair competition (supplier and fair trade, etc.)

Compliance Management

Classification	Unit	Scope of data	2019	2020	2021	2022
No. of times of compliance training	Cases	Korea	4	2	4	4
No. of employees who participated in compliance training	Persons	Korea	283	882	914	1,008
No. of cases of legal advice related to fair trade	Cases	Korea	-	-	54	59
No. of cases of legal advice related to anti-bribery and economic sanctions	Cases	Korea	-	-	9	2
No. of cases of violation of the Improper Solicitation and Graft Act	Cases	Korea	0	0	0	0

Compliance

Classification	Unit	Scope of data	2019	2020	2021	2022
No. of cases of non-compliance with laws and regulations (Fines & Non-monetary sanctions)	Cases	Korea	0	0	0	0
Fines	Cases	Korea	0	0	0	0
Non-monetary sanctions	Cases	Korea	0	0	0	0
Legal measures on unfair trade conduct	Cases	Korea	0	0	0	0
Fine levied due to violation of laws or regulations	KRW billion	Korea	0.1	0	0	0
No. of cases of violation of environmental laws ¹⁾	Cases	Global	0	0	0	0
Fines due to violating environmental laws	KRW billion	Global	0	0	0	0

1) Korean and Chinese sites, the number of violations with a fine of \$10,000 or more

Policy-related Expenditures

Classification	Unit	Scope of data	2019	2020	2021	2022
Total political donation	KRW million	Korea	0	0	0	0
Total contributions to associations	KRW million	Korea	1,271	2,244	1,055	1,097

Largest Expenditures to Associations in 2022

Classification	Unit	Scope of data	2019	2020	2021	2022
Korea Foundation for Cooperation of Large & Small Business, Rural Affairs	KRW million	Korea	400	1,400	400	400
Korea Construction Equipment Manufactures Association	KRW million	Korea	270	257	243	222
Korea Enterprises Federation	KRW million	Korea	-	270	103	106
Incheon Chamber of Commerce & Industry	KRW million	Korea	80	80	80	80
Gunsan Chamber of Commerce & Industry	KRW million	Korea	51	51	47	47



SASB Index

Topic	Type	Code	Accounting Metrics	Page
Energy Management	Quantitative	RT-IG-130A.1	(1) Total energy consumed(GJ)	95
			(2) Percentage grid electricity	95
			(3) Percentage renewable energy	95
Employee Health & Safety	Quantitative	RT-IG-320A.1	(1) Total recordable incident rate (TRIR)	89
			(2) Fatality rate	89
			(3) Near miss frequency rate (NMFR)	Not Reported
Fuel Economy & Emissions in Use-phase	Quantitative	RT-IG-410A.1	Sales-weighted fleet fuel efficiency for medium- and heavyduty vehicles	29
	Quantitative	RT-IG-410A.2	Sales-weighted fuel efficiency for non-road equipment	29
	Quantitative	RT-IG-410A.3	Sales-weighted fuel efficiency for stationary generators	N/A
	Quantitative	RT-IG-410A.4	(a) Sales-weighted emissions of nitrogen oxides (NOx) and particulate matter (PM) for marine diesel engines	Not Reported
			(b) Sales-weighted emissions of nitrogen oxides (NOx) and particulate matter (PM) for locomotive diesel engines	
			(c) Sales-weighted emissions of nitrogen oxides (NOx) and particulate matter (PM) for on-road medium- and heavyduty engines	
(d) Sales-weighted emissions of nitrogen oxides (NOx) and particulate matter (PM) for other non-road diesel engines				
Materials Sourcing	Quantitative	RT-IG-440A.1	Description of the management of risks associated with the use of critical materials	41
Remanufacturing Design & Services	Quantitative	RT-IG-440B.1	Revenue from remanufactured products and remanufacturing services	16
Activity Metric	Quantitative	RT-IG-000.A	Number of units produced by product category (1) vehicles and agricultural and construction equipment (2) engines and power generation equipment (3) parts and components	Business Report 16
	Quantitative	RT-IG-000.B	Number of employees	91



Initiative

Declaration of support for TCFD

The Task Force on Climate-Related Financial Disclosures (TCFD) is an international initiative established by the Financial Stability Board (FSB) in response to the request from the G20. It aims to prevent the financial risks associated with climate change by improving and increasing the disclosure of climate-related financial information worldwide. HD Hyundai Infracore declared its support for TCFD in September 2022 and is reporting on governance, strategy, risk management, metrics and targets related to climate change in this integrated report, in accordance with the TCFD recommendations.



Governance

The organization’s governance around climate-related risks and opportunities

Strategy

The actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning

Risk Management

The processes used by the organization to identify, assess, and manage climate-related risks

Metrics and Targets

The metrics and targets used to assess and manage relevant climate-related risks and opportunities

UN Global Compact(UNGC)

HD Hyundai Infracore became a member of the United Nations Global Compact (UNGC) in June 2013, and supports the UNGC’s 10 principles in the four main areas of human rights, labor, environment, and anti-corruption. HD Hyundai Infracore is committed to fulfilling its corporate social responsibilities and strives to be a responsible global corporate citizen, continuously challenging itself in the pursuit of innovative future value.

The Ten Principles of the UN Global Compact	
Human Rights	Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and Principle 2: make sure that they are not complicit in human rights abuses.
Labour	Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining; Principle 4: the elimination of all forms of forced and compulsory labour; Principle 5: the effective abolition of child labour; and Principle 6: the elimination of discrimination in respect of employment and occupation.
Environment	Principle 7: Businesses should support a precautionary approach to environmental challenges; Principle 8: undertake initiatives to promote greater environmental responsibility; and Principle 9: encourage the development and diffusion of environmentally friendly technologies
Anti-Corruption	Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.



TCFD Index

	TCFD Recommendation	Page
Governance	a) Describe the board's oversight of climate-related risks and opportunities.	23
	b) Describe management's role in assessing and managing climate-related risks and opportunities.	23
Strategy	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	24
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	24
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	25-27
Risk Management	a) Describe the organization's processes for identifying and assessing climate-related risks.	28
	b) Describe the organization's processes for managing climate-related risks.	28
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	23
Metrics & Targets	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	29
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	29
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	17, 29



Verification Statement on GHG Emissions

Verification Statement on 2022 Greenhouse Gas Emission Report

Verification Target

Creative Sustainable Register (hereinafter “CSR”) has conducted the verification of “2022 Report on Quantity of emitted Greenhouse gas and Energy Consumption (hereinafter “Inventory Report”) for Hundai Doosan Infracore (hereinafter “the Company”)

Verification Scope

CSR’s verification was focused on all the facilities which emitted the greenhouse gas during the year of 2022 under the Company’s operational control and organizational boundary.

Verification Criteria

The Verification is based on ‘Rule for emission reporting and certification of greenhouse gas emissions trading Scheme (Notification No. 2021-278 of Ministry of Environment)’

Verification Procedure

The Verification has been planned and conducted as the ‘Rules for verification of operating the greenhouse gas emissions trading scheme(Notification No. 2021-112 of Ministry of Environment)’, and the level of assurance for verification shall be satisfied as reasonable level of assurance. And it confirmed through the internal review whether the process before the verification conducted effectively.

Verification Limitation

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

Verification Opinions

Regarding to the data of the Greenhouse Gas Emissions and Energy Consumption from the report through the verification, CSR provides our verification opinions as below ;

- 1) The Inventory Report has been stated in accordance with ‘Rule for emission reporting and certification of greenhouse gas emissions trading Scheme’
- 2) The result of Material discrepancy satisfied the criteria for an organization that emits under than 500,000(tCO₂-e) shall not exceed 5% from total emission as per “Rules for verification of operating the greenhouse gas emissions trading Scheme”
- 3) Thus, CSR conclude that the Greenhouse Gas Emissions and Energy Consumption of the Company in 2022 is correctly calculated and stated in accordance with ‘Rules for verification of operating the greenhouse gas emissions trading Scheme’.
- 4) These GHG emissions are those before certification by the Ministry of Environment.

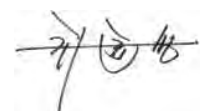
(unit : ton CO₂eq)

Report Year	Emission of Scope1	Emission of Scope2	Total Annual Emission
2022	26,552.682	77,718.519	104,268

May 10th, 2023

CEO **Chun-Seong Choi**
Creative Sustainable Registrar (CSR) (CSR)

CSR Creative Sustainable Registrar
www.csrgroup.co.kr





Independent Assurance Report (Scope3)

To the management of HD Hyundai Infracore Co., Ltd.

We performed a limited assurance engagement on the following 2022 Greenhouse Gas Emissions (Scope 3) of HD Hyundai Infracore Co., Ltd. (the “Company”) for the year ended December 31, 2022 (the “Scope 3 Emissions”).

Scope and Subject matter information

For the year ended December 31, 2022, we provide a limited assurance on the following and our responsibility do not extend to any other information:

- Scope 3 Emissions (the “Subject matter information”), stated on ‘Conclusion’ of this report, is prepared in accordance with the Company’s reporting criteria (the “Criteria”).

Criteria

The Company prepared the Subject matter information in accordance with the Company’s internal calculation criteria based on World Resource Institution & WBCSD (2013) “Technical Guideline for Calculating Scope 3 Emissions (Greenhouse Gas Protocol).

Scope 3 Category	Internal calculation criteria
Purchase goods and services	Based on energy and power usage of major partners
Capital goods	Based on office supply purchases
Fuel and energy-related activities	Based on purchased energy on energy and greenhouse gas statements
Upstream transportation and distribution	Based on sea transportation to overseas sales subsidiary after production (the Company paid)
Waste generated in operations	Based on waste discharge for domestic operations
Business travel	Air travel (emission factor: Guideline for Low-carbon events by the Ministry of Environment of the Republic of Korea)
Employ commuting	Based on commuter bus activities
Downstream transportation and distribution	Based on sea transportation to overseas sales subsidiary after company production (the Company not cost)
Use of sold products	Based on the emissions from one year of use of the sold products

Inherent limitations

Non-financial information is subject to more inherent limitations than financial information, given the characteristics of the subject matter and the methods used for determining such information. Qualitative interpretations of relevance, materiality and the accuracy of data are subject to individual assumptions and judgments.

In particular:

- Our conclusion is based on our discussions with management and staff of the Company and our review of selected documents provided to us by the Company.
- The scope of our work was restricted to performance for the year ended December 31, 2022, only, as set out in the scope and subject matter section above. Information for the year ended December 31, 2021, and earlier periods have not been subject to assurance by us.

Responsibility of the management of the Company

The management of the Company is responsible for selecting and establishing suitable criteria for preparing the Subject matter information and the preparation of the Subject matter information in accordance with the Criteria.

Our responsibility

Our responsibility is for the following:

- Determining and performing the procedures to provide a limited assurance whether a material matter has come to our attention to cause us to believe the Subject matter information is materially misstated.
- Independently expressing a conclusion in accordance with provided evidence by the Company.

Because we engaged to form an independent conclusion on the Subject matter information prepared by the Company, our involvement may compromise our independence and is therefore not permitted. This report, including the conclusion, has been prepared for the Company’s management as a body, to assist the management in reporting on the Company’s Scope 3 Emissions. We do not accept or assume responsibility to anyone other than the Company’s management as a body and the Company for our work or this report save where terms are expressly agreed and with our prior consent in writing.



Our independence and quality control

We have complied with the independence and other ethical requirements of the code of ethics issued by the Ethics Standards Board of the Korean Institute of Certified Public Accountant. We apply International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

The standard of assurance engagement

We performed a limited assurance engagement in accordance with Assurance Engagement other than Audits and Reviews of Historical Financial Information issued by the Korean Institute of Certified Public Accountants (International Standard on Assurance Engagements (“ISAE”) 3000 (Revised) as adopted by the Republic of Korea) and with ISAE 3410 ‘Assurance Engagements on Greenhouse Gas Statements’ issued by International Auditing and Assurance Standards Board.

Summary of the assurance work we performed.

Our work includes the following activities:

1. Interviews with the Company’s personnel responsible for internal reporting and data collection
2. Understanding the Company’s design and implementation of key processes and controls for managing and reporting the Subject matter information
3. Limited testing, through inquiry and analytical review procedures, of the preparation and collation of the Company’s Subject matter information

A limited assurance engagement is less in scope than a reasonable assurance engagement. Consequently, the nature, timing, and extent of procedures for gathering sufficient, appropriate evidence are deliberately limited relative to a reasonable assurance engagement.

Conclusion

Based on the procedures we performed as described under the “Summary of the assurance work we performed” and the evidence we have been provided by the Company, nothing has come to our attention that causes us to believe that the Company’s Subject matter information in the Report for the year ended December 31, 2022, is not prepared, in all material respects, in accordance with the Company’s reporting criteria.

Scope 3 Category	Scope 3 배출량 (단위: tonCO ₂ eq)
Purchase goods and services	8,415
Capital goods	1,983
Fuel and energy-related activities	12,243
Upstream transportation and distribution	35,275
Waste generated in operations	592
Business travel	1,557
Employ commuting	7,539
Downstream transportation and distribution	313
Use of sold products	909,988
Total	977,905

June 15, 2023

Shinhan Accounting Corporation
Seoul, Korea



Independent Assurance Report (Integrated Report)

To the management of HD Hyundai Infracore Co., Ltd.

We performed a limited assurance engagement on the following sustainability information of Sustainability Report of HD Hyundai Infracore Co., Ltd. (the “Company”) for the year ended December 31, 2022 (the “Report”).

Scope and Subject matter information

For the year ended December 31, 2022, we provide a limited assurance on the following:

- The ESG information (the “Subject matter information”), stated on ‘ESG Fact Sheet’ of the Report Appendix, is prepared in accordance with the Company’s ‘Reporting Principle’ described on the ‘About This Report’.

We read the other information included in the Report and considered whether it is consistent with the Subject matter information. We considered the implications for our report in the case that we became aware of any apparent misstatements or material inconsistencies with the Subject matter information. Our responsibilities do not extend to any other information.

Criteria (the “Criteria”)

The Company prepared the Subject matter information in accordance with Global Reporting Initiative (GRI) Standards 2001. The report contains indicators set by the Task Force on Climate-related Financial Disclosures (TCFD) and Sustainability Accounting Standards Board (SASB).

Inherent limitations

Non-financial information is subject to more inherent limitations than financial information, given the characteristics of the subject matter and the methods used for determining such information. Qualitative interpretations of relevance, materiality and the accuracy of data are subject to individual assumptions and judgments.

In particular:

- We did not attend any stakeholder engagement activities. Therefore, our conclusion is based on our discussions with management and staff of the Company and our review of selected documents provided to us by the Company.
- The scope of our work was restricted to performance for the year ended December 31, 2022, only, as set out in the scope and subject matter section above. Information for the year ended December 31, 2021, and earlier periods have not been subject to assurance by us.

Responsibility of the management of the Company

The management of the Company is responsible for selecting and establishing suitable criteria for preparing the Subject matter information and the preparation of the Subject matter information in accordance with the Criteria.

Our responsibility

Our responsibility is for the following:

- Determining and performing the procedures to provide a limited assurance whether a material matter has come to our attention to cause us to believe the Subject matter information is materially misstated.
- Independently expressing a conclusion in accordance with provided evidence by the Company.

Because we engaged to form an independent conclusion on the Subject matter information prepared by the Company, our involvement may compromise our independence and is therefore not permitted.



This report, including the conclusion, has been prepared for the Company's management as a body, to assist the management in reporting on the Company's sustainability performance and activities. We do not accept or assume responsibility to anyone other than the Company's management as a body and the Company for our work or this report save where terms are expressly agreed and with our prior consent in writing.

Our independence and quality control

We have complied with the independence and other ethical requirements of the code of ethics issued by the Ethics Standards Board of the Korean Institute of Certified Public Accountant. We apply International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

The standard of assurance engagement

We performed a limited assurance engagement in accordance with Assurance Engagement other than Audits and Reviews of Historical Financial Information issued by the Korean Institute of Certified Public Accountants (International Standard on Assurance Engagement 3000 (Revised) as adopted by the Republic of Korea).

Summary of the assurance work we performed.

Our work includes the following activities:

1. Interviews with the Company's personnel responsible for internal reporting and data collection
2. Review on the samples of the Company's internal documents related to output from the risk assessment process, sustainability-related policies and standards, the sustainability materiality assessment matrix, and other documents from stakeholder-engaged activities.
3. Understanding the Company's design and implementation of key processes and controls for managing and reporting the Subject matter information
4. Limited testing, through inquiry and analytical review procedures, of the preparation and collation of the Company's Subject matter information

A limited assurance engagement is less in scope than a reasonable assurance engagement. Consequently, the nature, timing, and extent of procedures for gathering sufficient, appropriate evidence are deliberately limited relative to a reasonable assurance engagement.

Conclusion

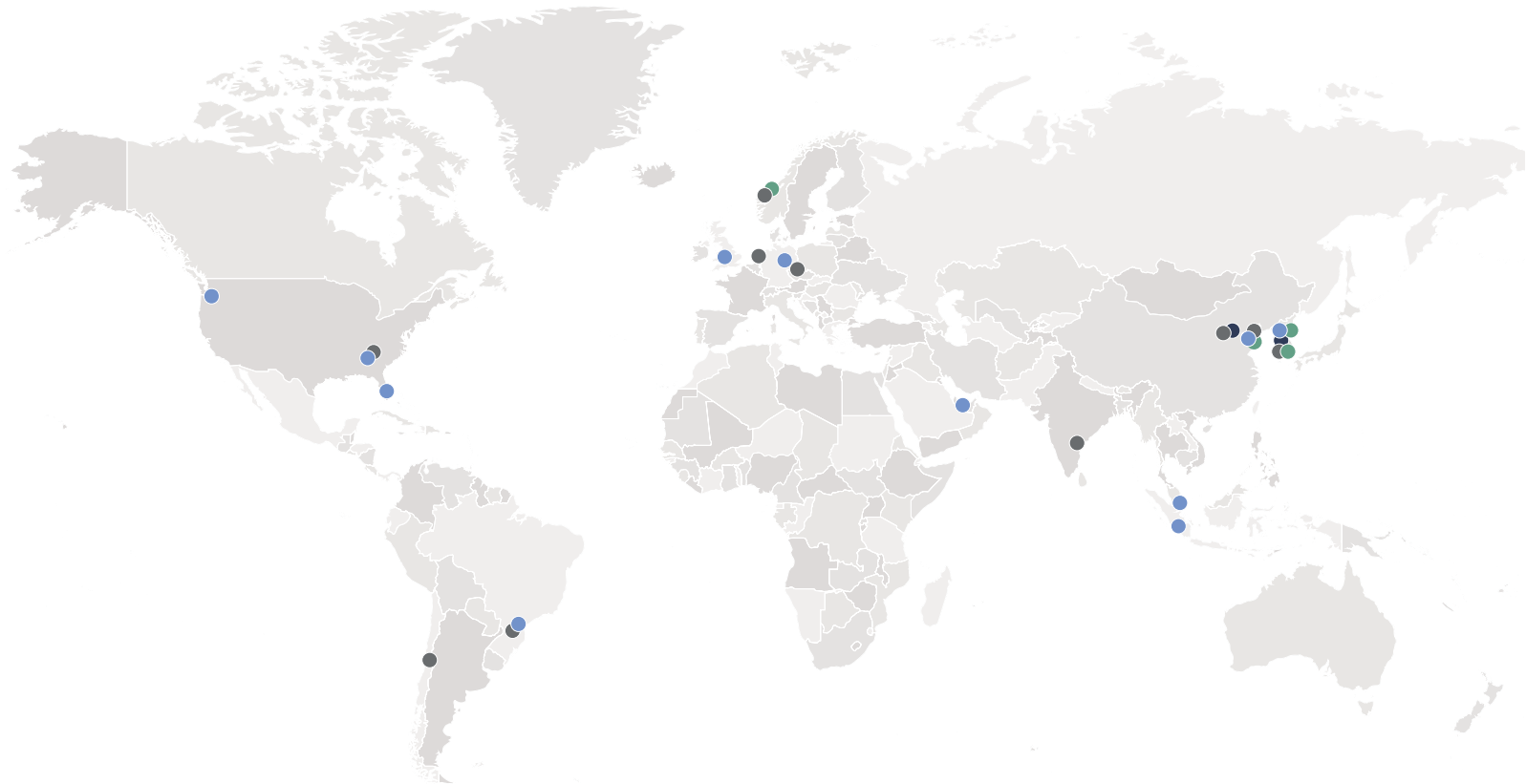
Based on the procedures we performed as described under the "Summary of the assurance work we performed" and the evidence we have been provided by the Company, nothing has come to our attention that causes us to believe that the Company's Subject matter information in the Report for the year ended December 31, 2022, is not prepared, in all material respects, in accordance with the Company's reporting Criteria.

June 15, 2023
Shinhan Accounting Corporation
Seoul, Korea



Global Network

● Headquarters ● Production Subsidiaries ● Sales Subsidiaries ● Parts Distribution Center



Headquarters

Incheon, Korea | Beijing, China

Production Subsidiaries

Incheon, Korea | Gunsan-si, Jeollabuk-do, Korea | Yantai, China | Tianjin, China | Elnesvågen, Norway

Sales Subsidiaries

Seongnam-si, Gyeonggi-do, Korea | Yantai, China | Beijing, China | Chennai, India | Americana, Brazil | Santiago, Chile | Elnesvågen, Norway | Groot-Ammers, Netherlands | Suwanee, U.S. | Prague, Czech Republic

PDC (Parts Distribution Center)

Ansan, Korea | Yantai, China | Halle, Germany | Dubai, UAE | Singapore | Americana, Brazil | Miami, U.S. | Atlanta, U.S. | Seattle, U.S. | Cardiff, U.K. | Jakarta, Indonesia

[↗](#) Please refer to our website for more information.

