HYUNDAI
DOOSAN INFRACORE

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About This Report

Reporting Purpose

Hyundai Doosan Infracore strives to embody environmental, social, and governance (ESG) management in its overall corporate management. To this end, we publish an integrated report to disclose our financial and non-financial performance results generated through the interaction of diverse ESG factors, based on which corporate values are created. This is Hyundai Doosan Infracore's 10th Integrated Report, and continued discussions and improvements are taking place for more effective and transparent disclosure of information.

Reporting Process

Some 30 departments related to the company's strategy, R&D, production, sales, investor relations, and communications have participated in the planning of this Integrated Report in order to enable comprehensive reporting on Hyundai Doosan Infracore's financial and non-financial performance as well as social and environmental values, with a particular focus on 2021 performance results and future plans of the company.

Reporting Period

This report presents quantitative data about the company's performance during the 2021 calendar year. However, the company's qualitative activities mentioned in the report, including the composition of the BOD, include developments recorded until the end of April 2022.

Reporting Scope

This report is mainly on the activities and accomplishments made by the company's worksites in Korea and China. Some qualitative activities, however, include those undertaken at the company's overseas worksites. The ESG Facts & Figures section includes the quantitative outcomes of the worksites in Korea and China for the last three years.

Reporting Principle

Global Reporting Initiative Standards (Report in accordance with the Core Options of the Global Reporting Initiative (GRI) standards)

External Assurance

This report has been assured by Ernst & Young Han Young, an independent assurance service provider, to ensure 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. Hyundai Doosan 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.

Reporting Method

Printed Material

This report is published in Korean and English to communicate better with our global stakeholders

PDF

This report is available in PDF format which can be downloaded at www.hyundai-di.com.

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Construction Machinery Sector of Hyundai Heavy Industries Group

HYUNDAI GENUINE

Hyundai Genuine will grow into a global top-tier company that represents Korea's construction machinery industry.

As an intermediate holding company in the construction machinery sector of Hyundai Heavy Industries Group, Hyundai Genuine seeks to grow into a business holding company by maximizing synergies between its subsidiaries and fostering its own businesses such as industrial vehicles.

At Hyundai Genuine, we will continue to provide optimized solutions so that Hyundai Construction Equipment and Hyundai Doosan Infracore can create synergy in development, sales, purchasing, and international business. And by growing together with our partners and stakeholders, we will create a blueprint for the future of the construction machinery industry in Korea.

MARINE

Global Leader

Korea Shipbuilding & Offshore Engineering
Hyundai Heavy Industries
Hyundai Mipo Dockyard
Hyundai Samho Heavy Industries

CONSTRUCTION MACHINERY

Future Builder

Hyundai Genuine
Hyundai Construction Equipment
Hyundai Doosan Infracore

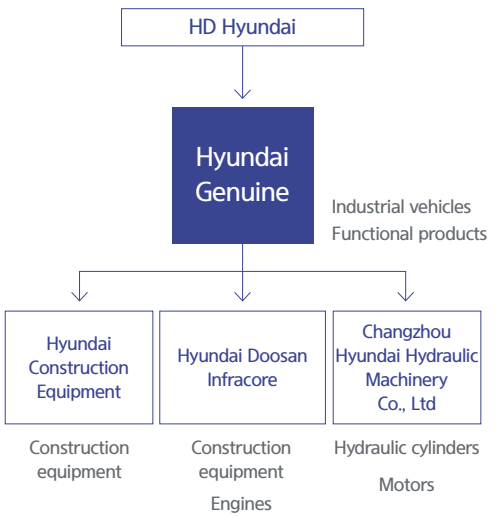
ENERGY

Eco Energy

Hyundai Oilbank
Hyundai Chemical
Hyundai and Shell Base Oil

Hyundai Genuine Business Structure

Each subsidiary operates independently, and we will secure global competitiveness by concentrating our capabilities on our core business: the construction equipment business.



Synergies in the Construction Machinery Sector

1 Integrated Purchasing

Benefits of price negotiations based on integrated purchase volume

72 types (240 items in total)

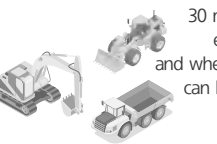
Items subject to the core integration strategy

- Ready-to-run parts without complex design changes
- Small engines, foreign MCVs, etc.
- Creation of an integrated purchasing planning organization
- Procurement integration and expansion of global sourcing

2 Internalization of core parts

Mutual application of engines/hydraulic equipment of both companies

Hydraulic parts
Step-by-step application of hydraulic cylinders, hydraulic motors, and MCVs



Engines
30 models for excavators and wheel loaders can be applied

3 Strengthening product line-up

Mutual complementation to and cross-selling of non-overlapping lines of both companies

Special equipment + Loader + ADT

HYUNDAI
DOOSAN INFRACORE

Since its establishment in 1937, Hyundai Doosan Infracore (HDI) has grown into a leading machine manufacturing company in Korea, with a leading position in each business area, including construction equipment, engines, a variety of attachments, and utility equipment, enabled by continued growth over the last 84 years.

In August 2021, the company was incorporated into the Construction Machinery Sector of Hyundai Heavy Industries Group and changed its name to from Doosan Infracore to Hyundai Doosan Infracore. HDI seeks to achieve continued growth by securing smart solutions, upgrading its business portfolio, and maximizing the provision of customer value, and become a leader in the infrastructure solution industry.

EXCAVATOR

WHEEL LOADER

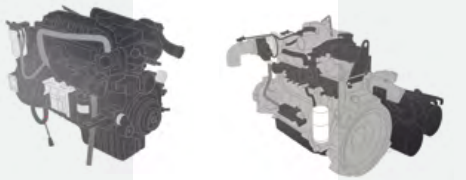
ADT

ATTACHMENT

SPECIAL EQUIPMENT

GENERATOR ENGINE

OFF-HIGHWAY ENGINE



ON-HIGHWAY (AUTOMOTIVE) ENGINE

MARINE DIESEL ENGINE

Company Name	Hyundai Doosan Infracore Co., Ltd.
Year Founded	1937
CEO	Young-chul Cho
Main Business Areas	Production and sales of construction equipment and engines
Employees	2,841

Construction Equipment

HDI's construction equipment business has a product line-up that ranges from excavator and wheel loader to articulated dump truck (ADT), and established production and sales bases as well as distribution network across the globe, positioning itself as a global construction equipment company.

Engine

With a full line-up of high-quality, high-specification engines that meet increasingly stringent world-wide environmental regulations, HDI's engine business offers total solutions, emerging fast as the world's top-tier engine manufacturer.

CEO Message

We will meet your expectations by maximizing synergies in the Construction Machinery Sector.

I sincerely thank all of you for your encouragement and support for Hyundai Doosan Infracore (HDI).

The past year was a time of thinking about change and innovation and putting these thoughts into action. Externally, we continued our fight against COVID-19-induced uncertainties. Internally, the company was acquired by Hyundai Heavy Industries Group, changed its name, and embarked on a new beginning. This process served as an opportunity to think again about our way forward, and to facilitate change and innovation as well. Rather than becoming complacent with the record-high sales we achieved last year, all of us at HDI will gather our strengths to strive for a better tomorrow.

In this day and age, companies are not evaluated simply based on financial elements. Instead, a corporate sustainability is secured when such non-financial factors as environmental, social, and governance are truly in place. As the No. 1 company in the Korean construction equipment industry, HDI is contributing to the development of society and humanity.

Maximizing Synergies

As a member of Hyundai Heavy Industries Group, HDI will maximize synergies with Hyundai Construction Equipment, as a way to develop a level of competitiveness that puts us on a par with global top-tier companies. In particular, we will put all our human resources and make concentrated investments in developing future technologies, including electrification and autonomous, in order to compete with global companies with a history of more than 100 years. We will usher in an era of autonomous excavators, using the technologies we have developed, thereby creating a better tomorrow.

Continued Growth

HDI will also focus on achieving growth through diversification of dealers in each region. The international community is facing unprecedented uncertainties with the Russia-Ukraine war, the spread of the COVID-19 in China, and supply chain disruptions. Based on quick judgments on global circumstances, we will focus on targeting the markets in North America and Europe, where large-scale infrastructure investments are forecast, thereby increasing our sales volume. In particular, we will actively target the markets by acquiring additional mega dealers and launching new products, such as the dozer.

Strengthening ESG Management

The autonomous, eco-friendly, and other such technologies that HDI researches and develops are technologies that will help benefit the world. To respond to the climate change, we established the plan to achieve worksite carbon neutrality by 2050 and are implementing management activities in consideration of the next generation, going beyond local communities. In addition, we are establishing a stable relationship with suppliers based on fair trade and making continued efforts to create an advanced labor-management culture.

As always, HDI will strive to shape a better future through sustainable growth, and we ask for continued interest and support from all of our shareholders and other stakeholders.

Young-chul Cho
Chief Executive Officer
Hyundai Doosan Infracore Co., Ltd.

Business Model

Hyundai Doosan Infracore strives to maximize its corporate value by effectively investing its financial and non-financial resources in its value chain. We actively address social and environmental issues related to our business operations, while pursuing our vision of becoming a "Global Leader in Infrastructure Solutions" as a means to ensure sustainable growth and contribute to social development.

CAPITAL INPUT

FINANCIAL
Funds that are generated through management, investments or financing, and that can be used by an organization to produce products or provide services

MANUFACTURED
Manufactured articles, such as facilities and buildings, that can be used by an organization to produce products or provide services

INTELLECTUAL
An organization's knowledge-based intangible assets, such as patents, copyrights, software, rights, and licenses

HUMAN
Members' capabilities and experiences that drive innovation and allow the understanding, development, and execution of an organization's strategies

SOCIAL/NETWORK
Stakeholder relations and trust, and other intangible assets related to brands and reputation developed by an organization

NATURAL
All environmental resources, both renewable and non-renewable, that can be used to provide products or services

VALUE CHAIN

HYUNDAI DOOSAN INFRACORE

1 PRODUCT DEVELOPMENT
Develop products, that meet customer requirements and next-generation emissions regulations, and autonomous technologies based on such market trends as customer requirements, eco-friendly fuel, and ICT

2 PROCUREMENT
Build a healthy ecosystem for win-win growth by providing programs to strengthen supplier competencies, including the Leading Suppliers program and benefit sharing system

3 MANUFACTURING
Maximize production efficiency and improve manufacturing competitiveness through the Global Manufacturing Execution System (GMES)

4 SALES & SERVICE
Build a systematic product line-up to increase customer satisfaction, optimize parts supply processes, and develop equipment support solution "Doosan Guidance Application", using augmented reality (AR)

Develop DoosanCONNECT™ - based service solution products and increase contactless sales through a digital platform

Increase equipment operation and management convenience based on the smartphone app "MY DI"

5 IN-USE (Product & Solution)
Conduct field surveys and operate the Customer Support Center and other channels to communicate with diverse customers

Launch a DoosanCONNECT™ digital platform

Improve productivity, accuracy, and safety at worksites through "XiteCloud" - an all-in-one construction site management solution

KEY PERFORMANCE IN 2021

FINANCIAL[1]
- Sales KRW 4,593.7 billion
- Construction equipment market in 2021 grew on the back of economic stimulus measures by governments around the world and base effects from COVID-19 in 2020.
- Operating income KRW 264.5 billion
- Debt ratio 249.1%

MANUFACTURED
- Production facility investments KRW 100.4 billion
- Investments to increase production capacity and improve the plant environment
- LTIR[2] 0.73
- Production
  - Excavators and wheel loaders 24,181
  - Engines 104,439
- OIFR[3] 0.176

INTELLECTUAL
- Domestic and overseas intellectual property rights[4]
  - Applications (including 2,116 patents) 2,763
  - Registrations (including 1,416 patents) 1,955
- Percentage of R&D on autonomous technologies among R&D projects of the company 53.6%

HUMAN
- Training expenses per person KRW 297,000
- Training hours per person 38.6
- Continued to offer online-based trainings in response to COVID-19-induced situation where face-to-face training was postponed or cancelled
- Employee turnover rate 2.05%

SOCIAL/NETWORK
- Involved in UN Global Compact since 2013
- Participated in CDP (Carbon Disclosure Project) C grade
- CCI investment KRW 7.24 billion
- Leading Suppliers cumulative) 38
- Operated programs designed to help our suppliers improve their own capabilities and secure fundamental competitiveness

NATURAL
- Energy consumption[5] 2,040 TJ
- Greenhouse gas emissions 105,016 tCO_2eq

[1] Based on consolidated financial statements
[2] 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)
[3] 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)
[4] Based on consolidated entities as of 2021 year-end
[5] Based on business sites in Korea

Performance Review & Outlook

2021 Performance Summary

Established a mid- to long-term climate change response strategy

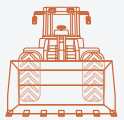
Worksite carbon neutrality by 2050

Won the Minister of Land, Infrastructure and Transport Award at Smart Construction Challenge 2021

XiteCloud

Launched a digital platform

DoosanCONNECT™



Launched for the first time in the industry

Wheel loader equipped with a transparent bucket

Commercialized battery pack for industrial use and EV component

e-Powerpack

Expanded non-face-to-face marketing

Online virtual showroom (New 7M Series)

MEMBER OF Dow Jones Sustainability Indices In collaboration with SAM

12 consecutive years

Listed in the machine and electric equipment categories of DJSI Korea

KCGS 한국기업지배구조원

Rated Class A

ESG Evaluation by the Korea Corporate Governance Service

ARC AWARDS INTERNATIONAL

5 consecutive years

2020 Integrated Report won the ARC Awards

Sales

KRW 4,593.6 billion

Operating Income

KRW 264.5 billion

Net Income

KRW 567.8 billion

Performance Overview

The company changed its name to "Hyundai Doosan Infracore" in September 2021 and engages in the business of producing and selling heavy construction equipment, engines, etc. According to a share purchase agreement dated on February 5, 2021, all of the HDI shares owned by Doosan Heavy Industries & Construction (currently Doosan Enerbility) were transferred to HD Hyundai, etc. (Hyundai Heavy Industries Group, etc. transferred their status in the share purchase agreement to Hyundai Genuine on April 9, 2021). As a result, HDI's largest shareholder changed from Doosan Heavy Industries & Construction to Hyundai Genuine. In addition, HDI completed a spin-off based on the spin-off merger approach, in which the investment business unit, including Doosan Bobcat shares, among the consolidated entities, underwent a spin-off and was merged into Doosan Heavy Industries & Construction on the spin-off date of July 1, 2021, in accordance with a resolution made at the annual general meeting (AGM) on May 13, 2021. As a result, the business performance of the investment business unit, which is succeeded to the succeeding company after division, is indicated as a suspended business, and the comparatively-indicated consolidated statements of profit or loss of the previous term were recreated.

As of the end of 2021, HDI sold excavators, wheel loaders, and other products in the Construction Equipment Business Group to record sales of KRW 3,738.9 billion and sold engines, power generators, and other products in the Engine Business Group to post sales of KRW 854.8 billion.

Sales

(Unit: KRW million, based on consolidated financial statements)

Operating income

Net income

Financial Performance

1. Business Performance

Sales increased by 15.18% year-on-year to KRW 4,593.7 billion. Operating income rose by KRW 63 million to KRW 264.5 billion, and net income went up by KRW 282.8 billion to KRW 567.8 billion.

Sales Records

(Unit: KRW million, based on consolidated financial statements)

	2019	2020	2021
Sales	4,128,136	3,988,104	4,593,665
Cost of sales	3,181,621	3,146,070	3,706,827
Gross profit	946,515	842,034	886,838
Selling and administrative expenses	571,080	577,589	622,330
Operating income	375,435	264,445	264,508
Other non-operating income	4,851	10,737	10,740
Other non-operating expenses	40,160	28,875	37,835
Net income before income tax	252,025	112,662	174,014
Income tax expense	85,207	59,412	62,430
Net income	395,698	285,074	567,836

* The parent company completed a spin-off based on the spin-off merger approach, in which the investment business unit, from among businesses that the company conducts, underwent a spin-off and was merged into Doosan Heavy Industries & Construction on the spin-off date of July 1, 2021, in accordance with an AGM resolution on May 13, 2021. As a result, the business performance of the investment business unit, which is succeeded to the succeeding company after division, was indicated as a suspended business, and the comparatively-indicated performance of the 21st, 20th, and 19th terms were recreated.

2. Financial Status

As of the end of 2021, HDI's total assets stood at KRW 4,782.3 billion, down KRW 7,244.6 billion year-on-year. Liabilities decreased by KRW 4,125.4 billion to KRW 3,412.5 billion, while shareholders' equity went down by KRW 3,119.2 billion to KRW 1,369.8 billion.

Financial Conditions

(Unit: KRW million, based on consolidated financial statements)

	2019	2020	2021
Current assets	4,304,912	5,049,615	3,239,844
Non-current assets	7,033,681	6,977,272	1,542,446
Total assets	11,338,593	12,026,887	4,782,290
Current liabilities	4,484,420	3,882,643	2,768,770
Non-current liabilities	2,586,621	3,655,245	643,696
Total liabilities	7,071,041	7,537,888	3,412,466
Total equity	4,267,552	4,488,999	1,369,824

3. Performance by Business

3-1. Construction Equipment In 2021, the global construction equipment market indicated significant growth backed by the implementation of economic stimulus measures by governments around the world and base effects from COVID-19 in 2020. The domestic market grew over the previous year, mainly attributable to an increase in demand due to greater SOC investments, including urban renewable projects, and emerging markets also indicated considerable growth as a result of increased infrastructure investments. The markets in North America and Europe grew as well, attributable to the thriving housing construction business and infrastructure investments made by countries in Europe. The Chinese market significantly grew in the first quarter but shifted to a downward trend after the second quarter due to the government's implementation of a tight fiscal policy and strengthened environmental and safety inspections.

In 2021, HDI made continuous efforts to strengthen its dominance in the Korean market through digital marketing while raising market share in advanced economies by expanding sales channels in North America and launching new customized products in Europe. In China, we solidified our fundamentals by implementing a business policy that strengthened highly profitable product-centered sales and soundness of receivables.

In addition, to offer distinctive customer experiences, in Europe and emerging markets we launched "DoosanCONNECT™ " - a smartphone application with various functions, ranging from inquiry of construction equipment's specifications information to efficient operations and service requests. "XiteCloud", an integrated smart construction platform, aimed at enhancing construction site productivity and efficiency, won the Minister of Land, Infrastructure and Transport Award for the second consecutive year, reflecting our accelerated efforts to prepare for future technologies.

Sales at our Construction Equipment Business Group (BG) recorded a year-on-year increase of 14.11% to KRW 3,738.9 billion in 2021, and operating income decreased 17.34% year-on-year to record KRW 217.0 billion.

Construction Equipment

Sales

(Unit: KRW million, based on consolidated financial statements)

Operating income

3-2. Engine In 2021, the engine market somewhat grew from the previous year, on the back of base effects from COVID-19 in 2020 and economic stimulus measures taken by governments. However, global supply chain instability led to unstable supply and demand of semiconductors and various parts, and there was a global shortage of shipping vessels and increased delay times caused by a surge in logistics. In this unstable manufacturing and supply environment, we achieved our sales goal by minimizing external environmental impact through real-time monitoring aimed at minimizing shipment risks based on close collaboration with parts manufacturers.

We are making continues efforts to expand our business by optimizing the internal combustion engine business. To this end, we are striving to expand Stage V engines that respond to the recent exhaust emissions standards of Europe, develop electronic products that will replace mechanical engines, and strengthen business cooperation with world-renowned engine manufacturers such as MAN and PSI. In addition, we are responding to stricter emissions standards and eco-friendly trends by fully launching the joint venture (JV) for aftertreatment business and continually securing future powertrain technologies, such as the hybrid engine and e-Powerpack.

The Engine BG posted sales of KRW 854.8 billion, a year-on-year increase of 20.13%, and an operating income of KRW 47.5 billion, up 2,4396.9%.

Engine

Sales

(Unit: KRW million, based on consolidated financial statements)

Operating income

4. Cash Flow & Solvency

Cash flows from operating activities in 2021 amounted to KRW 198.1 billion, while cash and cash equivalents recorded KRW 1,663.5 billion at the beginning of the year and KRW 545.4 billion at the end of the year.

Liquidity risk rises in the event where the counterparty of a payment agreement forgoes its contractual obligation due to a liquidity issue, or where the company becomes unable to raise funds for normal operations. HDI establishes three-month and annual fund balance plans to predict the balance of funds in sales/investment/ financial activities, and secures an adequate level of liquidity in advance against unexpected liquidity risks.

Cash Flow

(Unit: KRW million, based on consolidated financial statements)

		2019	2020	2021
Cash flows	Cash flows from operating activities	567,418	1,050,847	198,109
	Cash flows from investing activities	(339,375)	(503,165)	(176,252)
	Cash flows from financing activities	549,790	428,938	572,805
Cash and cash equivalents	Cash and cash equivalents, beginning of the year	1,053,016	756,173	1,663,459
	Cash and cash equivalents, end of the year	756,173	1,663,459	545,383

5. Production Assets

Facilities and equipment in the consolidated financial statement include land, buildings, structures, machinery and assets under construction. As of the end of 2021, the company's book value of production assets stood at KRW 1,162.5 billion, a year-on-year decrease of KRW 689.0 billion. In 2021, newly accumulated acquisitions and capital expenditures stood at KRW 124.4 billion, and accumulated depreciation was KRW 122.8 billion.

6. Intellectual Assets

HDI's R&D Division is expanding R&D investment with the aim of securing product competitiveness and laying a solid foundation for long-term growth, and carrying out R&D activities that are aimed at creating a distinct technological advantage for the company and establishing an advanced engineering process. HDI's R&D Division consists of three units - construction equipment product development, which undertakes research into the company's key products, such as excavators and wheel loaders; engine product development, which develops engines that meet emissions and fuel efficiency regulations; and the Institute of Technology, which is in charge of next-generation smart solution development and product design, high-strength metal development, and virtual verification/ analysis for improved hardness. The R&D Division always strives to develop distinctive technologies/ products.

Based on non-consolidated financial statements, HDI's R&D expenses in 2021 recorded KRW 135.6 billion, equivalent to 3.75% of total sales. As of the end of 2021, the number of intellectual property rights applications made in Korea and overseas by consolidated entities had reached 2,763, and the number registered totaled 1,955.

ESG Performance

Strengthened ESG Governance

HDI created the ESG Committee under the BOD to strengthen the ESG decision-making system. Also, considering ESG as the company's major issue, we changed the name of the previous ESG Committee, led by the top management, to the ESG Management Committee, thereby laying the firm foundation to discuss key ESG matters at the BOD, a top decision-making body.

Established the Climate Change Response System

Responding to climate change has become an essential factor for companies to achieve sustainable management. In response, HDI established a climate change strategy in 2021. As a result, we confirmed that we produce most of carbon emissions in manufacturing and in-use stages of product lifecycle. Based on an analysis of the manufacturing stage and in-use stage of our products, we have established plans to 1) achieve worksite carbon neutrality by 2050; and 2) reduce carbon emissions during the in-use stage by 2040.

Strengthened the Human Rights Management System

In 2020, HDI made a human rights policy declaration on 13 items after an agreement with the labor union in accordance with government guidelines. In 2021, along with continued human rights training, we developed and implemented organizational culture survey questions, through which we identified employees' level of understanding, participation, and satisfaction towards the organization and duties and derived improvement tasks. In 2022, we will conduct a human rights impact assessment to identify human rights risks in overall management and prevent human rights violations, thereby strengthening our responsibility to respect human rights.

2022 Outlook

1. Financial Outlook

1.1 Construction Equipment In 2022, HDI will strengthen its fundamental competitiveness to generate stable profits, while maintaining competitiveness even in uncertain market conditions. In addition to strengthening both quality and service competitiveness, we will expand our product lineup and strengthen the parts business for continued business growth. We will also reorganize the channel structure and improve sales activities, thereby expanding our market dominance. We will also develop new growth businesses by further upgrading and commercializing core technologies for the autonomous operation of construction equipment developed through the Concept-X project.

1.2 Engine HDI will develop market competitiveness by developing large electric engines and economy engines, based on which it will discover large OEM opportunities and stably generate sales. We will also build an e-Powerpack mass production line to fully launch the eco-friendly powertrain business and continue to discover external aftertreatment customers. Also, we will raise customer satisfaction levels by strengthening the parts business and service network. We will boost price competitiveness by improving productivity and optimizing the cost structure, and create new business opportunities in the upstream and downstream of our value chain.

2. ESG Outlook

Executing climate change tasks and make preparation for adopting renewable energy

In 2021, we confirmed that we produce most of carbon in the manufacturing and in-use stages, and then established plans to 1) achieve worksite carbon neutrality by 2050; and 2) reduce carbon emissions during the in-use stage by 2040. In 2022, we will execute 20 tasks that were derived to implement climate change responses. In addition, a pilot project on renewable energy adoption will be carried out to change some of the supplied electric power at Gunsan Plant to renewable energy in 2023.

Conducting a human rights impact assessment

In order to identify human rights risks in advance, HDI will conduct a human rights impact assessment mainly at domestic business sites. The assessment is a stronger evaluation than the previous organizational culture survey, and after assessing each area, we will create and disclose a human rights impact assessment report.

ESG MANAGEMENT

ESG Decision-making System

ESG Strategy of Hyundai Heavy Industries Group

Based on the Hyundai Heavy Industries Group's ESG strategic direction, HDI sets a strategic direction that reflects the characteristics of the construction equipment industry and key execution areas, and implements relevant activities.

HHI Group ESG Vision

Future From the Ocean

Biz Portfolio

Eco-friendly Shipbuilding & Offshore

Green Energy

Future Industrial Solution

ESG Slogan

Beyond Blue
Forward to Green

ESG Pillar

Environmental

Blue Ocean with Green Tech

Centered around "Green Tech" and "Clean Ocean"

Social

Green Together with People & Society

Centered around "Grow Together" and "Safety & Win-win Growth"

Governance

Green Leadership with Responsibility

Centered around "Green Leadership"
Internalization of ESG management

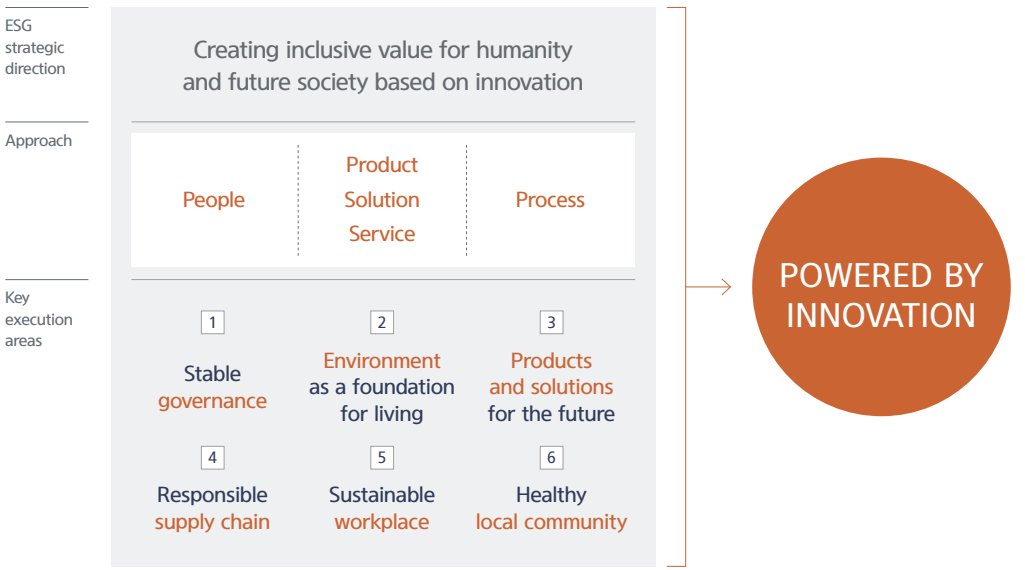
E S G

ESG Strategy

HDI's ESG Direction and Key Areas

Under the corporate slogan, "Powered by Innovation", HDI implements ESG management guide by its ESG strategic direction "'Creating inclusive value for humanity and future society based on innovation". In consideration of people, product (including solutions and services), and process aspects, we set and are focused on six key execution areas.

Established the key strategic direction of ESG (2021)



ESG Strategic Tasks by Year

	2020	2021	2022
ESG Governance	• Set CSR directions and increase employee awareness	• Establish a company-wide climate response system	• Issue long-term financing ESG bonds using eco-friendly projects
Human Rights/Labor	• Establish management system and strengthen a monitoring system to promote human rights: Declare the Human Rights Policy and strengthen human rights management system	• 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
Environment	• Establish a mid- to long-term roadmap for the reduction of GHG emissions	• Upgrade indices for carbon emissions and resource management	• Conduct a pilot project to achieve RE100 • Achieve worksite carbon neutrality by 2050
Fair Operations	• Help Leading Suppliers bolster their competitiveness by building smart factories	• Help Leading Suppliers bolster their competitiveness by building smart factories (continued)	• Help Leading Suppliers bolster their competitiveness by building smart factories (continued)
Customer Value	• Focus on decarbonization and develop alternative fuel products • Develop autonomous technology • Develop the 48V mild hybrid powertrain • Improve preventive quality and strengthen global governance	• Focus on decarbonization and develop alternative fuel products • Develop the 48V mild hybrid powertrain • Manage the compliance with REACH and RoHS • Stabilize quality of new products that meet the Stage V Emission Standards	• Focus on decarbonization and develop alternative fuel products • Secure new electrification technologies • Develop future power equipment – Hybrid powertrain – Battery pack • Manage clean technology tasks

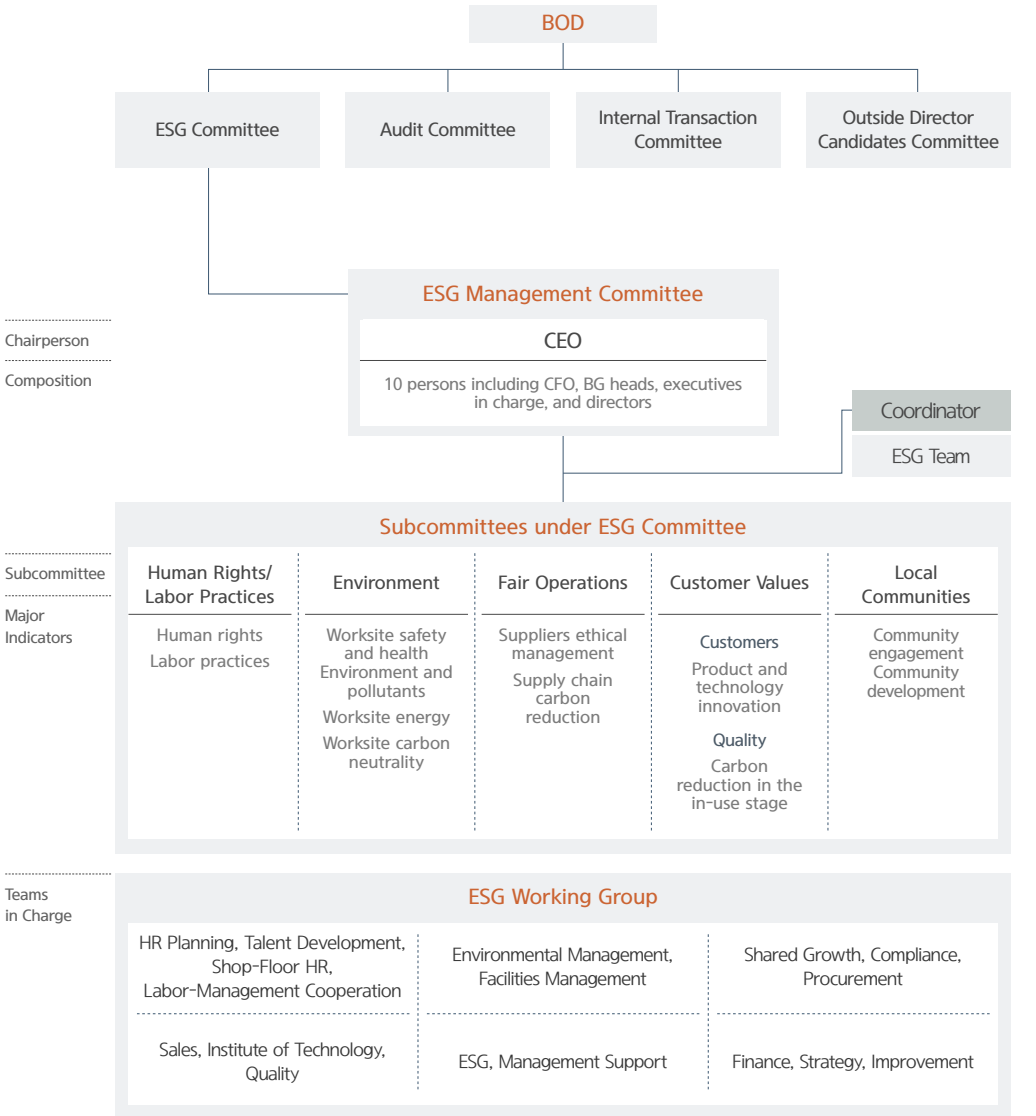
HDI's ESG Strategic Tasks HDI integrates the outcomes of the materiality analysis, external ESG evaluation, and company-wide ESG diagnosis to derive and execute its ESG strategic tasks every year. We set nine ESG strategic tasks in 2021 and worked on establishing a company-wide climate change response system, expanding low-carbon and alternative fuel products, upgrading environmental and resource management indices, and managing the compliance with REACH/RoHS. The tasks that were finalized at the first ESG Management Committee in 2022 are 11 tasks. HDI has developed a sustainable value framework in 2019 in consideration of its sustainability issues, social value, corporate competitiveness, and strategic tasks, to align our mid- to long-term strategies with ESG directions, and plan to manage and disclose its performance with regard to the 14 key indicators by 2025. Details on the sustainable value framework can be found on pages 21-24.

ESG Implementation System

Led by the ESG Committee under the BOD, the top management-centered ESG Management Committee, and the ESG Team at the headquarters, HDI implements ESG management in cooperation with its business sites around the world. The ESG Team, as a coordinator responsible for promoting the company's overall ESG initiatives, is in charge of establishing strategies, identifying stakeholder issues and needs, diagnosing levels at domestic and overseas business sites, identifying strategic tasks, monitoring performance, and responding to external evaluations.

The ESG Committee under the BOD consists of one internal director and three outside directors, and is a top decision-making body for ESG strategies and policies. The ESG Management Committee is held three times a year, with participation by key top management, under supervision of the CEO. Discussions are held on issues of 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. The sub-committees flexibly form and operate participating organizations in accordance with ESG strategic task characteristics, thereby raising decision-making and execution efficiency. Once the ESG Management Committee makes decisions about major issues, including identification, operation, and process of ESG strategic tasks, the Working Group draws up and implements specific action plans. Among our overseas worksites, the Chinese subsidiary formed the CSR Committee in 2017. Chaired by the regional director, the Committee operates and examines tasks at our worksites in China.

ESG Implementation Organization



Stakeholder Engagement

Strengthening Communication with Stakeholders

Definition of Stakeholders HDI discloses its key management issues, performance results, and future directions through its integrated reports, disclosure materials, websites, annual general meeting (AGM) and BOD meetings, while continuing to collect and listen to stakeholder opinions through a wide range of communication channels. For more systematic stakeholder engagement and communication, HDI defines its major stakeholders, and identifies and addresses their interests and issues.

Communication Channels and Responses for Stakeholders

	Communication Channels	Major Issues	Responses
Shareholders/ Investors	• Annual general meeting (AGM) • Disclosure materials • Investor relations (IR) information on the company website • Conferences • IR meetings	• Profitability and a dividend policy • Strengthen disclosures • Sound corporate governance • Business opportunity and risk management	• Share the company's mid- to long-term business directions • Make earnings announcements and provide IR materials • Hold analyst meetings
Customers	• Field surveys • Voice of Customers (VOCs) • Call centers • Joint workshops • Integrated customer management systems	• Prompt customer complaint handling and feedback • Make improvement to product quality, performance, safety, and convenience • Strict customer data privacy policy • R&D investment and the improvement of technological capabilities • Differentiated customer service • Develop eco-friendly, high efficiency products	• 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 (DoosanCONNECT™) • Increase customer satisfaction through the Happy Call and dealer service training
Employees	• Labor-Management Council • Grievance handling system • Intranet • Dialogue with the executives	• Fair evaluation and compensation • Education and competence development • Work-life balance • Positive labor relations • Active communication within the company	• Human resources development based on the Functional Competency (FC) system • Publish a human rights risk prevention manual and provide education on human rights

	Communication Channels	Major Issues	Responses
Suppliers	• Supplier Council • Supplier education • Consulting, technical support for suppliers	• Share more information with suppliers • Expand support to improve suppliers' capabilities through financial, technology, education, environment, and ethical management • Strengthen fair trade	• Foster Leading Suppliers • Financial support for suppliers • Operate the Shared Growth Hotline • Share CSR guidelines with suppliers
Local Communities (environment, NGOs, etc.)	• Meetings with residents • Workshops for working-level staff in charge of social contribution • Sisterhood relationship with island regions	• 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	• Operate Dream School • Conduct CCI activities for local communities
Central/Local Governments	• Participate in national projects • Operate joint programs	• Comply with laws and regulations • Public-private partnership	• Regulatory monitoring and internal compliance • Suggest improvement measures through participation in related organizations' activities • Participate in the government's public policy projects
Media	• Press releases • Press conferences • Regular meetings • Business site visits (field trips)	• Prompt and accurate information sharing	• Issue press releases in a timely manner • Press reporters' news coverage • Find feature items and provide them to the media

Materiality Analysis

Double Materiality Analysis Process

HDI 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. "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, CSR, and social responsibility-related guidelines. 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. Double materiality considers these two aspects in an integrated way to simultaneously consider the impact that the economy, society, and the environment has on a company and the risk that the external environment causes to corporate finance.

For social and environmental impact analysis, we quantified the results of analyzing issues exposed on the media, competitors' material issues, and various international ESG standards in 2021 and identified social and environmental impact of each issue. Afterwards, we identified financial impact based on analysis factors of key investment/evaluation organizations related to ESG information and HDI's internal strategic perspective. By putting together the results of analyzing social and environmental impact and financial impact, we derived the overall result values of the materiality analysis and derived the overall priority of each issue.

Selection of the issue pool

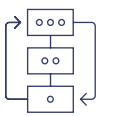
- Identify types of ESG issues and the degree of the stakeholders and international communities' interest by analyzing the media coverage as well as ESG-related international standards, guidelines, and external evaluations
- Form a pool of issues by collecting internal and external stakeholders' opinions on ESG issues, and benchmark industry peers to identify global responses

Social and environmental impact analysis

- Analyze media issues and competitors' material issues
- Results of analyzing international ESG standards

Financial impact analysis

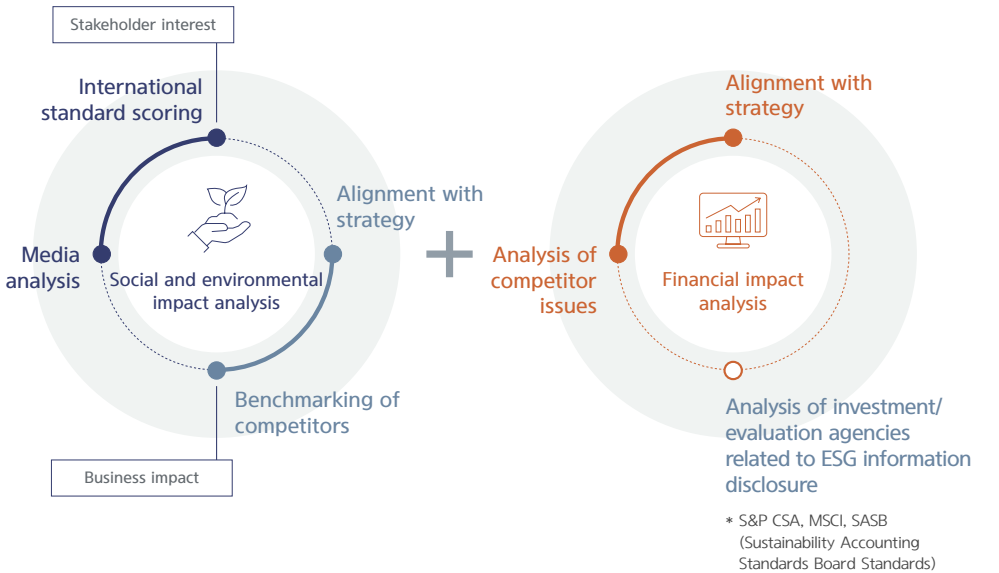
- Internal strategic perspective
- Analyze ratings of major investment companies
- Analyze the results of key ESG-related evaluation organizations



Review and feedback

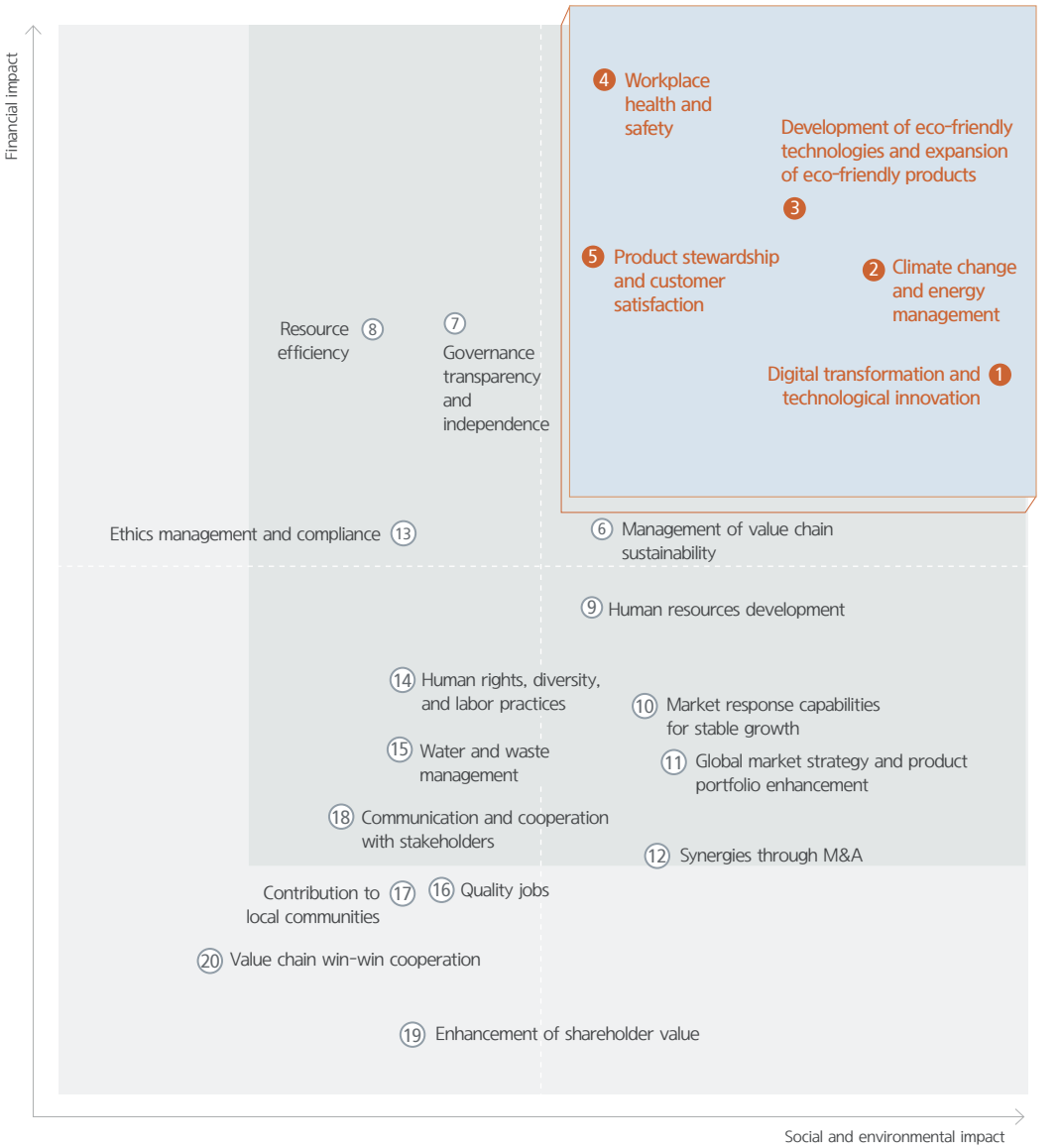
- The ESG Management Committee, consisting of top executives, reviews the relation between top priority issues and business activities, and approves the validity of selected core issues and ESG strategic tasks for each respective year
- All material issues are discussed and managed by the Committee throughout the year in view of the progress of respective ESG strategic tasks
- Other issues are managed by relevant business units in connection with those of industry peers and relevant social changes

Double Materiality Analysis Result



Results of Double Materiality Matrix

RANKING	MAIN ISSUE LIST	PAGE
1	Digital transformation and technological innovation	27
2	Climate change and energy management	73
3	Development of eco-friendly technologies and expansion of eco-friendly products	37
4	Workplace health and safety	90
5	Product stewardship and customer satisfaction	39
6	Management of value chain sustainability	79
7	Governance transparency and independence	59
8	Resource efficiency	76
9	Human resources development	85
10	Market response capabilities for stable growth	46
11	Global market strategy and product portfolio enhancement	50
12	Synergies through M&A	4
13	Ethics management and compliance	64
14	Human rights, diversity, and labor practices	84
15	Water and waste management	76
16	Quality jobs	85
17	Contribution to local communities	93
18	Communication and cooperation with stakeholders	17
19	Enhancement of shareholder value	60
20	Value chain win-win cooperation	82



Material Issues

Regarding the five material issues identified to be high in the level of social interest and business impact, HDI examines each issue's potential risks and opportunities from external factors and discloses the strategic tasks it has implemented as a response and subsequent outcomes.

	Issues	Potential risks and opportunities	2021 performance	Future directions	Page
1 Digital transformation and technological innovation	The need for digitalization of construction sites continues to increase due to a worldwide decline in manpower, reduced working hours, and continued safety accidents. In addition, leading companies are facilitating productivity improvements through data-driven decision-making and innovation.	· Innovative technologies, applied to the construction industry, enable manufacturers to expand opportunities to create value by providing integrated construction site solutions, going beyond product innovation. · Create social value, including increased efficiency of the manufacturing process, enhanced safety, and reduced environmental impact, on the back of autonomous construction sites. · Data-based decision-making and operational innovation enable a company to secure capabilities required for agile responses to change.	· XiteCloud: Signed an MOU on mutual cooperation on smart construction technologies with SK ecoplant, won the Best Innovation Award for the second straight year at the "Smart Construction Challenge 2021" hosted by the Ministry of Land, Infrastructure and Transport. · Launched the DoosanCONNECT™ Digital Platform. · Clue Insight: This new business spin-off and startup provides fleet management services for several companies' equipment by using an app, and began to offer the services in some countries in North and South America. · DI 360: Improved productivity and established an inventory management system, analyzed equipment tele-management system (TMS) data and actively used the outcomes during new product development. · Applied to the transparent bucket product to increase safety.	HDI makes preparation for the commercialization of its integrated construction site management solution, including autonomous equipment. We also aim to transform to a comprehensive solution provider from a traditional manufacturer, and will internalize such innovation through digitalization of overall business areas.	P. 27-32
2 Climate change response and eco-friendly technologies	As climate change grows in significance, consumers and investors are showing greater interest in eco-friendly power sources and products' environmental impact. Companies need to establish practical response strategies that help address the challenge of climate change.	· There is a worldwide movement to declare carbon neutrality, including the Korean government, and major investment companies are including climate change-related content in shareholder letters. · Taxonomy on eco-friendly products, internal combustion engine-related regulations, and exhaust gas regulations are becoming stricter across the globe, and thus there is a need for strategies and product development investments to respond to this trend.	· Established a climate change response strategy: Became the first in the domestic construction equipment industry to establish and declare a plan to achieve worksite carbon neutrality by 2050, established a plan on applying fuel efficiency-improving technologies and changing to eco-friendly power to reduce carbon emissions during the product in-use stage by 2040. · Established an eco-friendly product classification system to manage eco-friendly products. · Developed eco-friendly power products and began to make preparation for mass production, including the hybrid powertrain and electric battery excavators.	To contribute to global efforts to counter climate change, HDI will establish a strategy for eco-friendly technology, develop technologies, and sell eco-friendly products, while also striving to achieve net zero at business sites, which will in turn reduce carbon emissions and strengthen the company's eco-friendly market position. Through these business activities, we seek to create social and environmental value in addition to financial value.	P. 33-38
3 Product stewardship and customer satisfaction	Quality management, proactive service, and reflection of customer opinions are extremely important for continued customer value enhancement. Providing distinctive customer value also has a positive influence on establishing a sound market presence and reputation.	· Digital technology can be a foundation for customer value creation. · There is a need for customer management that overcomes geographical limits under pandemic circumstances.	· Strengthened supplier quality management by upgrading the digital data-based quality management system. · Accelerated the execution of non-face-to-face dealer support system tasks amid the continued COVID-19, established the Machine Monitoring Center to increase the provision of Machine Lifetime Care-centered service solutions, and expanded Smart Maintenance.	Providing distinctive customer value will enable us to build trust and continue to grow in the global market. HDI will therefore make continuous efforts to innovate customer experiences and provide responsible services.	P. 39-45
4 Market response capabilities for stable growth	Global market uncertainty is on the rise, and a company must continue innovation and secure growth drivers to maintain a stable business foundation amid changes in the external environment.	· There may be negative impact on global industry and economic stagnation in the event of a global lockdown due to a pandemic, such as COVID-19. · The construction market may grow at lower rates as investment and development slow down. · Reliance on specific markets/products can be a negative factor to financial soundness.	· To supply products in a timely manner and minimize the loss of sales opportunities amid market changes that were difficult to forecast, we minimized production constraints of existing production lines and carried out dual production for the same products among plants and lines. · Launched new construction equipment lineups, including the dozer. · Established ECUBE Solution, a joint venture for engine aftertreatment business.	To increase business resilience amid market fluctuations, fiercer competition, and crisis situations, such as COVID-19, HDI makes continuous efforts to diversify its product portfolio, identify new income sources, and expand its presence in advanced markets. In addition, we will do our utmost to internalize the ESG perspective in overall business at the company level.	P. 46-49
5 Global market strategy and product portfolio enhancement	For a global manufacturing company to increase the ability to influence markets, it is required to produce products that can satisfy each market's regulatory standards and demand, offer high quality, and have service channel competitiveness.	· Attempts to develop products, increase investment, and improve service quality, aimed at satisfying diverse market expectations, lead to strengthened fundamental competitiveness.	· Continued attracting large customers in emerging markets. · Strengthened the product portfolio, including the launch of an ultra-large 100-ton excavator and sales of special equipment. · Digital channel expansion: New product presentations through social media and online showroom.	HDI will secure fundamental corporate competitiveness, including products, quality, channels, and services, with the goal of maximizing customer value and expanding its market dominance.	P. 50-57

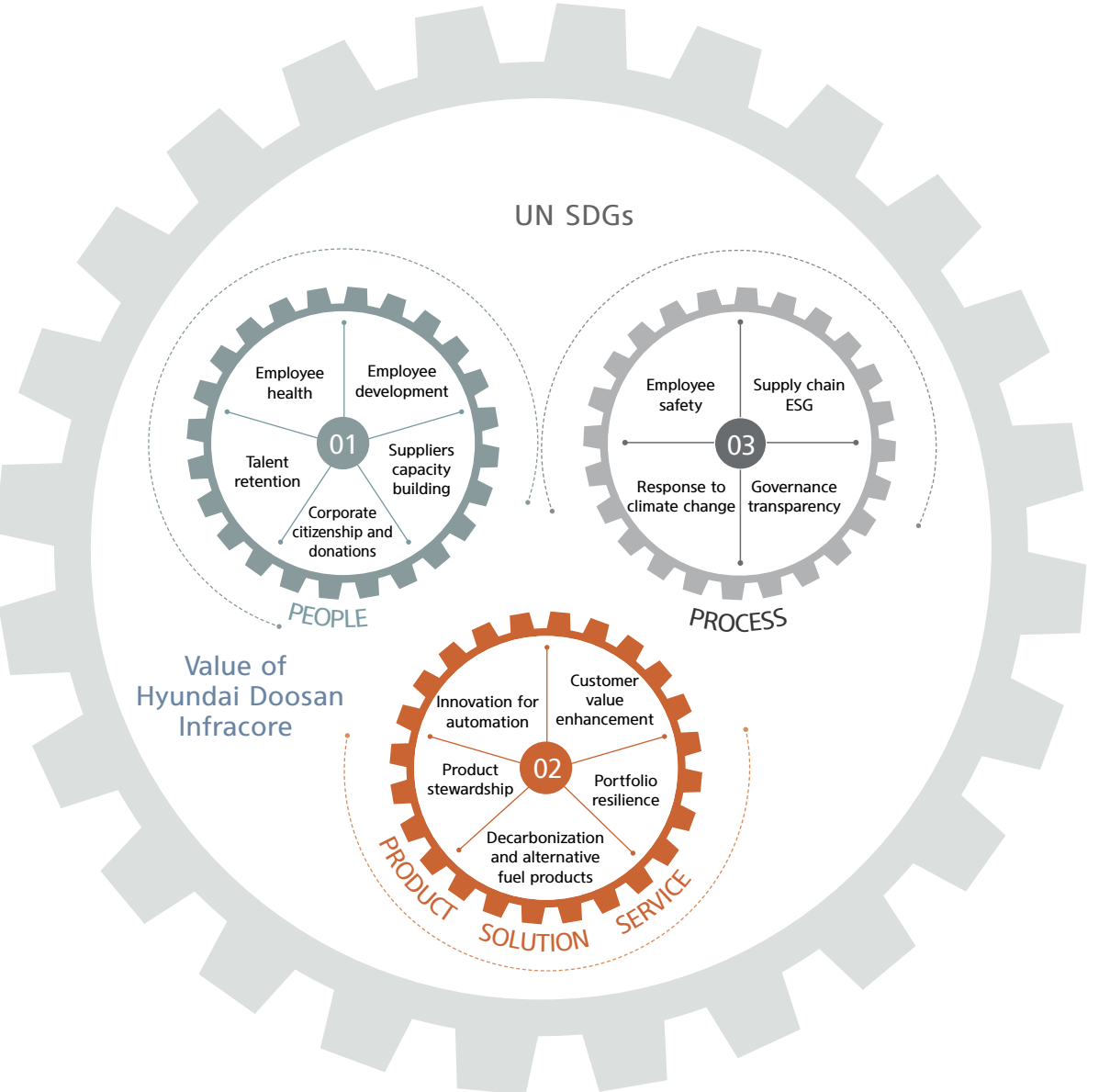
Sustainable Value Framework

HDI recognizes the importance of ESG management and reflects it in overall business activities. In 2019, we launched the "Sustainable Value Framework", describing our mid- to long-term ESG strategies and objectives, as a way to manage financial and non-financial performance in an integrated manner. Based on HDI's value and UN Sustainable Development Goals (SDGs) value, we derived a framework consisting of three areas and 14 indices through major external indices, including SASB[1], MSCI ESG Ratings[2], and S&P Global CSA[3], results of materiality analysis, and participation by relevant internal departments. The Sustainable Value Framework will be managed as a key performance index in accordance with the mid- to long-term strategic tasks. Believing that the integrated management of mid- to long-term financial and non-financial performance will contribute to the basis of sustainable growth, HDI will continue to disclose such performance results through 2025. In addition, major climate change response indices that are related to our company-wide climate change response strategy that was established in 2021 are separately disclosed in the climate change response section (pages 33-38).

[1] Sustainability Accounting Standards Board: Industry-specific material issue and standard reporting index established by the US Sustainability Accounting Standards Board (SASB) to promote a comprehensive understanding of the sustainability of corporations

[2] Morgan Stanley Capital International ESG Ratings: Index established by Morgan Stanley Capital International (MSCI) for evaluating corporate performance in ESG areas

[3] Corporate sustainability assessment methodology used by S&P Global to assess corporations' economic, environmental and social risks and opportunities, and related strategies



01 PEOPLE

Activities that provide sound environment, technology, and capability to stakeholders

Employee health

Occupational Illness Frequency Rate (OIFR)[1]

2019	2020	2021
0.315	0.107	0.176

Major activities: Operated programs for hearing preservation and musculoskeletal system protection

Commitment

Promote employee health and welfare through the continuous management of occupational illness

Employee development

Annual training hours and expenses per employee

2019	2020	2021
40.6	37.7	38.6 hours

2019	2020	2021
750	400	297 KRW 1,000

Major activities:
Provided most of trainings on-line due to COVID-19
Launched a data expert course to nurture experts in response to digital transformation, and implemented tasks centered around data agents
Operated an internal job skill academy based on the Functional Competency (FC) system

Commitment

Aim for organizational and individual growth by helping employees develop job skills and fostering talents

Suppliers capacity building

Cumulative no. of Hyundai Doosan Supplier Excellence Program (HDSEP)[2] participants

2019	2020	2021
32	38	38 companies

Major activities: Helped suppliers establish a manufacturing execution system (MES) in connection with the government program on disseminating smart factories

Commitment

Establish the basis for joint growth by providing training and consulting for supplier competency development

Talent retention

Turnover rate[3]

2019	2020	2021
1.10	1.40	2.05 %

Major activities:
Operated various communication channels to enhance employee satisfaction through communication, including an on/offline grievance handling channel, Human Rights Protection Center, company website, and in-house portal
Operated various systems for work-life balance (flextime, reduced working hours, family care leave, etc.)

Commitment

Offer quality jobs to local talent and a great workplace to employees

Corporate citizenship and donations

CCI[4] and CCI investment per sales

2019	2020	2021
8.64	8.91	7.24 KRW billion

2019	2020	2021
0.28	0.33	0.20 %

Major activities: Continued to carry out social contributions through contactless activities under COVID-19 circumstances

Commitment

Contribute to establishing a sustainable local community through partnership and support as a responsible corporate citizen

[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)

[2] Hyundai Doosan Infracore's supplier support program (Suppliers for which MES establishment support was provided can overlap with HDSEP participation suppliers)

[3] The turnover rate calculation formula was changed, and accordingly 2019 data was revised and disclosed

[4] CCI: Corporate community involvement including donation

02 PRODUCT, SOLUTION, SERVICE

Activities that innovate products, solutions and services for sustainable growth

Innovation for automation

Ratio of projects related to autonomous technology to all research projects

2019	2020	2021
28.3	38.2	53.6 %

Major activities: Developed technological capabilities through continued research in the areas of assist (driver assist), safety, prognostics and health management (PHM), and X-Center (comprehensive control system), which are key factors of autonomous solutions

Commitment: Lead industrial innovation by improving construction industry site efficiency and safety using autonomous technologies

Customer value enhancement

Smart Maintenance managed hours[1)]

2019	2020	2021
201,862	1,096,327	2,350,261 hours

Major activities: Increased the number of countries in which the Smart Maintenance service was adopted from the previous year (from 7 countries in 2019 to 11 in 2020)

Commitment: Increase the customer base of the Smart Maintenance service, helping customers efficiently and stably use Doosan products

Portfolio resilience

New business-related activities

Major activities:
- Established Clue Insight Inc. and commenced services in some countries in North America and South America
- XiteCloud, signed an MOU on mutual cooperation regarding smart construction technology with SK ecoplant
- Expanded the DCFL business in China
- Expanded the engine aftertreatment solution business

Commitment: Contribute to the industry's sustainable development through open innovation, M&A, strategic alliance, new business development and partnership

Product stewardship

Sales of remanufactured parts

2019	2020	2021
770	650	520 KRW million

Major activities: Implemented the remanufactured parts business and engine overhaul parts program from the perspective of machine lifetime care
Sales in 2021 went down from the previous year owing to a market downturn due to COVID-19

Commitment: Contribute to responsible production and consumption by applying sustainability standards to the production, sales, consumption and discard phases

Decarbonization and alternative fuel products

- Engine: No. of CO_2 reduction research projects

2019	2020	2021
45	53	54 cases

- Construction equipment: Ratio of electro-hydraulic applied models[2)]

2019	2020	2021
8.7	9.8	17.1 %

Major activities:
- Successfully tested the application of the mild hybrid powertrain (H24) to equipment
- Moved forward with E-Powerpack commercialization
- Expanded electro-hydraulic-applied equipment for fuel efficiency improvement

Commitment: Contribute to easing climate change impacts by securing carbon emission reduction technologies and leading the development of relevant products

1) Refers to cumulative operation hours of equipment within the Smart Maintenance contract period. The 2019 performance includes the performance of emerging markets and Europe. Future service product development and expansion may lead to a change in calculation criteria (program was launched in 2019 and therefore the 2019 performance is set as the baseline).

2) Total number of models is based on mass-produced excavator models as of the end of each year, including domestic and overseas, and derived models). The application criteria may be adjusted to future changes in the model calculation method. All construction equipment was used as the parameter when information was disclosed in 2019, but the parameter calculation criterion was changed to excavators. Accordingly, the Year 2019 performance was revised and reflected.

03 PROCESS

Activities that increase positive impacts within the value chain for sustainable development

Employee safety — Lost Time Incidents Rate (LTIR)[1]

2019	2020	2021
1.17	0.61	0.73

Major activities
- Created a separate organization to strengthen awareness of the safety culture
- Outcome of strengthened safety management (Safety-Keeper, special budget for EHS)
- Strengthened EHS leadership activities (Field safety patrol by leaders)
- Strengthened risk factor self-management activities to prevent near miss accidents (focused identification of unsafe conduct and safety risk factors)

Commitment

Promote employee health and welfare at industrial sites through active accident management

Response to climate change — Reduce carbon emissions in production[2]

2019	2020	2021
112,186	90,447	105,016 tCO_2eq

2019	2020	2021
0.036	0.033	0.029 tCO_2eq/KRW million

Major activities
- Established a climate change response strategy aimed at achieving worksite carbon neutrality by 2050
- Adopted high-efficiency facilities (boilers and air compressors)
- Moved forward with reducing worksite environmental risks and increasing operational efficiency by building an IoT-based integrated monitoring system (DooEco)

Commitment

Contribute to easing climate change impacts by integrating carbon emission target management into company strategies and plans

Supply chain ESG — No. of companies subject to supplier ESG evaluation[3]

2019	2020	2021
116	–	41 companies

Major activities
- Identified ESG high-risk suppliers through an on-site assessment (OSA) that is conducted every other year
- The OSA planned for 2020 and 2021 could not be conducted due to COVID-19, and will be postponed and carried out later

Commitment

Support suppliers in strengthening ESG capabilities to prevent relevant risks and build the foundation for sustainable joint growth

Governance transparency — Ratio of outside directors and BOD attendance rate

2019	2020	2021
4/7 (57.1%)	5/8 (62.5%)	3/5 (60.0%) persons

2019	2020	2021
92.9	97.1	94.4 %

Major activities
- Recommended and appointed directors appropriate for establishing transparent governance and enhancing BOD expertise through the Outside Director Candidates Recommendation Committee
- Attended meetings using remote means, including video and voice

Commitment

Enhance long-term corporate and shareholder value by building a basis for sound and transparent governance

[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 HDI)

[2] Regarding reducing carbon emissions and improving emission intensity during production, some figures are subject to change, as defined goals are to undergo an additional review.

[3] Supplier ESG inspection is conducted every other year. Thus, the goal for 2024 is reflected as the goal for 2025.

Our Impact

Impact Valuation

Creating value through corporate activities from a long-term perspective 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. HDI recognizes the importance of non-financial value, and in order to examine the value delivered to stakeholders by the company's management activities in 2021, 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.

HDI measured value delivered to stakeholders from a company's long-term growth perspective, among corporate activities conducted throughout 2021, by categorizing it into four value categories of the EY Long-term Value Framework, and discloses the results in this report.

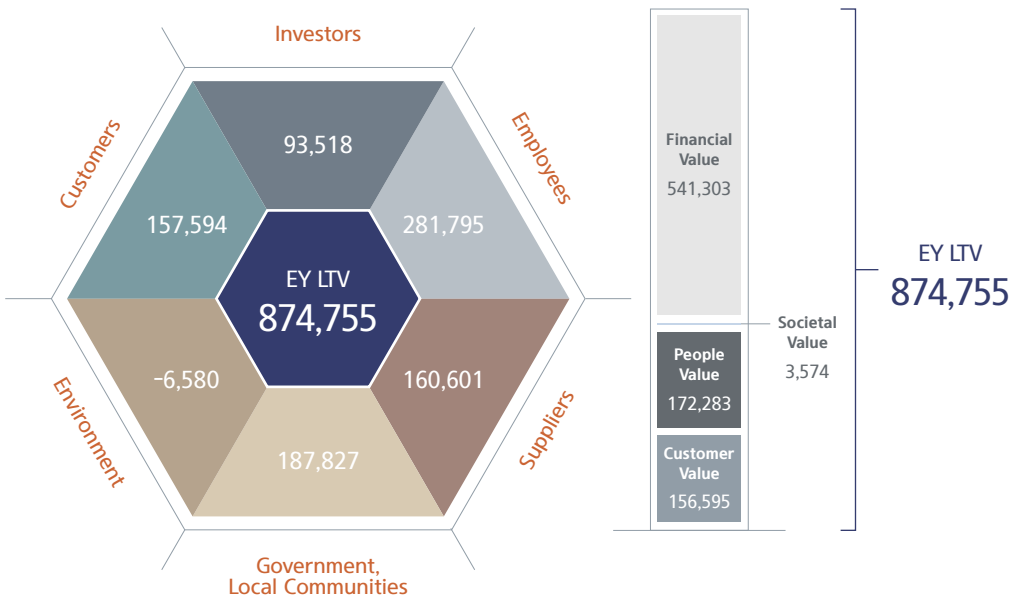
Our non-financial value calculated using the EY Long-term Value Framework is KRW 874.7 billion. It can be estimated that long-term intangible value and non-financial value that are provided to stakeholders through HDI's management activities but are not measured or discussed total KRW 874.7 billion. 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 Criteria	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 (sales) directly exchanged by the act of purchasing.	• 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.	• 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.	• 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.	• Dividend and interest costs • Tax • Wage

HDI's Long-term Value Measurement Results

(Unit: KRW million)



* 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, 2021
* Based on separate financial statements
* Based on business sites in Korea

BUSINESS STRATEGY

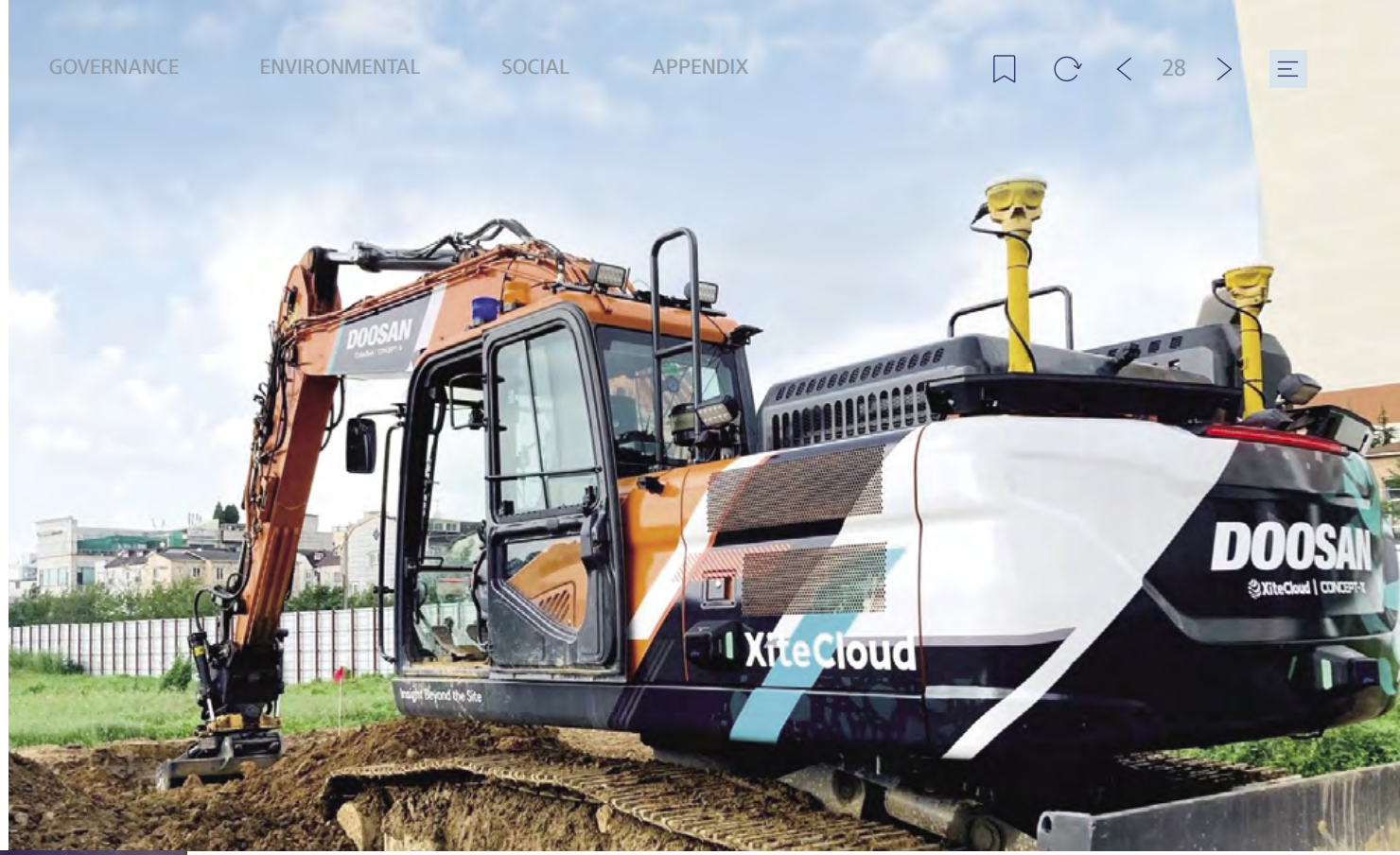
The need for digitalization of construction sites is emerging due to a worldwide decline in manpower, reduced working hours, and continued safety accidents. However, digitalization in the construction industry is making slow progress compared to other industries. Considering issues in the industry, digital transformation provides an opportunity to innovatively resolve the construction industry's major issues.

1

Digital Transformation and Technological Innovation

01

Digital Transformation



Hyundai Doosan Infracore is digitalizing its business, operations, and way of working in a balanced way.

Digitalization of Business

Digitalization of our business is taking place through equipment electrification and establishment of future construction site solutions. We are developing engine and powertrain electrification technologies while also establishing a plan to commercialize eco-friendly electric construction equipment using the technologies. In addition, we are leveraging our technologies, experiences, and innovative ideas to commercialize digital solutions for the construction industry of the future, including the all-in-one smart construction solution, support for mixed fleet management, and an equipment lifecycle management platform for our customers.

XiteCloud HDI has launched and operates "XiteCloud", a smart construction solution. XiteCloud brings together 3D measurements taken by drones, calculations on the amount of earthwork, and the layout of the construction site, and then connects them to an exclusive cloud platform which devises a work plan for optimal efficiency at the worksite. Integrating diverse and dispersed tasks such as measurement, topography analysis, equipment operations, and construction management, and then managing them on a single platform reduces costs and working time while also improving work accuracy, which in turn leads to improved productivity.

In 2021, HDI signed an MOU on "mutual cooperation on smart construction technologies" with SK ecoplant, and is collaborating for the nation's first smart construction technology upgrade development and demonstration project jointly conducted by the construction equipment industry and a large construction company. HDI and SK ecoplant are working together to advance smart construction technologies and conducting field demonstrations for innovation of construction productivity, safety, and quality. We are advancing technologies to make the construction industry smart by using "XiteCloud", a cloud-based integrated smart construction platform. In addition to upgrading platform technologies, including earthwork volume analysis, control, and work management as well as "Digital Twin", which moves a construction site and construction equipment to a virtual environment, we will develop new functions and apply automation systems to field equipment, such as 3D machine guidance that enables platform and information connection. In the meanwhile, SK ecoplant will provide field data, construction know-how, and voice of customers (VOC) so that smart construction technologies are applied in the field without error, and will establish a technology demonstration test site. Through the MOU, the two companies will lead digitalization of the construction industry that can enhance productivity and stability. Based on this mutual cooperation, HDI is applying smart construction technologies starting from the development project planning phase, thereby securing smart technologies in the construction industry.

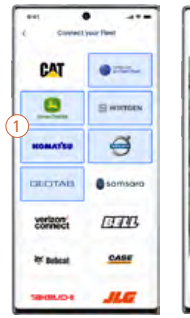
Receiving recognition for such innovativeness, XiteCloud won an award for two consecutive years at the "Smart Construction Challenge" in 2020 and 2021. We received the Best Innovation Award in the "construction automation" category for a remote control-based automated excavation technology that was integrated with the integrated smart construction platform XiteCloud which garnered attention by adding automated excavation technology to the integrated smart construction platform in 2020. HDI will lead technologies for realization of smart construction in the construction and construction equipment industries, and continue investments in eco-friendly and digital technologies to lead technological innovation.

DoosanCONNECT™ Digital Platform HDI launched a platform that expands customers' digital experience by providing such services as equipment management, maintenance, sales, and operated equipment monitoring. As a platform that can be accessed even in the mobile environment, the DoosanCONNECT™ Digital Platform app provides overall services that are needed throughout the equipment lifecycle, including maintenance and sale, and has implemented an online Parts Shop, service requests, Parts Book search, and equipment purchase requests to dealers in a single app. Customers enjoy increased convenience as they can now handle previously offline tasks in an online environment, while the company has established a foundation to obtain customer data and further enhance customer satisfaction by adding a customer-related communication channel.

DoosanCONNECT™ GUIDE

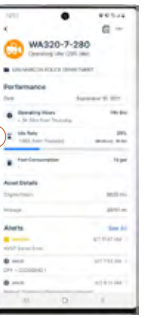
Major Functions of Clue

① Offering services for various brands
② Real-time equipment/personnel location monitoring
③ Monitoring of operation time and fuel consumption, etc. per equipment



Integrated management of various brands

Location control of owned equipment

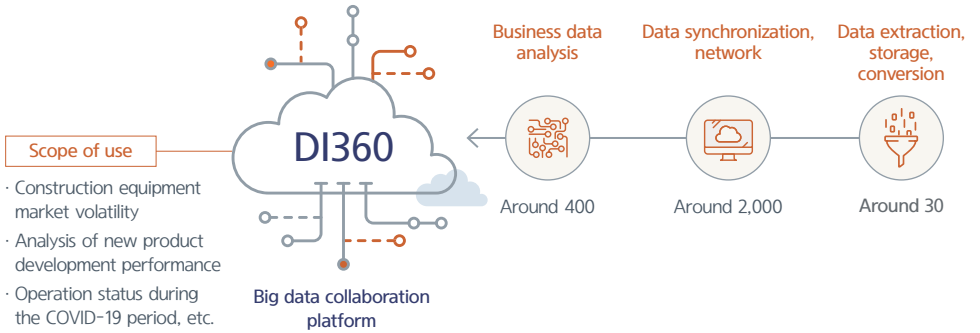


Equipment information inquiry

Clue Insight In January 2020, Clue Insights Inc., the first start-up established by HDI, participated in the CES 2020 and was named an Honoree in the Tech for a Better World category. Clue Insights is a new business spin-off, launched in the form of an in-house venture, and it uses the "Clue" application to analyze telematics information from construction equipment, enabling more efficient equipment operation. Clue Insights enables HDI equipment and several other companies' equipment fleet management, real-time productivity analysis, and inquiry of various brand equipment's failure code and preventive maintenance information. We are providing the service in the US, Canada, Mexico, and the Argentine Republic, and plan on expansion to include Europe and Asia.

Digitalization of Operations

The construction equipment market is highly volatile, so that a decision-making system for accurate forecasting and appropriate response is vital. While previous decision-making tended to be based around experiences, there has recently been growing importance of reasonable and quick data-driven decision-making as well as information-sharing and communication. This decision-making system requires the digitalization of internal information, so that using data becomes a part of daily working life. Establishing a data-driven decision-making system involves collecting data that is created through key internal systems (S4/HANA, GMES, GPDM, SCM, CRM, etc.) in the data lake of DI360, a collaboration platform, and managing the data in an integrated, organic way to enable data-driven decision-making. HDI is moving forward with digitalization of its business operations that enables such data-driven decision-making.



DI360 DI360 is a big data-based collaboration platform that HDI jointly developed with the US-based Palantir Technologies in 2020. It has integrated data that was dispersed among internal departments, enabling quick data analysis and sharing. Based on data that was analyzed through DI360 throughout the past year, we were able to improve productivity and establish an inventory management system, and also analyze equipment tele-management system (TMS) data and actively use the outcomes during new product development. By analyzing the TMS data of equipment that is dispersed in different regions, we were able to identify factors that customers place importance on when using equipment and use this information to develop the performance of products sold in different regions. DI360 enables analysis of real-time operation information of construction equipment that was sold all across the globe and market information of each country, which, in turn enables development of new products that are suitable for market characteristics.

The DI360 collaboration platform has been very useful in managing inventory and quality. Data processing previously took three weeks when determining the parts lifespan of issued construction equipment, but DI360 has enabled analysis to be completed in a single day. Parts lifespan improvement and management as well as preventive maintenance have become more effective and quicker, leading to enhanced customer satisfaction. DI360 has also enabled daily checks on the material delivery status, resulting in substantial improvements to production efficiency through inventory management. We developed a "parts quality index" that allows real-time review of such information as supplier defect ratios on a single screen which helped with improving quality. Going forward, we will continue using big data for innovating business operations as a way to make utmost efforts towards customer satisfaction.

Global Product Development Management In 2021, we removed work inefficiencies and increased productivity by upgrading the Global Product Development Management (GPDM) system (including CAD, PDM, and DM). By doing so, we established an integrated R&D platform foundation, improved process speed issues, and improved compatibility with the latest software operation systems.

Digitalization of the Way of Working

When digitalizing business and operations, it is vital to change the way of working by the employees who actually handle business and operations. HDI is therefore focused on establishing a digital working environment, operating in-house start-ups, and strengthening digital working capabilities.

In 2018, we adopted the cloud-based Microsoft 365 to improve office productivity and enhance employee communications through simultaneous access to documents and the use of the cloud. This advanced digital working environment has enabled business continuity even as employees worked from home during the COVID-19 pandemic. In addition, Teams, one of the key tools in Microsoft 365, has facilitated efficient real-time communications between all business sites, both in Korea and overseas.

HDI aims to launch products in a short period and thus maximizes customer value through flexible, agile operations. We are therefore offering such solutions as XiteCloud and Clue Insights, enabling us to respond rapidly to the fast-moving product development cycle within the increasingly digitalized construction equipment industry.

As digital transformation gains traction, the digital literacy of employees is becoming important. HDI therefore focuses on improving its employees' digital literacy. To this end, the company encourages its employees to use the DI360 data platform for their daily work, while also striving to foster digital experts through such efforts as data analysis education and the AI Community.

Following the establishment of DI360 system in 2020, we moved forward with the "Data-driven Decision Company" imitative in 2021, aimed at promoting the big data platform "DI360 system". Related activities were conducted in various forms, including DI360 system training, nurturing of data agents, use of DI360 for major conferences, and publicizing of best practices. In particular, Data Agents were assigned to derived worksite operation issues for data-driven decision-making and led projects based on DI360 usage skills. A total of seven projects and 15 projects were executed in the first half and second half of 2021, respectively. We plan to implement various programs to fully establish a data-based work culture, in addition to achieving tangible outcomes through DI360.

02

Unmanned & Autonomous Solution

Securing Autonomous Solution Technologies

The global construction industry accounts for at least 10% of global GDP. However, it is low in productivity and has high accident rates relative to other industries, mainly due to the amount of equipment and skilled workers required, and the inevitable wait and idle times. Production efficiency and safety are therefore extremely important topics in the construction industry.

3D Machine Guidance (MG) 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 deviation to help operators identify the situation. Once an operator ascertains the situation, the equipment can be moved to the required location according to the operator's decision or relevant work can be adjusted to raise field efficiency. HDI plans to apply its in-house developed 3D MG system to equipment and connect it to XiteCloud to enhance construction site efficiency and safety.

3D Machine Control (MC) 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 an operator to see what is happening in front of the bucket through a monitor in the cockpit. This innovative system records images in front of the wheel loader 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. With the transparent bucket, operators check the blind spots with ease, helping them prevent safety accidents. It also significantly improves efficiency by enabling forward viewing. HDI 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.

Transparent Bucket for
Hyundai Doosan Infracore Wheel Loaders

Environmental regulations related to climate change are becoming stricter all across the globe, and investor demand for “net zero” is growing stronger. Climate change, including global warming, impacts the ecosystem as well as industrial activities and all areas of people’s lives. To actively respond to climate change, HDI is expanding eco-friendly products to minimize environmental impact that arises in the manufacturing and in-use stages of our products.

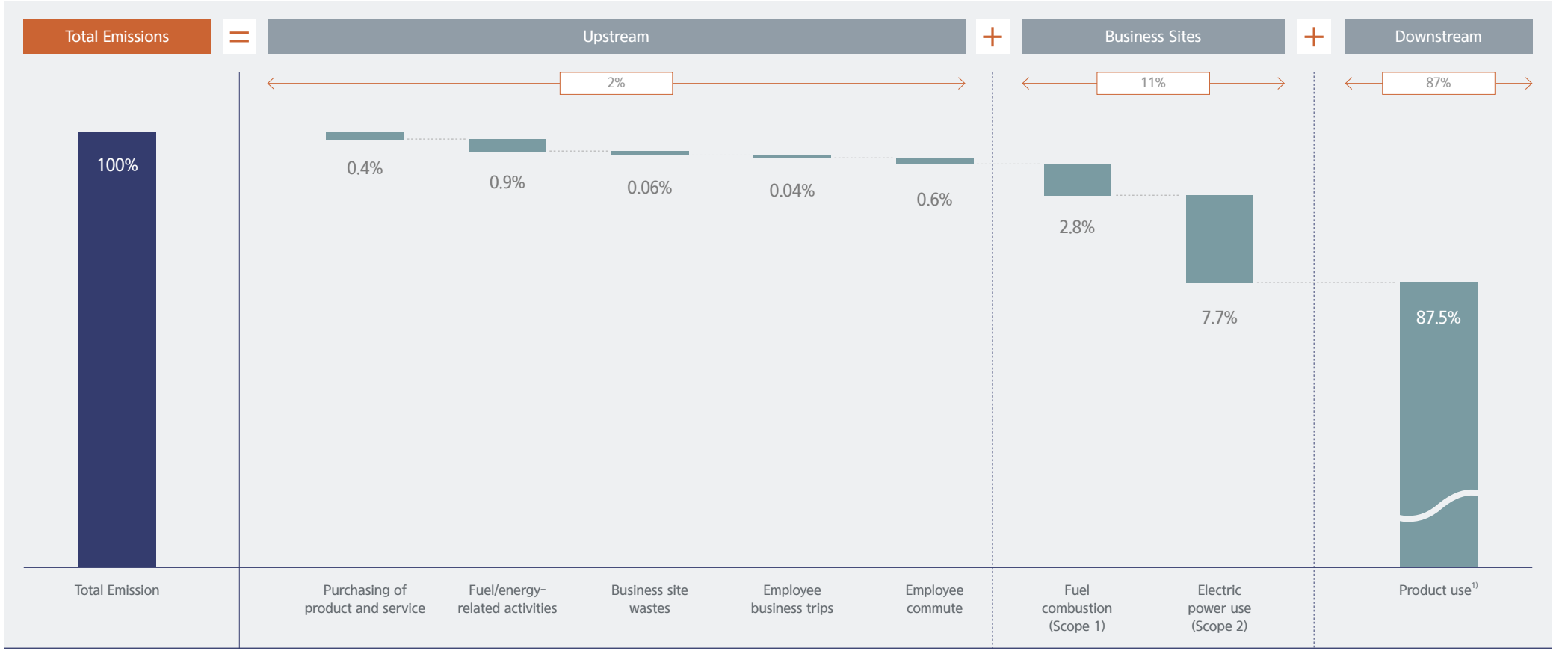
2

Climate Change Response and Eco-friendly Technologies

HDI established a company-wide climate change response strategy in 2021 as a way to preemptively respond to climate change risks and opportunities. Environment, energy, production as well as product technology, development, and sales departments came together and formed the "Climate Change Response Cross Functional Team (CFT)". It analyzed the company's energy and carbon emissions status and carbon emissions during the in-use stage for four months and then established a climate change response strategy that reflects the characteristics of the construction equipment industry.

We analyzed carbon emissions status of our value chain to find that more than 90% of carbon is produced during the manufacturing and in-use stages. The company's climate change response strategy therefore focuses on reducing carbon emissions in the two stages.

HDI Value Chain's Carbon Emissions Status



* Based on 2020. In case of upstream and downstream, emissions were determined in a limited way, only including collectable data.

1) Calculated only the in-use emissions of sold products during the reporting period using the sales-weighted method in 2020 (did not calculate cumulative emissions considering term of use)

01

Climate Change Response Strategy

Worksite Carbon Neutrality by 2050

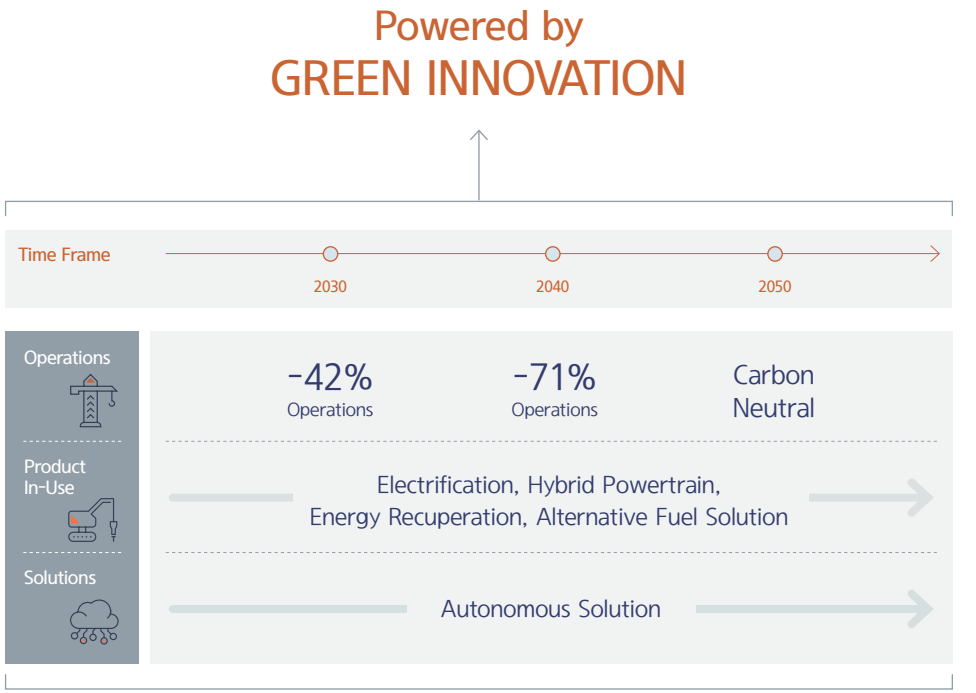
Results of identifying the energy consumption and carbon emissions status of HDI's production sites all across the globe indicate that carbon emissions from electric power use take up the highest proportion. Our site in Norway already achieved carbon neutrality by using hydraulic power-based electricity. Therefore, the recent carbon neutrality plan was focused on production sites in Korea and China.

It is now possible to analyze energy input and carbon emissions when producing one product per product group at each production site, enabling advanced intensity analysis and smooth responses to external customer and investor requests.

After identifying the status of sites, we set the business-as-usual (BAU) in consideration of growth rate through 2050 and also set a reduction goal based on the 1.5℃ scenario of the Science Based Target Initiative (SBTi)[1] tool. Aiming to achieve carbon neutrality by 2050, HDI plans to reduce carbon emissions by 42% by 2030 from the 2020 level and by 71% by 2040.

To achieve the goal, we will adopt renewable energy and manage and improve emissions facilities to handle 71% of carbon emissions, and offset 29% of carbon emissions by taking part in the government's carbon reduction programs, such as K-EV100, and carbon emission offset programs. Beginning with its first adoption of renewable energy in 2023, HDI aims to achieve RE100 by 2040.

Roadmap to Respond to climate change



[1] Science Based Target Initiative (SBTi): A global initiative that helps companies set a carbon emissions reduction goal and verifies it for implementation of the Paris Agreement

Reducing Carbon Emissions in the Product In-use Stage

Carbon emissions during the product in-use stage account for the highest proportion of HDI's value chain carbon emissions. To measure carbon emissions in the product in-use stage, we obtained fuel efficiency measurement values for 390 products, 130 thousand units over five years from 2016 through 2020, based on data of DI360, TMS, and internal test team, and also analyzed sales volume-based data every year. Analysis results indicate that a high proportion of carbon emissions during the product in-use stage is taken up by mid-sized and large-sized products, which account for a high percentage of sales. Accordingly, to reduce carbon emissions in the product in-use stage, we mainly reviewed the development of technologies aimed at reducing carbon emissions of mid- and large-sized products.

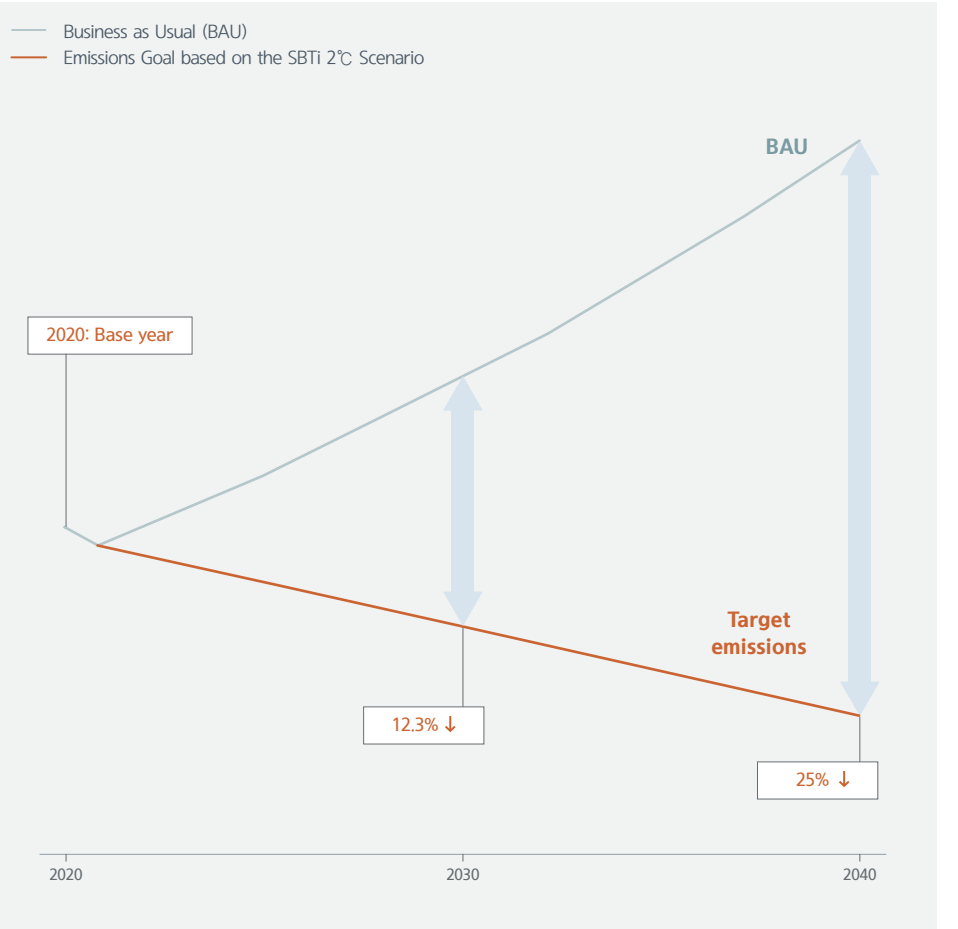
After analyzing the status of carbon emissions in the product in-use stage, we set the BAU in consideration of the growth rate through 2040 and established a reduction goal based on the 2℃ scenario of the SBTi tool. HDI plans to continually reduce carbon emissions in the product usage phase through a transition to eco-friendly power (electricity and hydrogen) by 2040 and fuel efficiency improvements based on electro-hydraulic technology. In addition, we will continually obtain ways to reduce environmental impact through solutions that enhance construction site efficiency.

As a global construction equipment company, HDI is developing technologies that are in line with the transition to a low-carbon economy and is taking a strategic approach to the overall value chain to actively respond to the climate change issue, such as establishing a plan on changing the future product portfolio. We will make continued efforts to contribute to actual carbon emissions reductions by implementing and monitoring climate change-related tasks.

Product Emissions Analysis Approach

Calculation formula	Emissions per unit (tCO_2e/yr) = Work hours (hr/yr) x Fuel efficiency (L/hr) x Emission factor (tCO_2e)
Analysis scope	Equipment subject to sales from 2016 to 2020 (based on SCM sales volume) * Based on data analysis of DI360, TMS and internal test team

Estimated Emissions and 2040 Reduction Goal (SBTi-based)



02

Securing Clean Technologies

Non-financial value has been gaining importance when measuring the value of companies. Global climate change, the COVID-19 pandemic, and the recent emphasis on ESG have all made environmental and social value central to corporate sustainability. Advanced global companies are combining new technologies related to the Fourth Industrial Revolution with their existing businesses while also striving to resolve social and environmental issues. HDI's strategy is to contribute to addressing issues that the construction equipment industry is facing as well as climate change through technological innovation. In particular, in accordance with the climate change response strategy that was established in 2021, we plan to continually reduce carbon emissions in the product in-use stage by improving fuel efficiency, changing to eco-friendly energy, and developing energy regeneration technology by 2040.

Establishment of Taxonomy HDI improved the previous eco-friendly product criteria into an in-house eco-friendly product classification system by reflecting the EU Green Taxonomy and K-Taxonomy aa a way to manage the development and sales of eco-friendly products in a constant and systematic manner. Our eco-friendly product classification system is defined as 1) products equipped with clean technologies and satisfying market regulations; and 2) solutions that reduce the negative environmental impact of construction sites and products. Eco-friendly products are mainly products equipped with eco-friendly power transition technologies, fuel efficiency improvement and efficiency-related technologies, and air pollutant-reducing technologies. Based on the 2021 reporting period, 5.5% of the construction equipment products sold by HDI are categorized as eco-friendly products.

Hybrid Powertrain Global mobility market is accelerating its pace of transition to eco-friendly fuels, which is expected to be applied to off-road engines as well, calling for the need to make fuel efficiency improvements to meet Tier 5 standards. As a solution, there will likely be increased demand for electrification. The construction equipment industry is part of this trend for more eco-friendly power sources, including hybrid, and it is forecast that a shift to electrification, especially for compact equipment, will be accelerated according to the analysis of recent eco-friendly policy, market, and competitor trends. HDI has been developing various "hybrid powertrains" since 2017. We began the development of "mild hybrid powertrain" technology in July 2018, and successfully created a prototype in August 2019.

H24 hybrid powertrain

HDI's H24 hybrid powertrain was introduced as "New Technology of the Month" at the Korea Evaluation Institute of Industrial Technology in 2022. The H24 hybrid powertrain can reduce CO_2 emissions by 15% compared to a diesel engine in the same class. We plan to first apply this technology to 7-ton equipment that handle heavy-load continuous work. Application of a hybrid powertrain has the effect of reducing 2 tons of CO_2 emissions a year and curtailing customer costs of around KRW 1.7 million based on one piece of equipment. We plan to expand supply to include equipment companies of agricultural machinery, forklifts, and industrial machinery and also expand the electric powertrain lineup.

Electric Excavators Increased importance of climate change and demand for active participation by companies are leading to increased interest in carbon emissions in the product in-use stage and rapid transition to a low-carbon economy. At CONEXPO 2020 held in Las Vegas in March 2020, we unveiled a pilot version of a 1.7-ton mini electric excavator powered exclusively by an internal battery pack which supplies power to an electric motor that drives the hydraulic systems. Electric excavators generate less vibration and noise than diesel equipment, and increase maintenance convenience because there is no need for the various consumables (fuel, engine oil, filters) associated with diesel engines. Above all, there are no emissions of carbon and air pollutants, ensuring significant improvements in the environmental impact of worksites.

We plan to preemptively release the 1.7-ton electric excavator in Korea in 2022 and then fully launch mass production in 2023. Electric excavators provide an eco-friendly work environment, including a low noise-level work environment, to operators and will also contribute to the transition to a low-carbon society by eliminating carbon emissions. 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 lifecycles[1] and then calculated the improvements created by the electric excavator. The result confirmed that each 3.5-ton electric excavator created an impact value[2] of around KRW 27.46 million.

e-Powerpack Discussions are being made in Europe and other regions about prohibiting internal combustion engines. In the construction industry, as well, discussions are being held mainly in the EU about making "zero emission construction sites" mandatory that prohibit the use of internal combustion engines in major downtown areas. In response, HDI is going beyond carbon reduction and electric equipment low-carbon technology to develop electric power sources.

In 2020, we made know our entry into the electrification business to respond to market demand for carbon reduction and equipment electrification. We created the E-Powerpack organization as part of our Engine Business Division. Following detailed analysis of potential demand for electric off-road equipment, including construction equipment, we are now developing and commercializing battery packs and EV components for industrial use. HDI's battery pack combines standardized cylindrical battery cells and can flexibly meet customers' voltage and energy capacity requirement. Also, wire bonding technology was applied to battery module development to improve energy density and stability.

We developed our first pilot battery pack product in May 2021 and completed the construction of a protoshop, a facility where design validation and assembly verification are handled before mass production, and issues discovered during equipment application testing are addressed and improved to secure initial quality. The protoshop will enable us to actively respond to product suppliers that are becoming increasingly diversified and improve initial quality. We plan to launch a 1.7-ton electric excavator with our battery pack installed in 2023.

[1] Assuming average usage of 750 hours a year for five years
[2] The difference in economic, social, and environmental value between the 3.5-ton electric excavator and the diesel excavator

HDI strives to provide better value to customers through products that consider customer safety and environmental impact. In addition, it seeks to gain greater trust from customers by working on quality improvements, strengthening customer services, and facilitating communication.

3

Product Stewardship and Customer Satisfaction

01

Product Stewardship

Strengthening Product Safety

Compliance with International Safety Standards HDI sets up new product development and verification plans at the planning stage by reviewing various countries' technical regulations and international standards on safety and environment, including fire, noise, rollover, electromagnetic compatibility, and toxic chemicals. We also reflect the guidelines set forth in major technical regulations when setting up our product development objectives, such as the "Rules on Construction Machinery Safety Standards" of Korea, the "Machinery Directive" of Europe, and the "Guobiao (GB) Standard" of China. We also ensure that our products are manufactured to meet the regulations of the markets to which they will be exported. Moreover, we have established the Global Product Compliance Council (GPCC), through which we share information on the latest trends in global safety regulations and standards and discuss preemptive responses to any changes.

Management of Hazardous Chemicals HDI 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; and developed a world-leading process and IT system to respond to REACH/RoHS 2 and completed the roll-out at our Chinese subsidiary in 2017. In 2018, to cope with even stricter regulations systematically, we created a cross function (CF) team for company-wide hazardous chemicals management and operations; established a policy to manage restricted materials; distributed work process guidelines to the relevant departments; developed alternative materials to respond to RoHS 3; established response processes at overseas subsidiaries; input new REACH/RoHS 3 substances and requested renewal. In 2019, we reduced the use of hazardous chemical substances included in the Candidate List of Substances of Very High Concern (SVHC), Annex 17, and RoHS 10 Restricted Substances, and worked on responding to the SCIP[1] required by the European Chemicals Agency (ECHA). In addition, we have extended the applicable laws and regulations to include California Proposition 65, TSCA[2], and other international agreements in addition to REACH/RoHS 3 so as to avoid regulatory obstacles in import/export of products.

[1] SCIP: substances of concern in articles as such or in complex products
[2] TSCA: Toxic Substance Control Act

As one of ECHA's detailed measures on controlling the generation of wastes, it has become mandatory to make an SCIP database report on finished products that contain SVHC on January 5, 2021. We therefore developed an SCIP database report automation system that is based on the Doosan Infracore Chemicals Management System (DICMS), an in-house hazardous substance management system, in 2020, thereby preemptively responding to stricter regulations.

The scope of application of the relevant regulations is being extended from finished products to include parts. HDI included supplier's obligation to REACH/RoHS 3 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 2022, we will continue to encourage supplier participation in responding to regulations and provide diverse training to help them enhance relevant capabilities.

Providing Information for Customer Safety HDI 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. HDI complies with ISO 9244[1] for the safety labels attached to its construction equipment and provides operator manuals for its machinery under ISO 6750[2].

[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)

Enhancing Product Quality

HDI derives quality-related issues and shares improvement points and measures by operating the quality risk management system and holding the Company-wide Integrated Quality Conference to secure top quality from the customer perspective.

Improving PDCA-based Process Operations In 2018, HDI created the Quality Management Team, dedicated to diagnosing and verifying the quality management system (QMS) at the corporate level, in its construction equipment and engine businesses, further strengthening its QMS and risk management system. The company has redefined the ISO 9001:2015-based QMS diagnosis system and is implementing the upgraded operation procedures by reflecting in the ISO 9001:2008-based QMS the results of reviewing internal and external changes; implementing tasks identified through the QMS diagnosis and improving the verification of improvement measures; and expanding the scope of diagnosis to include other areas besides production, purchase, and quality. Starting in 2019, HDI has undertaken regular annual QMS diagnoses of its business groups and sales/service units. We have also built a corporate-wide QMS system which has created a virtuous cycle of identifying tasks through diagnosis, monitoring the execution of tasks, and verifying the improvements made. We examine the implementation of systematic business processes in all departments and ensure compliance with QMS standards for the efficient operation of QMS diagnosis and management system. We also continue to diagnose process operations from the Plan-Do-Check-Act (PDCA) perspective, identify tasks, and make improvements.

At a time when business uncertainties continue to increase, HDI has in place an advanced risk management system which enables the effective and preemptive management of potential and actual emerging risks throughout its value chain. Since 2019, we have identified the key risks for each function within our construction equipment and engine businesses, set out response strategies, put into place preemptive risk management, and undertaken detailed monitoring. In 2021, we continued to improve our business operations based on quality management process at the company level while ensuring the competitiveness of parts quality. To this end, we improved the quality management systems of suppliers, including by providing them with quality management diagnosis and consulting, in addition to further upgrades of our own internal QMS diagnosis and risk management.

Quality Management through the PTS Using the Project Tracking System (PTS), a quality project management system of HDI, the company checks the progress status of the projects related to market quality, process quality, and advance quality; responses to VOCs; and improvement effects to help the company make improvements to quality and accelerate the pace of improvement.

In 2020, we focused on improving work efficiency and established a constant monitoring system by reviewing weekly pending issues, using quality conference, and registering daily claim issues, and continued to manage quality issues in 2021.

Digital Data-based Quality Management System In 2019, HDI built the digital-based statistical process control (SPC) system which improves quality management at suppliers by automatically receiving SPC data from them in real time and monitoring it to assess process management capabilities. We installed the system at 10 suppliers in 2019 and another 10 in 2020 and four in 2021 in order to upgrade their quality management systems. The preemptive elimination of quality issues at suppliers will enable us to improve the initial quality of our products and enhance work efficiency.

In 2021, we used DI360's big data to create a global quality index dashboard screen, enabling top management to check quality performance in real time and make decisions. This is also used at the company-wide Integrated Quality Conference. We will continue to use past quality data to predict claims and strengthen preventative quality.

Enhancing Customers' Quality Satisfaction

HDI strives to enhance customers' quality satisfaction levels by reflecting customer opinion collection in the product development step and engaging in preemptive correction measures and responsible marketing activities.

NPD Process HDI has set the New Product Development (NPD) process in place with the participation of company-wide value chain departments, such as purchasing, quality, production, AM/ PS, sales, and finance, in addition to R&D, to reflect VOCs into new product development. We had collected customer opinions of diverse perspectives in our global business sites in Korea, China, Europe, and North America to establish the NPD 4.0 in 2013, which was further improved by reflecting perspectives in terms of laws, safety, and quality, and they are currently operating the upgraded NPD 6.0. They engage in strict management of the observance of laws, safety, quality, as well as value that is provided to customers, throughout all steps of product development.

In 2019, we established the DI Project Management System (PMS), an integrated system to better manage new products and technology development tasks. DI PMS is a platform-type integrated task management system that targets entire NPD and New Technology Development (NTD) processes of the company.

It digitalizes the information accumulated during the development process, which enables us to manage our NPD and NTD gate as well as project schedules and issues. It also supports efficient resource allocation and quick decision-making of our leaders. We made such improvements as gate management efficiency through the implementation of the stage 2 in 2020, and completed the stage 3 implementation in 2021.

In 2022, we anticipate to secure global top-tier project management competitiveness, including government support task management, approval process in connection with the company-wide approval system, and the adoption of change control process, in addition to the previously-established stage gate for company-wide development task management and project management.

Preemptive Correction Measures Preemptive correction measures are improvement measures carried out by manufacturers after making notices to customers without any external pressure. To better manage its preemptive correction measures, HDI not only utilizes local staff at its overseas business sites but also dispatches its experts from the head office to any location in the world. Construction equipment must be able to withstand rough work environments. We therefore repeatedly check the whole range of equipment features, from the performance of the specialty parts to simple malfunction, and make corrections so that the product can be delivered to customers in the best possible state. In addition, we frequently manage the major correction measure status using a system for quicker preemptive correction measures.

Responsible Marketing Policies HDI sets and complies with proactive and responsible customer service policies to build customer trust and enhance its product values. For responsible marketing, we provide the latest product information via our website and social media channels, along with unique brand guidelines to serve as the yardstick for marketing and communication activities, including advertising and sales promotions. We comply with legislation related to sales, marketing, and information security, and were not subject to any sanctions for falsehood including exaggerated advertising practices in 2021.

02

Enhancing Customer Satisfaction through Service Differentiation

HDI strives to build trust with customers who use its equipment by offering more value. To this end, we are going beyond existing follow-up service and regular service programs and looking into new ways to preemptively provide customer-specific services. Machine lifetime care involves identifying customer needs according to the lifecycle of their equipment, and then providing preemptive service programs. Machine lifetime care offers preventative services, for a longer period than existing service programs, and thus maximizes efficiency and minimizes maintenance costs, providing better value to customers.

In 2021, the product support (PS) function of the company took various measures to enhance customer satisfaction, including accelerating the execution of non-face-to-face dealer support system tasks in response to prolonged COVID-19 situation, establishing the Machine Monitoring Center to expand the provision of machine lifetime care-centered service solutions, expanding smart maintenance, and continuing digital transformation-based operational innovation. In addition, to manage product and service satisfaction levels that can actually be felt by customers, we defined machine uptime[1] indexes and established management indexes.

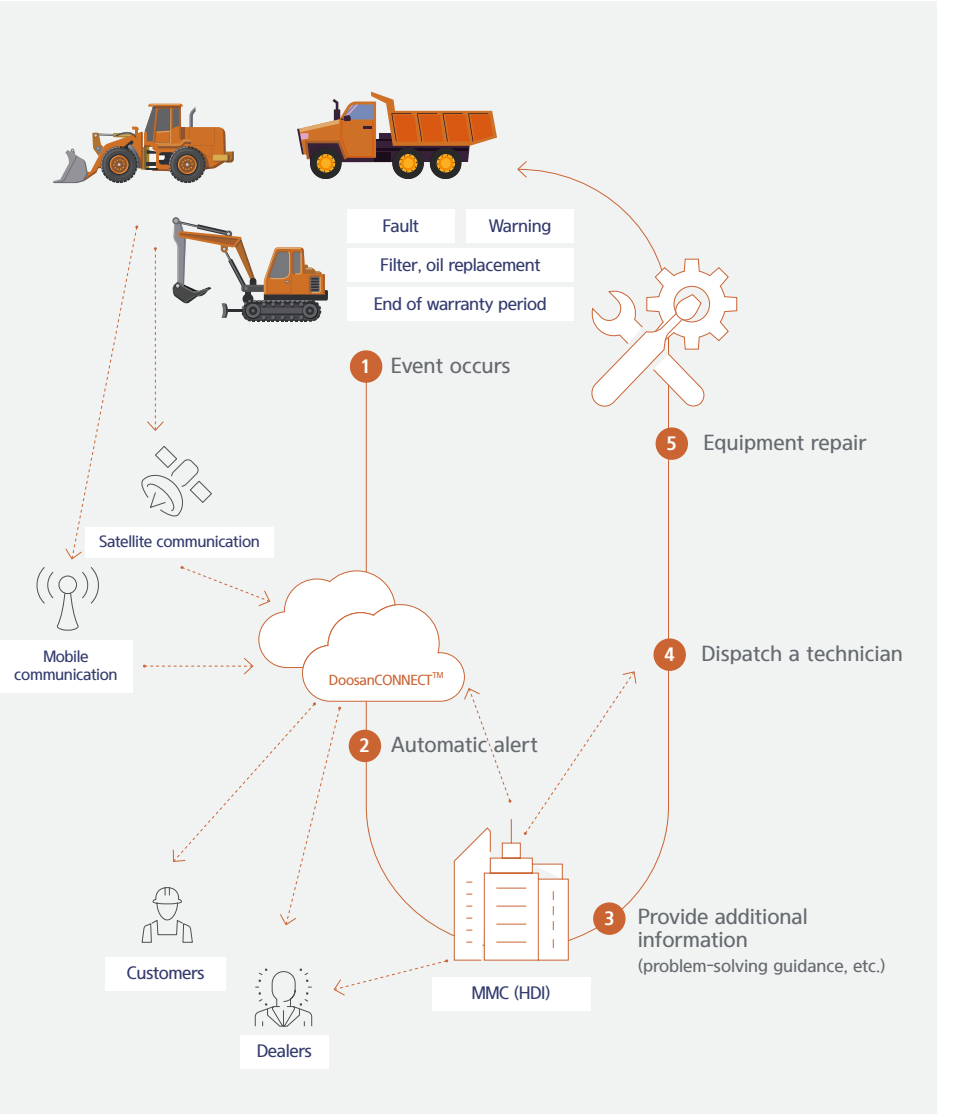
[1] Machine uptime: Refers to normal equipment operation/execution without a machine going down. It is based on all equipment under guarantee.

Expanding Service Solutions

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 DoosanCONNECT™. Launched in 2019, it is now available in 11 countries worldwide, and we sell Smart Maintenance service solutions that are regionally-tailored based on customer requirements in each region. In addition, as a way to actively use Doosan CONNECT™-based services and reflect customer needs in each region, we took the lead in building a Machine Monitoring Center.

Global Machine Monitoring Center There is a need to advance the service system using tele-management system (TMS)-based equipment information to maximize customer machine uptime. The Global Machine Monitoring Center (MMC) standardizes the product monitoring and service-providing process to establish a system that enables HDI to directly manage customer equipment and aims to provide advanced services, such as remote and prior services for customer equipment. To build a global MMC system, we are executing major tasks in relation to a monitoring system, commercialization, and investment in control center construction. Our plan for 2022 is to build a company-led MMC in emerging countries, Europe, and North America and connect a system for constant product monitoring and service provision, content, target customers, and operation methods to commence full-scale operations. Through global MMC operations, we will fully adopt the concept of prior services for customers and strengthen prior/remote diagnosis and service support capabilities, thus reinforcing its roles as a total machine management center.

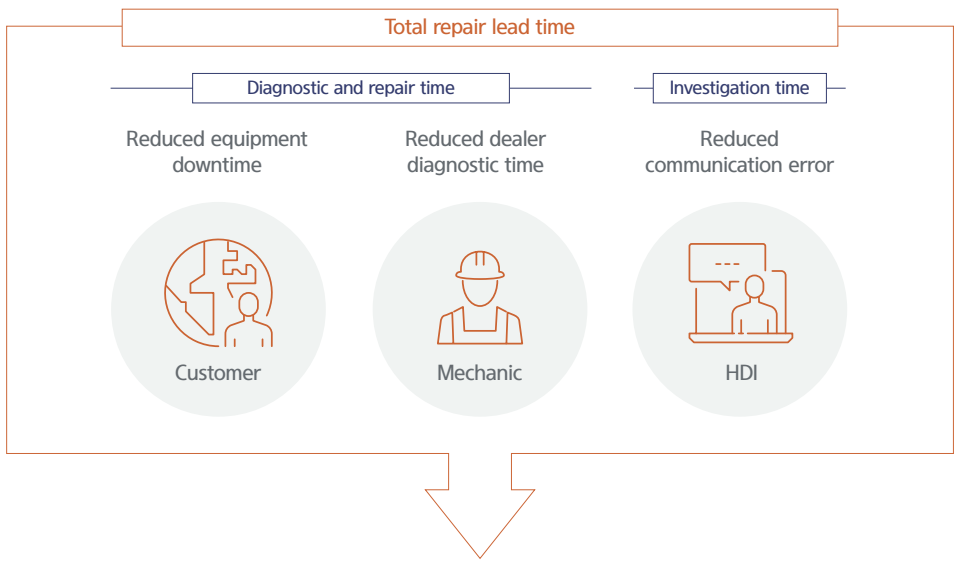
Machine Monitoring Service Process



Strengthening the Dealer Support System in the Non-face-to-face Environment

Strengthening AR-based Service Capabilities HDI developed a maintenance support solution, called "Doosan Guidance Application", using augmented reality (AR) and reduced the time of communication that arises during the service process which is contributing to enhanced service competitiveness. We developed diverse content by applying AR, which has recently become a trendy technology, and enabled convenient, intuitive equipment diagnosis and maintenance. We provide a distinctive service with a greater sense of reality by offering the overall work flow of a performance test, aimed at determining whether there is an equipment error at each service site, as experiential guidance, which also reduced time required for on field verification and training. By providing fault code-based problem-solving guidance as intuitive information through a 3D augmented model using AR technology, we are offering a basic guidance tool for understanding and resolving field issues. Also, it can be connected to the Doosan Guidance App through near field communication using WiFi, enabling users to check equipment information easily and conveniently and to secure free work paths. This also allows smooth communication through which users can diagnose equipment status and store data through AR visualization, thus solving for field issues with ease. Against the backdrop of considerable travel restrictions due to COVID-19, HDI has established a foundation for providing quality non-face-to-face service content, and plans to continually develop and introduce such services using ICT.

Reducing Maintenance Support Time



Strengthening Dealer Service Channel Capabilities HDI has been making continuous efforts to enhance its global customer service capabilities by strengthening dealer service evaluation and training systems. In 2020, we amended the Global Dealer Service Operation Guide in order to standardize services in each region, and established a direction and training system to nurture global dealer service personnel aimed at expanding the base for providing stable services. In addition, we completed the establishment of the Dealer Service Assessment Tool (DSAT) based on the Global Dealer Service Operation Guide in 2020, enabling us to use the same standards to evaluate dealers in all regions and derive tasks for improvement. We also set out a standardized curriculum and distributed training guidelines after defining the required skill levels for service personnel. With new models being launched in each region in 2021, there is an increase in demand for training from dealer service personnel. We will therefore continue to upgrade the expertise of our dealer service personnel by providing online training and technical support amid the COVID-19 pandemic, thus enhancing customer value.

Even in an unstable external environment, HDI has built a sustainable revenue structure that strikes the right balance between growth and stability, based on which we prepare for new growth as a company that remains strong even at a time of profound change.

4

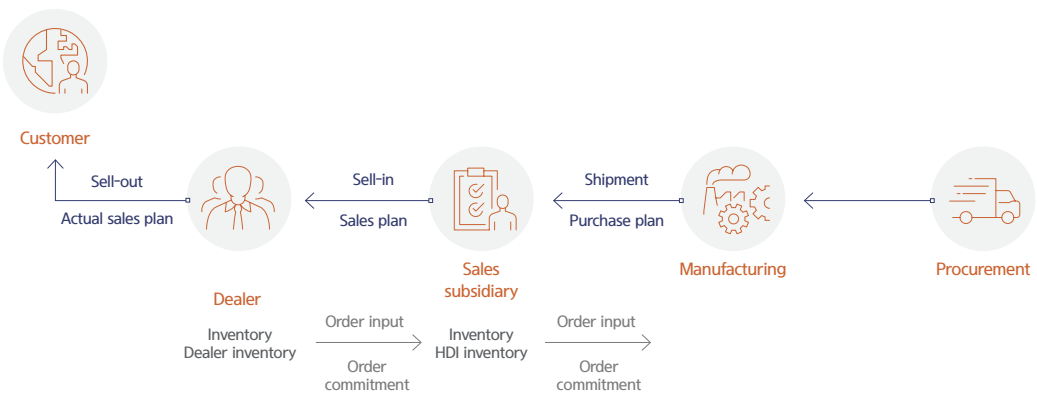
Market Response Capabilities for Stable Growth

01

Strengthening the Stable Supply and Demand Management System

Expansion of the Flexible Production System HDI strives to supply products in a timely manner and minimize the loss of sales opportunities by flexibly responding to uncertain market changes. To this end, we minimized production constraints of existing production lines, and are establishing and expanding a dual production system for the same products among plants and lines. Construction equipment demand significantly increased all across the globe as a result of measures implemented by countries to stimulate the economy after COVID-19 in 2020, but supply is in relative shortage. To increase supply in line with sharp increases in market demand in 2021, we used our Chinese plant to manufacture some of the quantities for the European and emerging markets that were previously produced in Korea. This production system is made possible by production capacity and personnel flexibility of our Chinese subsidiary, HDIC. To resolve the issue of restricted supply capacity of the Incheon Plant, we will dualize places of production in 2022 as well, thereby expanding flexibly-produced products and raising supply capacity.

Supply Plan Automation By adopting digital Supply chain management (SCM), HDI seeks to establish a sales plan-based supply plan and thus advance SCM management capabilities of plants in Korea and expand the application of SCM at its plant in China. By doing so, we plan to adopt a tool and process that can more effectively handle demand forecasting and also improve order available-to-promise (ATP) change management. In addition, we will generate synergies among plants/regions and enhance profitability through integrated management of supply and demand.



02

Expanding New Sources of Income for Continued Growth

Expansion of the New Construction Equipment Lineup HDI unveiled a 10-ton dozer in North America in 2021. The dozer features engine power that is around 16% higher than the products of other companies in the same industry, and has applied a rear-view camera that enables the operator to check the rear, allowing a wider range of vision during front/rear work. It especially has a 3D-based automatic blade control system, which automatically controls the blade according to the slope, to result in increased accuracy of flat work, which is a key dozer function, and also reduced redundant work, leading to improved productivity and fuel efficiency.

We are also expanding the small excavator (MEX) lineup. A high salvage performance allows responses to diverse work and a sophisticated cockpit is enhancing customer satisfaction. Based on this high commercial value, we released the DX50Z-7 and DX55R-7 in Europe and DX27Z-7 in North America, in addition to the Dash-7, which have been well received by markets and customers.

Engine Aftertreatment Business As countering climate change gains greater importance, emissions standards are steadily becoming stricter across the globe, which in turn is increasing demand for exhaust gas treatment devices. In response, HDI has been developing new technologies for exhaust gas aftertreatment, such as “No-DPF Tier 4”. This solution is based on “Ultra Low Particle Combustion”, our proprietary and patented combustion technology, and it meets Tier 4 emissions standards without the need for a diesel particulate filter (DPF). No-DPF Tier 4 can be used in a wide range of equipment thanks to its outstanding power output and fuel efficiency, and its ability to make engines more compact compared to other engines in the same class. It also delivers high durability and reliability for it is designed to withstand extreme operating conditions. SCR on DPF (SDPF)[1], which is an exhaust gas aftertreatment technology that was applied to respond to Euro 6 vehicle emissions standards, is used to respond to Stage V standards for industry and applied to the mass production of non-road engines.

10t-level bulldozer unveiled at the 2021 North American dealer meeting

[1] SDPF: A technology that considerably reduces the total volume of the catalyst by coating SCR catalyst in the DPF

2.4-liter G2 engine that will be supplied to LINDE CHINA

HDI established "ECUBE Solution", a joint venture (JV) for engine aftertreatment business, in 2020. ECUBE has established a business model through which it will provide a total solution, including products and technologies of aftertreatment, to the global engine and equipment market. The JV began full-scale operations in 2021, beginning with the supply of aftertreatment solutions for HDI engines. It discovered customers in domestic and overseas power generation engine and conditioning equipment markets, signed supply contracts in 2021, and is expanding its business areas. ECUBE expects the aftertreatment market to continue to grow rapidly, especially after 2027 when emissions standards become stricter across the globe. It is therefore putting together a new solution based on the global quality aftertreatment technologies accumulated over many years.

Going forward, HDI will be active in minimizing environmental impact of our products by preparing development plans for new products which reflect next-generation emissions regulations, setting up related strategy for developing aftertreatment technologies, and launching solutions.

Increasing External Sales of Engines In 2021, HDI received an order for 15,000 engines from "LINDE CHINA", a forklift manufacturer in China. We plan to supply 15,000 small diesel engines and G2 engines for LPG from 2023 to 2027 in a phased manner, and these engines will be applied to 3.5-ton and less forklifts that LINDE CHINA produces to export to Europe and North America. The order receipt is the result of the HDI G2 engine being recognized for its excellence in comprehensive aspects, including eco-friendliness by satisfying Europe's Stage V and America's Tier 4 regulations, high efficiency, as well as quality and price competitiveness. In particular, the new G2 engine applied ULFC[1], a technology patented by HDI, to result in higher power than the previous model and the lowest level of fuel and engine oil consumption in the same class. The filter replacement cycle was increased to 1,000 hours and various options are provided for increased commercial value and customer convenience.

HDI was chosen as an engine supplier in 2015 by KION in Germany, the world's second largest forklift company; signed a long-term supply contract with ARBOS, a tractor company in Italy, in 2018; and also in the same year, we signed a contract to supply some 12,000 units of G2 engine that satisfies Europe's Stage V regulations with Baoli, a leading forklift company in China. In 2020, we won an order from YTO, the leading agricultural machinery company in China, for around 3,000 engines to be fitted in tractors for export to Europe.

[1] ULFC: Ultra Low Fuel Consumption. An innovative technology, patented by HDI, that optimizes fuel combustion while increasing power.

HDI expands its global market based on outstanding products and market insight, and raises external credibility and builds strong growth momentum by strengthening its product portfolio and expanding digital channels.

5

Global Market Strategy and Product Portfolio Enhancement

01

Customer and Market Expansion

Asia In 2021, HDI received orders for a total of 62 units of construction equipment from large customers in the Philippines. We signed a contract with a construction company that is building a hydro-electric power plant in Iloilo City, located south on Panay Island, the Philippines, to supply 39 units of equipment, including 27 units of 22-ton (DX220A-2, DX225-7M SLR) and 34-ton (DX340LCA-K) crawler excavators and 12 units of 14-ton (DX140W) and 19-ton (DX190W) wheel excavators. This was followed by the signing of an order contract with a mining company in the Philippines for 23 units of equipment, including 18 units of a 45-ton articulated dump truck (DA45) and five units of an 80-ton excavator (DX800LC).

We sold a total of 138 units of construction equipment in 2021 in the Philippines, recording a year-on-year increase of around 57% and a market share of 6.2%. This achievement was enabled by an excellent local service network and customized sales strategies that received customer trust. It is also the result of customer-friendly activities, including active dealer support for onsite equipment management explanations and pilot operations. In particular, we established smart maintenance that uses the TMS and equipment management services in the Philippines, resulting in customer trust in maintenance.

In early 2021, HDI signed a contract with the construction company in Hong Kong which is running the project to expand the third runway at Hong Kong International Airport. Accordingly, we will supply 50 mid- to large-sized excavators, including 30 units of the DX340LC model and 20 units of the DX480LC model. We also signed a fleet deal consisting of 38 excavators and wheel loaders with a mine development and engineering company in Thailand that previously used the products of a global competitor, and received an order for 20 mini excavators from a dairy company in Vietnam. These contracts confirm HDI's continued growth in Asian markets.

We are strengthening our sales strategies for emerging markets, where growth is expected, by analyzing global construction equipment market trends, and are further strengthening our position in emerging markets, such as establishing a superior maintenance service network compared to competitors in emerging markets and a local customized lineup.

DX340LCA-K excavator model for which a contract was signed in the Philippines

The latest 36-ton excavator model (DX360LCA-7M) ordered by the Egyptian Ministry of Defense

DX225LCA excavator, one of models to be exported to the Middle East

Africa In 2021, HDI sold a total of 299 units of construction equipment in Egypt, including a contract signed with the Ministry of Defense on a total of 25 shipments for a 36-ton large-sized excavator. This is a year-on-year increase of 81% and the construction equipment was used for a subway construction project between Egypt's new administrative capital and Cairo. This achievement in Egypt is the result of continued local sales activities based on technology and quality. During the public tender of the Egyptian Ministry of Defense, we presented a new 36-ton model (DX360LCA-7M) that features outstanding engine power and fuel efficiency. Compared to the previous model, this new model has improved engine power by at least 12% and applied the latest hydraulic system and fuel efficiency-improving technology (VBO) to result in improved operability and fuel efficiency.

The African market grew around 48% from 2020, attributable to such factors as increased raw material prices and market recovery from economic stimulus measures. HDI's sales volume also grew by more than 68% over the previous year. To achieve continued growth in Africa, including Egypt, we will build trust based on advanced technologies and quality.

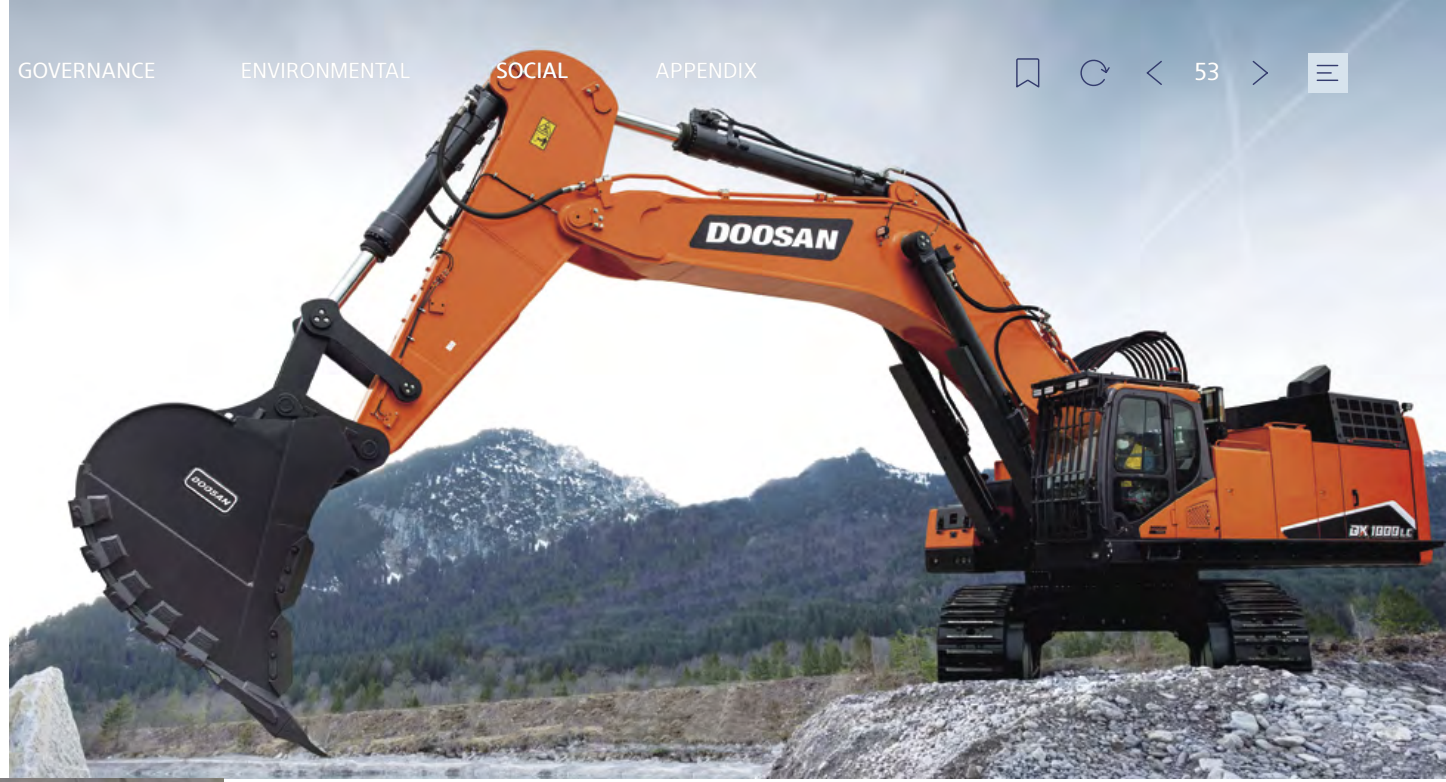
Middle East In August 2021, HDI received orders for 62 units of construction equipment from large customers in the Middle East, including Saudi Arabia and Bahrain. The signing of a contract for 30 units of the DL420A wheel loader with ARAMCO, a construction company in Saudi Arabia, was followed by a contract for 20 units of a 22-ton excavator (DX225LCA) with a state-run power company's partner company in Saudi Arabia. HDI received good assessments for equipment performance and services that were optimized for customer demand. The wheel loader that will be supplied will be used for construction of Neom City in western Saudi Arabia which is a project aimed at constructing one of the world's largest smart cities. The company that purchased 20 units of a 22-ton excavator is a major partner company of Saudi Arabia's state-run electric power company and previously purchased 50 units of the same excavator model in May 2021. The purchased equipment will be used for electric power facility maintenance.

In Bahrain, we received an order for 12 units from two large construction companies, including eight units of a 22-ton excavator (DX225LCA) and four units of a 30-ton excavator (DX300LCA). One of the construction companies with which we signed a contract is one of Bahrain's top ten companies that has been doing business with HDI for 37 years. The supplied equipment will be used at major construction and resource development sites in Bahrain.

In accordance with our global market diversification strategy, we are actively targeting emerging markets, including Southeast Asia, Africa, the Middle East, and Latin America, while reducing dependence on China. This has led to tangible outcomes, with cumulative emerging market sales reaching 4,700 units from January through August, indicating year-on-year growth of around 81%.

02

Strengthening Product Portfolio



DX1000LC-7 model, a newly-launched 100-ton excavator

Launched the Ultra-Large 100-Ton Excavator HDI completed the development of a 100-ton excavator (DX1000LC-7), the largest model in its product lineup, and launched the excavator simultaneously in markets all across the globe. Right after the launch, we signed order contracts in Mongolia and Chile. This product is a flagship model that brings together our latest technologies and advanced specifications, and is our first product to be simultaneously launched in advanced markets, including Europe and North America, as well as Korea, China, and emerging markets through a global platform strategy[1].

This product's maximum bucket capacity is 6.80m^3, which is around 1.2 times larger than the bucket capacity (5.58m^3) of the 80-ton excavator (DX800LC) that was previously our largest model. It is as much as 40 times larger than the bucket capacity of the 5-ton excavator (DX55-5K, bucket capacity: 0.175m^3) model that sells the most in Korea. This product especially applied an integrated electronic hydraulic system and the "smart power control", a fuel efficiency optimization system that was independently developed by HDI, resulting in fuel efficiency improvements as well as optimal work performance without any loss in power or speed even in harsh work conditions, such as mines. In addition, the world's best engine aftertreatment technologies were applied, enabling eco-friendliness that satisfies both Europe's Stage V and America's Tier 4 regulations.

[1] Global platform strategy: This advanced production method involves adding parts and performance that are suitable for market characteristics to a platform with standardized main parts, including the engine and chassis. Quick, flexible responses can be taken for the characteristics of each market around the world.

In the aspects of durability and safety as well, it has applied many technologies that are befitting for a flagship product. A cutting-edge durability design technique was adopted, in addition to featuring the intelligent boom function, which eases the work impact on equipment, and all-around view monitoring (AVM), which enables a 360-degree view of the equipment's surroundings at a single glance, to maximize durability and safety. Moreover, it provides the DoosanCONNECT™ service as a standard feature which is a cutting-edge IoT solution that remotely monitors the construction equipment's location, operational status, and the status of its major parts, thereby substantially improving equipment maintenance convenience.

Demand for the 100-ton excavator is mostly for rocky mountains and mines. By strengthening the ultra-large lineup that brings together different technologies and offers a high level of profitability, we will solidify our leadership position in the market.

Special Equipment HDI is developing new markets by offering a wide range of special equipment customized for working conditions and worksite requirements, with the goal of improving work productivity and creating a safe work environment. The telescopic dipper (DX380LC-5) has a large 38-ton excavator at its base, and is equipped with a long arm and a sliding cabin, allowing excavating and loading up to 30 meters underground. It features outstanding stability, so that it is useful for digging at underground sites and for building foundations in congested areas in city centers. There is a high level of interest in using the telescopic dipper in urban construction sites. It was sold in 2021 for a subway construction project in Busan.

The front shovel is special equipment for which a specialized design was adopted for the boom, arm, and bucket in accordance with quarrying and mining work. Together with large dump trucks, it is mainly used for loading and unloading minerals. HDI launched an ultra-large 80-ton front shovel in April 2021 and sold it to Ukraine. This product's maximum bucket capacity is 5.0m^3, which is at least 30% larger than other excavators in the same class, and the bucket bottom is open with a hydraulic cylinder, allowing the loading of objects without tilting the bucket, resulting in a reduction of 50% or more in work cycle time compared to other wheel loaders in the same class. There are three types of bucket options that are available to customers in accordance with work object characteristics. The bucket can thus be used according to the environment it is used, resulting in increased customer convenience. In addition, we raised the boom/arm's strength and durability to withstand highly intensive work loads, and minimized equipment damage by attaching cylinder and pipe protection covers.

Special equipment, a telescopic dipper DX380LC-5

Completed release of the No. 1 front shovel, which is special equipment that has the DX800LC as the base, on April 20, 2021

At the "Korea International Construction Equipment Exhibition" held in 2021, HDI unveiled, for the first time in Korea, a 35-ton excavator for demolition (model name: DX350LC-7 Demolition). This product was created based on 35-ton excavators that are considerably used at demolition sites in Korea. By applying a long boom and long arm for demolition work, the excavator can work up to 18 meters above ground. We especially applied a modular joint (automatic pin removal system) to enable quick attachment and detachment of the front parts, including the bucket, boom, and arm, according to the work height, and used the quick coupler method for each hose part to enable easy attachment and detachment of various work instruments, resulting in a considerable reduction in work time and increased worker convenience. In addition, the cabin, where the operator is located, can be tilted up to 40 degrees, making it easy to secure a clear view during high-rise work. The boom and arm were designed to enable three-tier operation, thereby maximizing structure accessibility and work efficiency.

Going forward, we will continue to launch diverse special equipment to generate high added value while enhancing customer convenience and safety.

Launched an Electronic Marine Engine HDI recently released the DX12 model targeting a global market. The DX12 is an electronic marine engine that is eco-friendly because it substantially improved power and fuel efficiency compared to previous products. The new DX12 model features a 11.1-liter displacement and maximum 550 horsepower, and is applied to small- to mid-sized ships, mainly to fishing boats. The product features a common rail system that supplies and shoots out fuel at high pressure, leading to an improvement of at least 10% and 5% in power and fuel efficiency, respectively, from the previous mechanical engine. We also designed the engine size to be compact compared to competitors, in consideration of small- to mid-sized ships that have a small engine room, thereby raising spatial usability.

In particular, the new marine engine applied the highly efficient selective catalytic reduction (SCR) technology that blocks harmful substance emissions, making it an eco-friendly engine that meets the International Maritime Organization's Tier III regulations on air pollution prevention applied to ships. Also, it can use biodiesel (HVO) fuel that uses vegetable oil or eco-friendly fuel that was produced using Gas to Liquid (GTL) technology.

Ship exhaust gas regulations are steadily becoming stricter mainly in advanced markets, including Europe and North America, leading to demand for eco-friendly electronic marine engines. Based on the competitiveness that the DX12 electronic engine has in terms of fuel efficiency, durability, and aftertreatment technology, we also launched the DL06 model (6-liter) and DL08 model (8-liter), and plan to release an engine in 2022 that satisfies Tier 3 regulations of the US Environmental Pollution Agency (EPA).

HDI will continue expanding its eco-friendly, high-efficiency, cutting-edge electronic engine lineup by launching large (22-liter, 15-liter) engines.

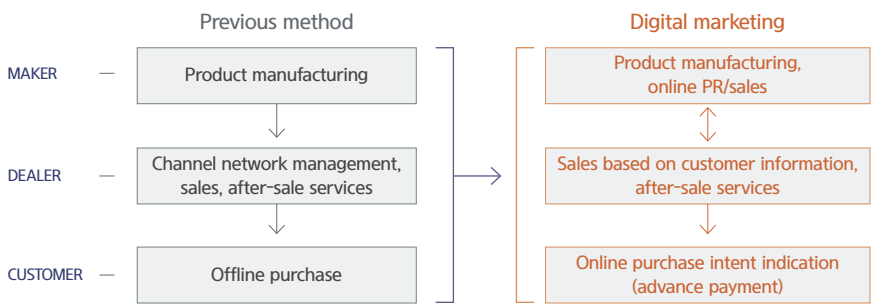
03

Expanding Digital Channels

Even amid the pandemic, HDI is strengthening online marketing that is based on diverse methods to provide information on new products and communicate with customers. We built a virtual showroom for the Korean market as well as Europe, emerging countries, and other overseas markets to provide major new product information in 360-degree views in virtual space, and also expanded the customer inquiry/consultation function to further enhance the digital customer experience.

Online Sales In China, demand for wheel excavators that can be driven on roads is on the rise as urbanization progresses rapidly. HDI's Chinese subsidiary, HDIC, has analyzed the market to raise customer satisfaction levels toward crawler excavators and wheel excavators to find that there is a high level of interest in products that have price competitiveness rather than driving performance. In response, we launched the DX60W ECO, with increased price competitiveness, and implemented marketing activities led by maker through which we attract customers using the Chinese social media WeChat and connect them with dealers. As a result, after fully launching sales in July 2020, we sold a total of 1,421 units by June 2021. Sales of 6-ton wheel excavators rose 235% year-on-year.

The Chinese subsidiary opened an online parts shop on WeChat in November 2018 and began to provide HDI's purely genuine product one-stop services. Under COVID-19 circumstances, many companies experienced difficulty with using an offline sales network, but our Chinese subsidiary achieved year-on-year growth of 15% in annual sales from online sales in 2021 to reach CNY 170 million (around KRW 32.6 billion), on the back of the online parts shop. Also, the number of customers who actually made an online purchase went up by 49%.



Chinese Subsidiary's 2021 Online Sales Performance

174 CNY million[1)]

Sales
(Year-on-year growth of 15%)

9,413 persons

No. of customers who made an actual purchase
(Year-on-year increase of 49%)

[1)] Around KRW 32.6 billion based on the exchange rate as of May 2022

Online Virtual Showroom In 2021, HDI opened a virtual showroom page that enables viewers to examine the New 7M Series on its emerging market website. Launched in the first half of 2021, the New 7M Series is a model that targets emerging markets, where importance is placed on productivity and fuel efficiency, and has applied the global platform that was used in North America and Europe. It has two lineups – mechanical and electronic.

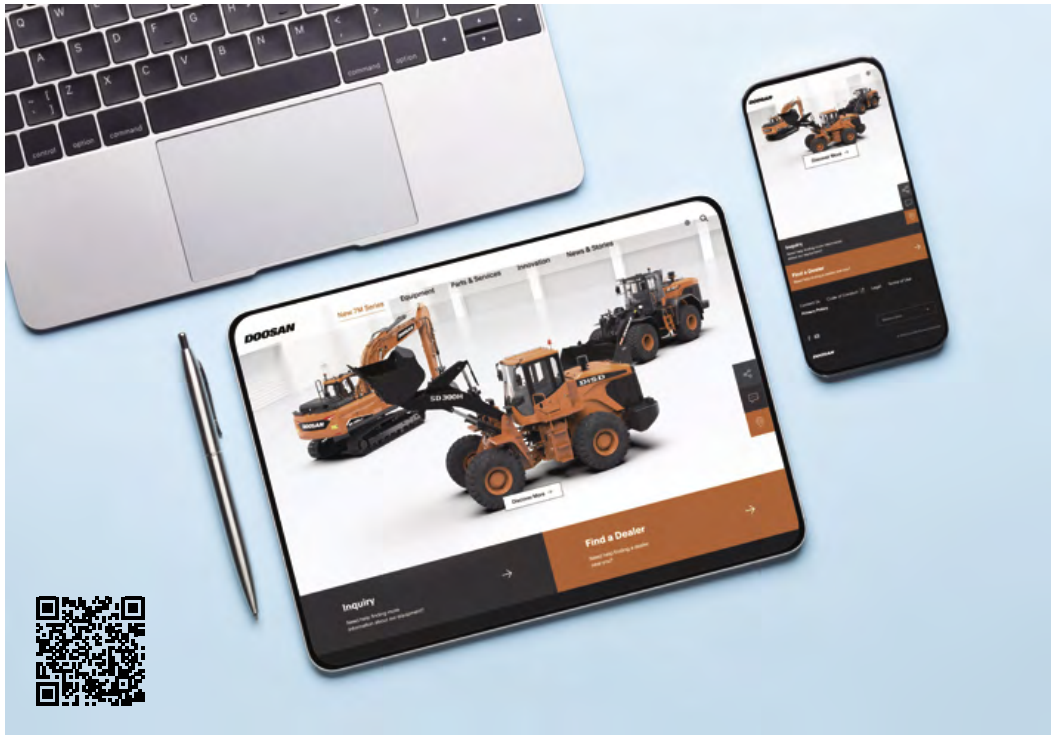
The importance of non-face-to-face marketing is gaining emphasis due to the pandemic. Accordingly, we gave deep thought to effective marketing methods for customers in emerging markets, and built a space that enables customers to experience online the special benefits offered by the New 7M Series. The showroom offers '3D 360-degree views' that allow customers to examine major equipment from various angles, and provides pop-up windows on main special benefits so that customers can easily understand the equipment. We also strengthened the customer inquiry and consultation function, resulting in increased convenience for customers who are interested in the equipment, and also built an optimized, responsive website to enable easy access from a mobile device. 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". We plan to choose excavators and wheel loaders to which the 360-degree view can be applied in 2022 and additionally feature them. We also plan to open a virtual showroom page on our global websites, including Europe, in addition to the emerging market website.

Online Launch of New Products To promote the new "7 Series" to be launched in Korea in 2022, we worked with a YouTube channel, "Gulrosa TV[1)]" for live broadcasting of the new products. HDI became the first in the domestic construction equipment industry in 2020 to hold an online new product launch event, and has been steadily gaining a good response from customers in Korea. At the online launch event that was participated by around 5,500 people, we showcased a 24-ton full electronic hydraulic excavator and enabled participants to have their curiosities resolved in real time by posting comments. The 7 Series applied an eco-friendly engine that satisfies the latest Stage V regulations in Korea, and considerably adopted convenience functions that were requested by customers, such as a smart key, 8-inch touchscreen monitor, and four LED lamps to raise nighttime workability.

By actively reflecting customer feedback on equipment in new product launches through active online marketing, HDI achieved a record high performance (KRW 620 billion) in the domestic market last year.

Social Media-based Customer Service HDI's Chinese subsidiary, HDIC, developed a new call center system that allows customers to ask questions regarding complaints through the social media WeChat, in addition to telephone. Serving as a call center that manages the dealer network, dealers can receive complaints through the call center and be provided with necessary services, and can conduct a satisfaction survey for provided services. To address the issue of the previous call center becoming old and having maintenance issues, HDIC commenced the development of a customer service system in the second half of last year and completed development in March 2022. The new customer service system has substantially improved customer accessibility. Customers can communicate with the company through diverse channels, including telephone and WeChat. In addition, various types of message functions are available, including text, drawing, link URL, short video, and audio, to enable more accurate communication of requests by type. In particular, we adopted a software exchange method for system construction to result in reduced upgrade and maintenance costs. In addition, we anticipate many future scalability applications, including 24-hour text and voice smart consultation and smart text conversion of calls.

Going forward, HDI will continue to use the online channel as a marketing channel to unveil new products that bring together in-house technologies to a greater number of customers as well as a channel that can enhance customer accessibility.



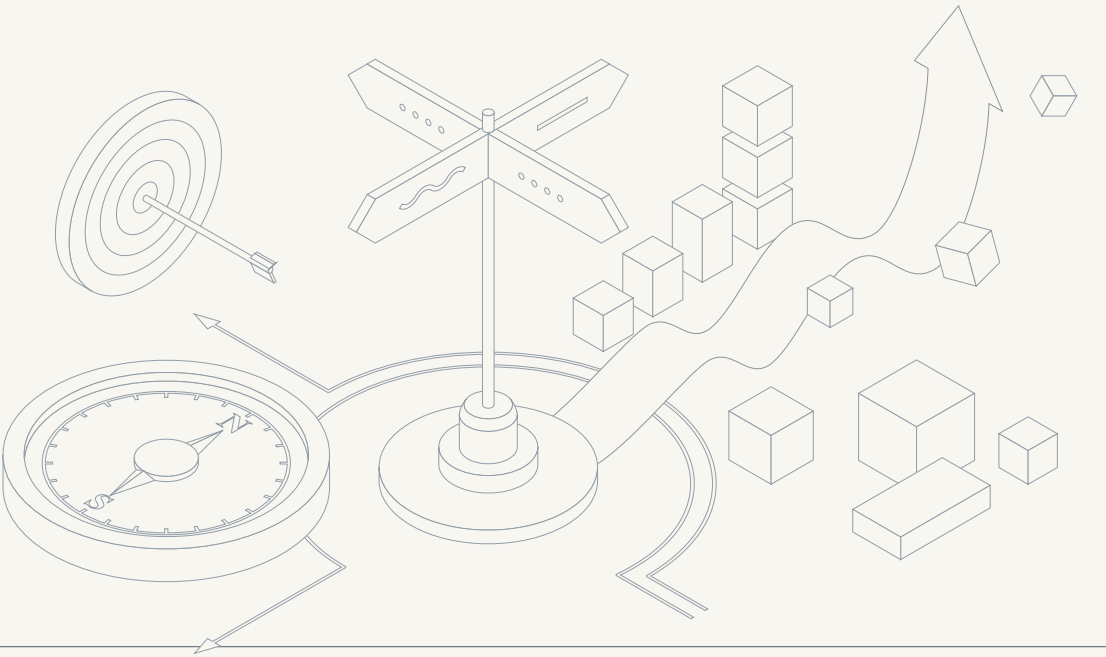
Optimized responsive website per device, including PC and mobile device

[1)] Gulrosa: Meaning people who love excavators and wheel loaders

ESG PERFORMANCE

Stable Corporate Governance

HDI strives to enhance transparency in its decision-making process and protect the rights of shareholders and various other stakeholders. To this end, we have developed an independent governance structure under the principle of checks and balance.



Our Approach

HDI has built a healthy and transparent governance structure by ensuring the independence and expertise of its Board of Directors (BOD), centered on independent outside directors, and by establishing an internal decision-making system led by the committees within the BOD. We transparently disclose a variety of information related to corporate governance, including the composition of the BOD and the Board's major resolutions, through our website and a series of corporate reports.

Sustainable Value Framework

PROGRESS

Governance transparency HDI maintains our BOD composition above legal standards and is active in the Board operations, to build a foundation for a healthy and transparent governance structure and to increase our corporate value as well as shareholder value. To this end, we are managing the number of outside directors in composing our BOD and their attendance at the Board meeting.

Percentage of outside directors (Unit: %)

N/A

Goal for 2025

2019	2020	2021
57.1	62.5	60

BOD meeting attendance rate of the directors (Unit: %)

N/A

Goal for 2025

2019	2020	2021
92.9	97.1	94.4

Governance

Composition of Shareholders and Equity

As a result of a consolidation of shares from a division-merger, the number of shares owned by Doosan Heavy Industries & Construction (currently Doosan Enerbility), which was the largest shareholder before the change, decreased from 75,509,366 shares to 23,445,461 shares on July 1, 2021, and all of these shares were transferred to the HD Hyundai, etc.[1] according to a share purchase agreement dated February 5, 2021. As a result, HDI's largest shareholder changed from Doosan Heavy Industries & Construction to Hyundai Genuine.

HDI is an affiliate of the Hyundai Heavy Industries Group's Construction Machinery Sector, with 15 consolidated subsidiaries[2] being operated across the globe. As of the end of 2021, the number of shares issued stood at 197,434,567, of which the largest shareholder, Hyundai Genuine, owned a 33.35% stake.

[1] HD Hyundai, etc. transferred their status in the share purchase agreement to Hyundai Genuine on April 9, 2021.

[2] Based on business reports

Shareholders with 5% or More Shares

Shareholder	Ownership
Hyundai Genuine	33.35%
National Pension Service	5.32%
Employee Stockholders Association	7.54%

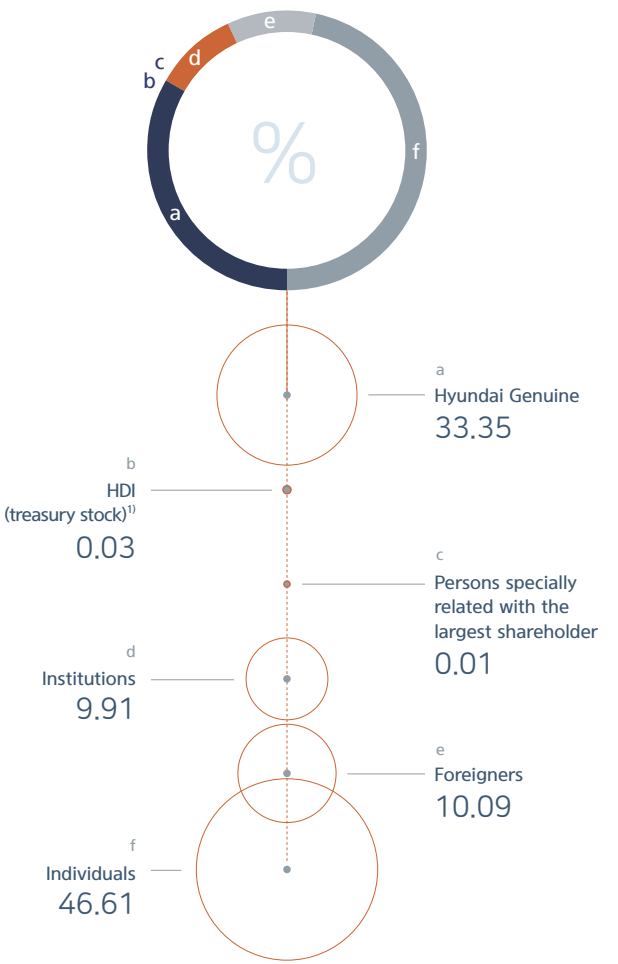
* As of December 31, 2021

** As a result of a M&A with Doosan Heavy Industries & Construction (spin-off date of July 1, 2021), HDI shares were consolidated at a ratio of 0.3104974 share per 1 share. As a result, the number of shares issued decreased from 252,205,747 shares to 78,309,228 shares.

*** The execution of a share purchase agreement that accompanied a change in the largest shareholder on August 19, 2021 resulted in a change in the largest shareholder from Doosan Heavy Industries & Construction to Hyundai Genuine.

**** Doosan Heavy Industries & Construction, which was the largest shareholder before the change, signed a share purchase agreement that sold HDI-issued common shares and stock warrants that it owned to HD Hyundai, etc. (hereinafter referred to as 'the share purchase agreement') on February 5, 2021. The buyer status in the share purchase agreement was transferred from HD Hyundai, etc. to Hyundai Genuine, which is the largest shareholder after the change, on April 9, 2021.

Ownership Structure



* Based on number of shares issued as of December 31, 2021

[1] No voting rights

Shareholder and Investor Communication

Communication Channels HDI actively seeks out the expectations and demands of its shareholders, investors, customers, and other stakeholders when making key decisions. We strive to attract investments in the global market by earning recognition for our genuine values in terms of growth potential and technological prowess. To this end, we have established an investor-friendly investor relations (IR) strategy and carry out shareholder-friendly communication. In addition, we hold company briefings and securities investment conferences, and also invite institutional investors to our worksites to offer them diverse and reliable information.

Protection of Minority Shareholders HDI has adopted and operates a paper ballot, an electronic voting system, and an electronic proxy solicitation system, aimed at protecting voting rights of its minority shareholders. When sending out notices of an annual general meeting (AGM), we enclose paper ballots so that shareholders can exercise their voting rights if absent. Their votes are valid under the condition that they arrive at the company one day prior to the date of an AGM.

Disclosure of Corporate Information HDI complies with all applicable legal disclosure requirements. We also strive to disclose information in a balanced manner, concerning our financial and non-financial activities, through the voluntary disclosure of our compliance program (CP) status and ESG activities.

Status of Disclosure Activities

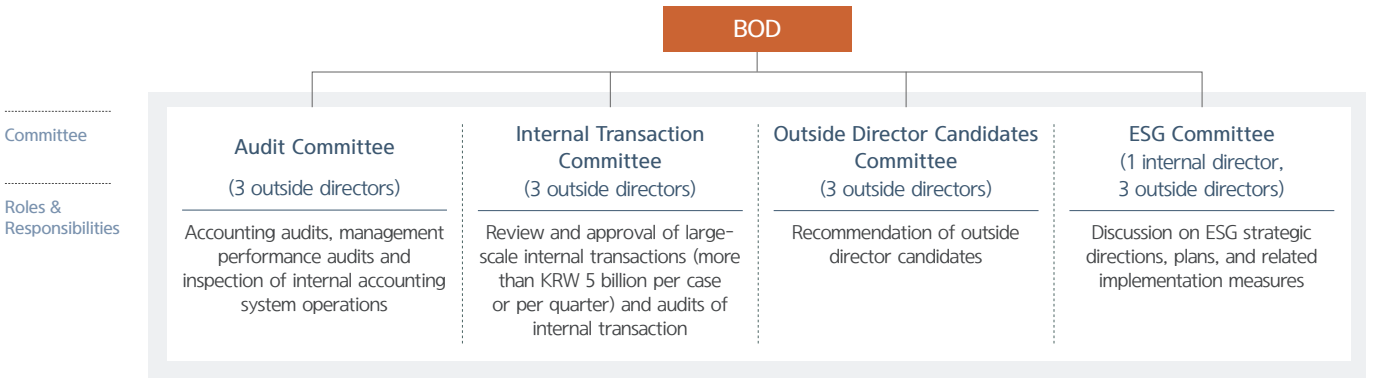
- **Financial** Disclosure of provisional statistics on sales performance; Quarterly and biannual reports and statements of affairs; Disclosures relevant to AGM and special shareholder meetings; Disclosure of changes in the shareholding structure; and Disclosure on the Online Provision of Enterprises Information (OPNI) system operated by the Korea Fair Trade Commission, etc.
- **Non-financial** Status of CP operations; Disclosure of ESG activities including integrated reports; and Disclosure of information through company presentations, etc.

Operation of an Independent BOD

Composition and Operations of the 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. It is also in charge of checks and balances for the transparent management through its independent decision-making practices regarding the company's long-term growth and major management issues. The BOD of HDI consists two internal and three outside directors who were transparently appointed through an AGM as of the end of December 2021. (Three internal and five outside directors before March 25, 2021) Outside directors are appointed through the Outside Director Candidates Committee in consideration of their ownership of the company's shares, potential conflicts of interest, careers with the company's competitors, diversity and stakeholder representativeness. As of the end of December 2021, the average tenure of the Board members is 3.83 years.

There are four committees under the BOD – the Audit Committee, which is responsible for guaranteeing the transparency and independence of audit procedures; the Internal Transaction Committee, designed to improve the transparency of corporate management through the establishment of CP; the Outside Director Candidates Committee, an authority to recommend outside directors; and the ESG Committee, aimed at enhancing corporate and shareholder value by strengthening ESG management.

Intra-organizational Decision-making System



Composition of BOD

Position	Name	Area of Expertise	Main Role	Major Career	Appointment Date	No. of Reappointments
Internal Director (CEO)	Cho, Young Cheul	Business administration, finance	Oversees overall company-wide management	Current) Chair, Hyundai Doosan Infracore BOD CEO, Hyundai Doosan Infracore Former) Management Support Department Head, Korea Shipbuilding & Offshore Engineering	Sep. 10, 2021	
Internal Director (CEO)	Oh, Seung Hyun	Technology, industry	Oversees overall company-wide management	Current) CEO, Hyundai Doosan Infracore Former) Director of Construction Equipment Development Department, HDI	Mar. 21, 2022	
Outside Director	Yoon, Sung Soo	Finance, accounting	Audit Committee Chairperson Internal Transaction Committee Outside Director Candidates Committee ESG Committee	Current) Professor, Korea University Business School Former) Assistant professor, Graduate School of Business, UCLA	Mar. 25, 2021	1 Once
	Lim, Sung Kyoon	Economy, tax	Audit Committee Internal Transaction Committee Outside Director Candidates Committee Chairperson ESG Committee	Current) Chairman, Dasol Tax Accounting Corp. Former) Director, Gwangju Regional Tax Office	Mar, 24, 2020	
	Lee, Deuk Hong	Legal affairs, policy	Audit Committee Internal Transaction Committee Chairperson Outside Director Candidates Committee ESG Committee Chairperson	Current) Representative Lawyer, Law Firm Dambak Former) Chief Prosecutor, Seoul High Prosecutors' Office	Mar. 24, 2020	

* As of March 21, 2022

** The tenure of an internal director and an outside director is by the end of AGM for the second and third fiscal year after his/her appointment, respectively.

*** On March 25, 2021, internal director Go, Seok Bum and outside directors Han, Seung Soo and Yoon, Jeung Hyun resigned at the end of their term of office. On March 25, 2021, outside director Yoon, Sung Soo was reappointed.

**** At a BOD meeting on March 21, 2022, internal director Oh, Seung Hyun was appointed and internal director Sohn, Dong Youn resigned.

BOD Activities in 2021 All directors are allowed to participate remotely in the BOD meetings via telecommunication devices capable of transmitting audio and video data. Directors shall not delegate their authority to a proxy. Directors with a vested interest in a particular agenda item are prohibited from voting on it so as to maintain transparency in the decision-making process. In 2021, the BOD held 16 meetings during which deliberations and resolutions were made on a total of 53 agenda items, including the company's business performance, an inspection of internal accounting system operations, the operation of CP, approval for signing a division-merger contract, approval for establishing the ESG Committee, and approval for a safety and health plan. The average attendance rate of the directors in 2021 was 94.4%.

Increasing Director Expertise HDI supports outside directors' performance of duties through education. In addition to providing education on the company status to newly-appointed outside directors, we provided internal accounting system-related education to the Audit Committee through Samil Pricewaterhouse Coopers, thereby enhancing directors' expertise as members of the Audit Committee.

Board Meetings Held in 2021

1/2

Order	Date	Agenda items	Approval	Number of attendees	
				Internal directors	Outside directors
1	Jan. 08	Approval of terminating the existing lease contract and signing a new lease contract for Doosan Tower in Bundang	Passed	3 (3)	5 (5)
2	Feb. 08	Report on the 2020 business performance	-	3 (3)	5 (5)
		Approval of 2020 financial statements and business report	Passed		
		Approval of 2021 management plan	Passed		
		Approval of self-dealing transaction with Doosan Engineering & Construction	Passed		
3	Mar. 04	Report on the status of internal accounting system operations in 2020	-	3 (3)	5 (5)
		Report on the inspection of the internal accounting system in 2020	-		
		Report on the 2020 audit	-		
		Report on operational performance of compliance criteria and fair trade compliance in 2020	-		
		Approval of convening of the 21st AGM and purpose of the meeting	Passed		
		Matters on adopting the electronic voting system	Passed		
4	Mar. 19	Approval of signing the M&A transaction	Passed	3 (3)	4 (5)
		Approval of a DINA Carve-out transaction	Passed		
		Approval of convening of a special shareholders' meeting and purpose of the meeting	Passed		
		Approval of setting the base date for shareholder finalization	Passed		
		Approval of signing an agreement for additional DICC share acquisition	Passed		
5	Mar. 25	Matters on appointing the CEO	Passed	2 (2)	3 (3)
		Matters on appointing a member of the Internal Transaction Committee	Passed		
		Matters on appointing a member of the Outside Director Candidates Committee	Passed		
		Approval of payment guarantee for overseas subsidiary debt	Passed		
		Approval of a branch change	Passed		
6	Apr. 15	Approval of signing an agreement on changing the division-merger contract	Passed	1 (2)	3 (3)
7	Apr. 27	Report on the business performance for the first quarter of 2021	-	1 (2)	3 (3)
		Approval of transaction with the affiliate	Passed		
8	Jul. 01	Approval of a public notice that replaces an AGM to report matters on the M&A transaction	Passed	2 (2)	3 (3)
9	Jul. 27	Report on the business performance for the first half of 2021	-	-	-
10	Jul. 29	Approval of convening of an extraordinary general meeting and purpose of the meeting	Passed	1 (2)	3 (3)
		Approval of setting the base date for shareholder finalization	Passed		

BOD Evaluation and Remuneration The remuneration of internal and outside directors is determined within the limits approved by the AGM. The internal directors are paid according to a performance-based compensation system that links their compensation to their management performance. Directors receive performance bonus based on the management performance of their respective self and organization in addition to base annual pay. The outside directors' performance evaluation is based on their attendance at BOD and committee meetings, industry expertise, level of contribution, and performance at the Board meetings. This is reflected in an evaluation by the Outside Director Candidates Committee when an outside director is subject to reappointment after the end of his/her term. To ensure their independence from the management and controlling shareholders, members of the Audit Committee receive remuneration only as directors and are prohibited from receiving any other types of compensation.

The total amount of approved pay for directors and auditors in 2021 was KRW 15,000 million, of which KRW 2,331 million was actually paid, with the average compensation per person standing at KRW 259 million. The actual payment amount was calculated based on the pay for four registered directors and five members of the Audit Committee who were paid from January to December 2021. It includes payment until retirement of the outside directors who retired in 2021 and payment starting from the appointment of a new outside director.

Board Meetings Held in 2021

2/2

Order	Date	Agenda items	Approval	Number of attendees	
				Internal directors	Outside directors
11	Aug. 18	Approval of signing a DICC shares sale contract	Passed	1 (2)	3 (3)
		Approval of signing a brand license agreement with Doosan Corporation	Passed		
12	Aug. 25	Approval of purpose of an extraordinary general meeting	Passed	1 (1)	3 (3)
13	Sep. 05	Approval of partial withdrawal of purpose of an extraordinary general meeting	Passed	1 (1)	3 (3)
14	Sep. 10	Appointment of the BOD chairperson and convening authority holder	Passed	2 (2)	3 (3)
		Appointment of a compliance officer who also serves as the compliance manager	Passed		
		Approval of a paid-in capital increase	Passed		
		Approval of a transaction with Hyundai Genuine in relation to a paid-in capital increase	Passed		
		Approval of short term bond issuance limit	Passed		
15	Oct. 21	Report on the business performance for the third quarter of 2021	-	2 (2)	3 (3)
		Matters on appointing the CEO	Passed		
		Matters on appointing the BOD chairperson and convening authority holder	Passed		
		Approval of a transaction in relation to Hyundai Genuine's exercise of stock warrants	Passed		
		Approval of payment guarantee for the affiliate	Passed		
		Approval of borrowings from the Korea Eximbank	Passed		
		Approval of signing a business agreement and management advisory/support contract	Passed		
16	Dec. 07	Approval of 2022 management plan	Passed	2 (2)	3 (3)
		Approval of a transaction with Hyundai Genuine	Passed		
		Approval of establishment of the ESG Committee and enactment of operating regulations	Passed		
		Approval of delegating the debenture issue limit to the CEO	Passed		
		Approval of a change in Hyundai Genuine paid-in capital increase participation	Passed		
		Approval of disposal of treasury stock	Passed		
		Approval of setting the base date for shareholder finalization	Passed		
		Approval of partial revision of regulations related to executive officers and retired officers	Passed		
		Approval of safety and health plan for 2022	Passed		

Integrity & Risk Management

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

Our Approach

HDI practices transparency in its management through various and immediate disclosure of company information to its stakeholders. We go beyond simple compliance to implement truly ethical management as the basis for all decisions taken within the organization. A strict system of internal controls enables us to run our business transparently, while we secure the safety of management environment through preemptive risk management.

Ethical Management

Ethical Management Operation Policy

Hyundai Heavy Industries Group detailed the ethics charter by area and established the “Code of Conduct”, which serves as the standard for ethical conduct, and the “Guidelines on Practicing Work Ethics”, which provides guidelines on detailed behavioral judgments and work handling, to implement effective ethical management. In addition, various factors are reflected in amendment work, including the establishment of ethical management-related laws, such as the Act on the Prevention of Corruption, increasing social awareness of ethical management, and regulations that prohibit giving and receiving funds for congratulatory and consolatory occasions, to result in increased ethical management effectiveness. All employees of HDI are responsible for fully understanding and complying with work-related laws and internal regulations, including the Code of Conduct. The company-wide operation system is connected to the ERP, e-procurement, evaluation of internal control, and fair trade compliance systems as a way to improve the transparency and efficiency of its business activities. The Legal Team is in charge of auditing ethical management of the company, while the Internal Control Team develops the internal control system and evaluates its operations.

Communicating and Promoting Ethical Management

HDI discloses the Code of Conduct on its website and operates a cyber reporting center that can be accessed by internal and external stakeholders with ease. To prevent recurrence of Code of Conduct violations, we clearly identify the process and cause of issues that arise during the work process, and share a white paper. To build a transparent ethical management system, we urge new employees to sign a written oath pledging their compliance with the Code of Conduct.

Percentage that submitted the statement of interests

98.2%

We also require new suppliers to submit a written oath pledging not to engage in unethical business practices. 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. In 2021, 98.2% of respondents required to submit the statement submitted it (all submitted excluding employees on leave/resigned and dismissed employees). In addition, the CEO sent a letter to suppliers and we provided training through general supplier meetings to encourage our suppliers to practice the Code of Conduct.

Establishment of Fair Trade Practices

HDI adopted the compliance program (CP) in 2002 to ensure transparent business operations and fair competition. We are making efforts and engaging in activities to fully establish a culture of fair and horizontal transactions meeting global standards. We post the CEO's declaration on compliance that reflects a strong commitment towards fair trade and four major pledges that should be observed in all transactions — contract for mutual prosperity between the conglomerate and small and medium-sized enterprises; selection and operation of suppliers, establishment and operation of the internal subcontract deliberation committee; and issuing and keeping the document, which is desirable in the subcontract — on our website and comply with them.

To protect the technical data of subcontractors, which is emerging as a social issue, we developed the Subcontractor's Technical Data request Management (STDM), an integrated technical data management system, in 2018. We recently reflected the amended Fair Transactions in Subcontracting Act that will be enforced in 2022 so that when a technical data request form is created in the system, a confidentiality agreement is also signed to strictly protect subcontractors' technical data. In addition, we 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. For cases which we have doubt over violation of laws, we internally take corrective actions in a timely manner.

Moreover, we are providing training on fair trade-related laws to enhance employees' compliance mindset, prevent violations of fair trade-related laws, and deal with any violations promptly. Even in the continued COVID-19 circumstances, we provide small group training based on requests and unlimited online training to increase training credibility and efficiency. As a result, a total of 790 employees participated in the training on the basics of subcontracting-related laws and dealers-related laws. In addition, we identified trends of regulatory authorities, decree decisions[1)] of the Fair Trade Commission, and amendments to relevant laws, and communicated the information to relevant employees through email, internal portal, and other means.

In 2022, we will maintain and strengthen existing compliance activities, and amend and distribute the compliance manual by reflecting recently-amended fair trade-related laws to provide employees with a code of conduct in relation to observing fair trade-related laws. By doing so, we will remove relevant risks by preventing fair trade-related law violations and making improvements, thereby fully establishing an organizational culture of compliance as a participant of free and fair market order.

Compliance with the Anti-graft Law

In Korea, the "Improper Solicitation and Graft Act", also known as the anti-graft law, went into effect on September 28, 2016. Intended to prevent public officials' corruption, 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. HDI has been carrying out various activities to raise awareness among all its employees in Korea and expatriate employees in China. We also have a relevant organization in place to conduct regular monitoring and offer necessary legal advice.

1) Decree decision: Decision rendered by an administrative appeals agency rather than the court, after deliberating a civil complaint

Internal Controls

Internal Accounting System

HDI established the Hyundai Doosan Infracore Internal Control Assessment System (HICAS), an internal control evaluation system, in 2006, with the goal of improving its operational transparency and work soundness, and has been operating an internal accounting system. 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. HDI conducts corruption risk assessments on 31 items, including unfair financial reporting, asset misappropriation, and corruption. We reflect the results of these assessments in our internal accounting system, and in the implementation of annual internal audit plan, thereby managing related risks.

Report-Receiving Channels

HDI has a number of internal and external reporting channels which enable the reporting of any unethical acts or behavior, including the receipt of money and bribes, involvement in unfair business practices, corruption, and any violations of related laws and internal regulations such as the Code of Conduct. These channels include the website, postal mail, telephone, fax, email, and in-person visits. The Cyber Reporting Center on the ethical management page of Hyundai Heavy Industries Group is available in Korean, English, and Chinese, and HDI employees or any external stakeholder can file a report under their real name, or anonymously. The company guarantees the confidentiality of the identity of the person making the report and its contents, and it also prohibits any measures being taken against the person making a report in good faith. Matters being reported are processed rapidly, and the whistleblower is notified of the results and the measures to be taken, with these measures also shared within the company to improve awareness of the importance of ethics.

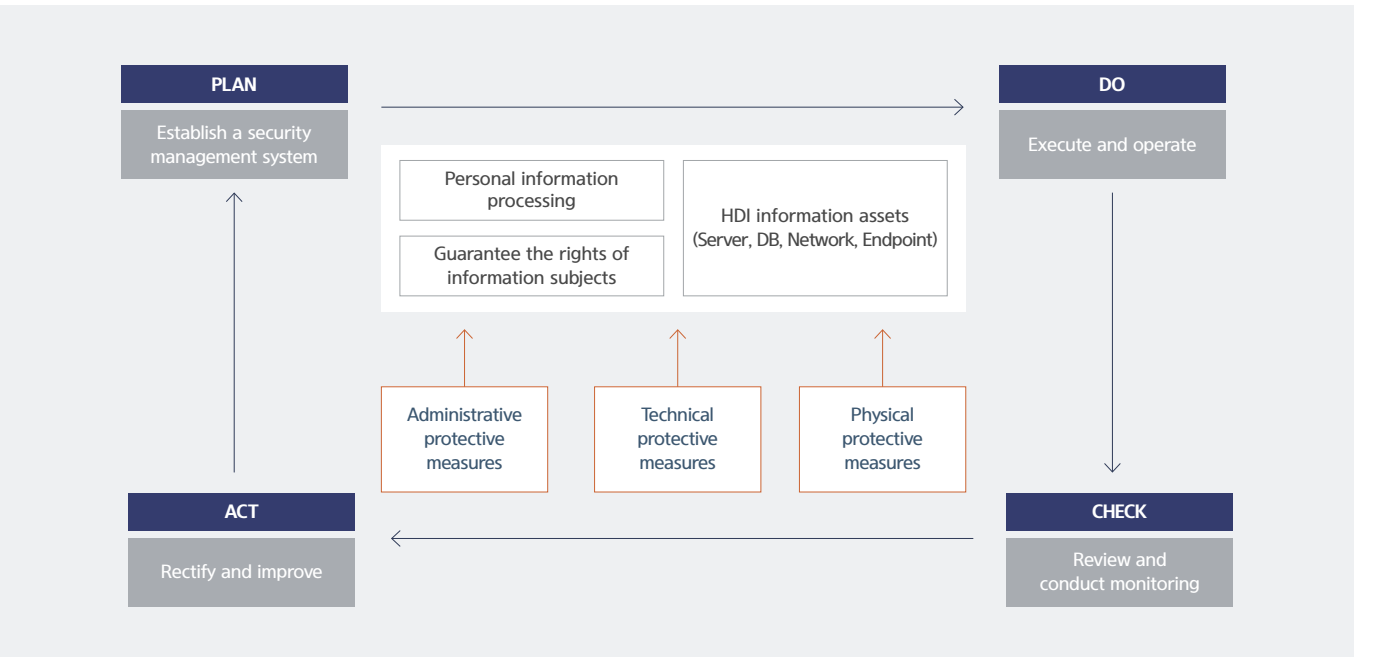
Information Security

With the rapid development of information and communications technology, the importance of information security is increasing substantially as security threats related to personal and corporate information rise exponentially. HDI has responded to potential issues around information security and cyber terrorism by strengthening its IT security systems, identifying potential risk factors, and increasing employee awareness of the risks and appropriate responses. We operate an integrated and advanced IT system, to strengthen our information security, with the Data Center obtaining Information Security Management System (ISMS) certification every year since first being certified in 2013. We also conduct business continuity planning (BCP) drills so that we can be prepared to respond to any attacks on the business promptly and effectively. In addition, our Information Security Part conducts regular in-depth risk assessments on the information protection management systems to identify vulnerabilities and make improvements.

In 2015, we fully upgraded the information security policy, that had been originally established in 2013, by categorizing it into general security regulations and detailed guidelines. The latter includes personnel security, protecting trade secrets, security management for information assets and devices, information system security, facility security, audit security, security incident response, and cloud security. Since the upgrade, we have been updating the policy, if needed, after an annual review, and share the information security policy on the internal company portal. In addition, all employees must attend annual information security training, which covers email security, the prevention of leaks of information after retirement or changing jobs, managing trade secrets, managing PCs, and personal information management. HDI has appointed a Chief Information Security Officer (CISO) to define the roles and responsibilities of the key personnel within the company's information security systems.

In the event of an issue arising with information security, all employees involved are required to report it to their department head and to the Information Security Department in accordance with the company's security incident response guidelines. The Department will then take action, according to the process for each type of incident involved.

Information Security System



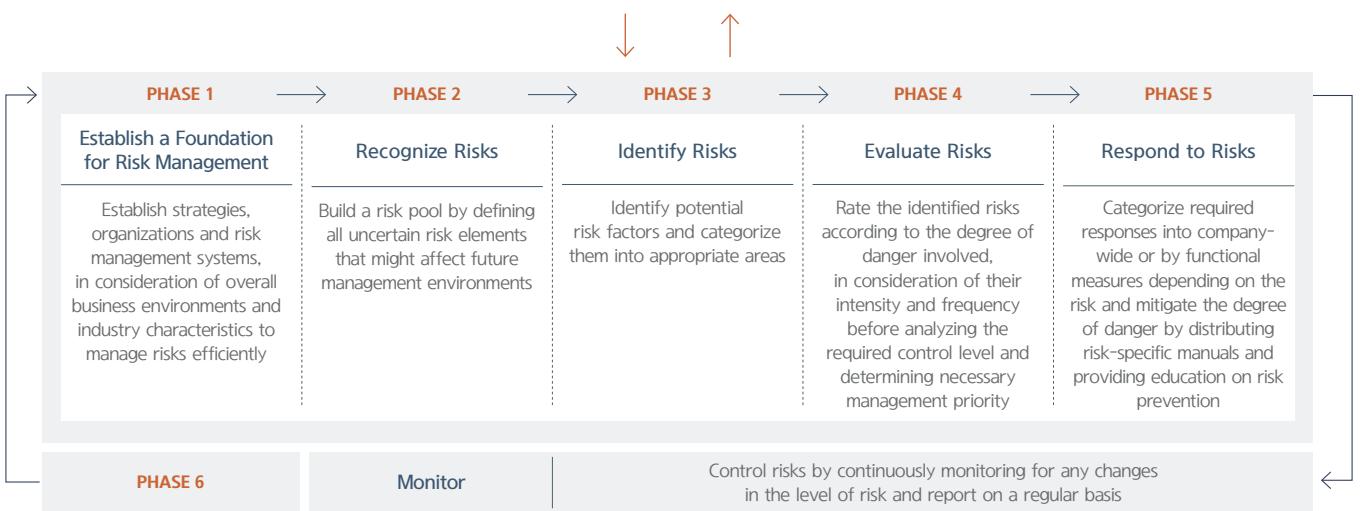
Risk Management

Integrated Risk Management

Risk Management Organization HDI identifies potential risks, develops countermeasures against such risks, and discusses risk prevention led by the monthly management meetings and ESG Management Committee meetings participated by senior management. In the management meeting, the CEO and key executives discuss such issues as short-term financial, non-financial, and emerging risks, and establish appropriate countermeasures. 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.

Risk Management Process HDI has established a risk management process which is designed to enable its executives and working-level staff to detect potential risks threatening corporate value and profits, and to take prompt actions. The risk management processes ensure effective risk controls through various elements, such as identification of risk factors, assessment of the potential impacts of risks on the company, establishment of countermeasures, monitoring of changes in risk levels, and constant reporting based on a coherent reporting system.

Risk Management Process



Scope of Risk Management

Financial Risk HDI has classified its financial risks into four types – market risk, credit risk, liquidity risk, and capital risk – and monitors and manages them by risk type. We monitor the market risks based on foreign exchange and interest rates. Foreign exchange risks are related to future transactions, existing assets and liabilities, and investments in overseas operations. We undertake hedge trading to reduce volatility in profitability due to the effects of changes in foreign exchange rates.

Interest rate risks are related to adjustable rate deposits and loans. We minimize external loans through our reserve funds, reduce high interest rate loans, improve the borrowing structure, monitor changes in interest rates, and establish countermeasures.

Credit risk arises from transactions or investment activities when customers or business partners do not follow the conditions of the relevant business agreements. HDI manages our credit risks with the goal of minimizing losses under our credit policies. For credits in which default is anticipated at the end of the fiscal year, we properly assess the risks and address the results in our consolidated statements of financial position.

To prevent liquidity risk arising from a lack of liquidity or difficulties in financing needed for normal operations, we establish three-month and annual funding plans to predict the funding required related to sales, investments, and financial activities, and to secure and maintain the required liquidity in advance.

Capital risk management involves the maintenance of an optimum capital structure to ensure our capabilities to provide our shareholders and other stakeholders with corporate profits while reducing capital expenditure. We maintain our capital in alignment with debt ratio, while also managing capital risks by adjusting dividend paid to shareholders, repaying share capital, and issuing new shares and selling assets to reduce debts.

Non-financial Risk Non-financial risks are categorized into product, ethics and compliance, the environment, safety, and disaster risks, and HDI has established a preemptive risk response system for each. We strive to improve customer safety and satisfaction through a range of activities aimed at improving product quality 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, HDI 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.

HDI minimizes safety risks and increases employee awareness of health and safety by focusing on preventative action and offering extensive health and safety training. 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.

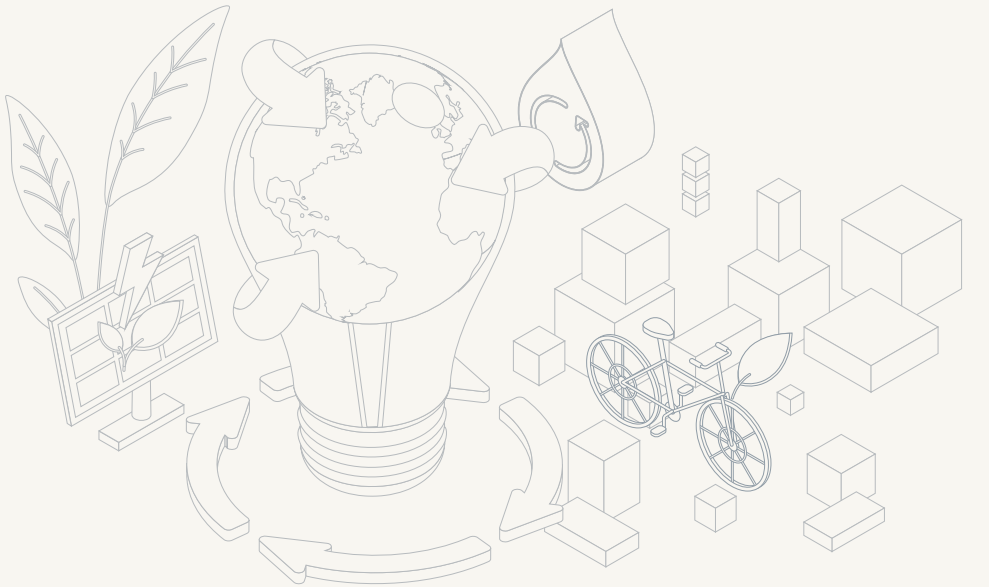
Emerging Risk With society changing faster than ever before, new and diverse economic, environmental, and social risks continue to emerge. HDI, therefore, analyzes the trends shaping the global economy and consumer sentiment, as well as changes in culture and institutions. Based on the analysis results, it identifies emerging risks that are relevant to the company, and implements countermeasures in its business operations.

Emerging Risk

Risk type	Background	Our Response
Global economic slowdown	· Construction equipment and engine industries are business areas that are significantly impacted by changes in demand of front-end industries, including the energy industry, construction business, and automobiles business. Demand is considerably influenced by economic trends and national SOC investment policies. · Price competitiveness changes by country due to exchange rate fluctuations.	· Aim for entry into new markets so as to diversify the company's global portfolio (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	· Major countries are announcing net-zero policies and accelerating the transition ta 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.	· Established a detailed plan to achieve worksite carbon neutrality by 2050 · 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	· Shortage of skilled manpower in the construction industry. · Difficulties in acquiring manpower may lead to difficulties when conducting a large-scale project and higher exposure to safety risks.	· Presented what future autonomous construction sites would look like through a Concept-X demonstration in 2019 which will enable construction sites with enhanced efficiency and safety · Launched "XiteCloud" in 2021 - an all-in-one platform for smart construction
Digital transformation becomes a part of daily life and the metaverse expands	· The Fourth Industrial Revolution and the pandemic made digital transformation a part of daily life, and the expansion of ecommerce and the metaverse is gaining speed.	· 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	· 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.	· Conduct monitoring of matters related to supply chain, such as the operation status of companies and the state of the logistics chain, frequently · 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 HDI's EBIT impact due to raw material price increases; and Conduct monitoring of peer trends and take response
Personal information protection and information security	· Increasing security threats related to personal and corporate information, such as hacking and smishing techniques, following the development of information and communication technologies and the resulting sharp rise in the number of users. · Increasing risks of human rights violations in case of leakage of massive personal information collected, handled, and stored by a company.	· Conduct a risk assessment of the information protection management system, led by the Information Security Part, to identify vulnerabilities and take prompt actions; and Provide information security training for employees; and obtain the Information Security Management System (ISMS) certification

Environmental Management

At HDI, environmental values and safety culture are non-negotiable principles in achieving sustainable growth.



Our Approach

HDI is striving to use resources more efficiently and to minimize its environmental footprint by reducing pollutant discharge based on its company-wide integrated environment, health & safety (EHS) management system.

2021 ESG STRATEGIC TASKS

Upgrade indices for carbon emissions and resource management HDI effectively responded to the third phase of the national emissions trading scheme that commenced in 2021 and made preparations to respond to external ESG-related standards and requirements by upgrading fine dust, waste, and wastewater management indices. We also have established a plan for carbon neutrality as part of our climate change response strategy, and obtained and maintain international EHS management system certification for both environmental and safety sectors.

ACTIVITIES AND ACHIEVEMENTS

Established a 2050 carbon neutral scenario; maintained international EHS management system certification (ISO 14001, ISO 45001); and adopted an environmental management index performance system

PLANS

Upgrade the IoT integrated environmental monitoring system; strengthen the environmental management system by upgrading environmental management indices; reduce greenhouse gas emissions at business sites; and review the adoption of renewable energy

Integrated EHS Management

EHS Management Strategies

In 1995, HDI established the EHS Management Policy in order to share key elements of its environmental management strategies both internally and externally. We amended the Policy for 10 times to set the current one which consists of five specific principles, including the operation of the EHS management system, through which the company promotes company-wide participation in EHS management. In addition, we declared our EHS management vision of becoming a "Global Leading Green Company", and established and implemented five strategic tasks in our efforts to achieve sustainable growth. The annual EHS plan and key tasks that are established every year based on the Management Policy are applied as a KPI of the executive in charge and relevant departments, and managed along with the EHS organization.

EHS Management System

HDI has been enhancing the level of its EHS management by systematizing relevant organizations under the EHS Policy and strategies, operating an EHS management system at its global business sites, obtaining international certifications, reviewing the status of implementation and managing performance, and operating an EHS IT system. We make continuous efforts to better respond to changes in the internal and external environment, such as stricter EHS regulations in Korea, increased demand for corporate social responsibility, the upward trend in the rate of safety accidents, and more focus on on-site inspections by external organizations.

To this end, in 2021 we strived to establish an ESG culture, respond to climate change, minimize environmental impact, upgrade the integrated environment monitoring system, aim for advanced compliance, re-establish the safety and health management system, and fully establish a safety culture. In 2022, we will implement tasks mainly in the direction of minimizing worksite environmental impact and strengthening the environmental risk management system.

EHS Organization In response to the expansion of our overseas business sites and the increasing concerns over global environmental issues, we are implementing systematic and effective EHS management, with central roles performed by the EHS organization[1] at the Incheon Plant, the company's head office. Moreover, we established a global EHS governance in 2017, and have been strengthening the EHS support and management by building a company-wide EHS risk management system, sharing our EHS policies, and establishing a joint response system for global issues related to REACH and climate change. We established a COVID-19 response system in 2021, based on which we have been quickly responding to the unprecedented pandemic. We also hold monthly EHS steering meetings by Business Group to discuss EHS issues and share the progress of EHS goals. The ESG Management Committee, composed of the CEO and BG head-level executives, makes decisions on EHS-related policies, plans, and activities. In November 2019, the "EHS Session" was created to check the progress of the company's EHS targets and to further raise leaders' interest. Starting in 2020, we held an EHS Session in each half of the year, with the CEO and executives in charge of production in attendance, and shared information on amendments to safety and environment-related laws, key implementation plans that reflect these changes, and the status of EHS by business group.

5 Strategic Tasks for EHS Management

[1] As of April 2022, Environmental Management Team, Safety and Health Team, Safety and Health Planning Team

EHS Policy

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 and agreements, establish strict internal management standards, and faithfully implement them.

Development of Eco-friendly Technology to Boost Customer Safety

We develop eco-friendly technologies that place top priority on our customers' health and safety, and then preserve resources and energy to actively contribute to sustainable environmental conservation and fight against global warming.

Realization of Zero Occupational Accident

We 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.

Environmental Management Certified Worksites

Korea (Incheon, Gunsan, Ansan, Boryeong) China (Yantai)	ISO 14001
Korea (Incheon, Gunsan, Ansan, Boryeong) China (Yantai)	ISO 45001

EHS Management System HDI has put an EHS management system in place based on international standards, and examines the operation of its EHS 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 and ISO 45001 standard for health and safety, and through safety inspections on hazardous machines and equipment and the Process Safety Management (PSM) system. They also remove industrial accident risk factors.

In 2020, our business sites in Korea received follow-up inspections in line with the continuous monitoring system of the ISO 14001 certification and passed for conformity. Also, the previous OHSAS 18001 certification was changed into the ISO 45001 international standard certification to result in higher public confidence, and we established and amended our internal EHS standard accordingly.

EHS Performance Management and Monitoring

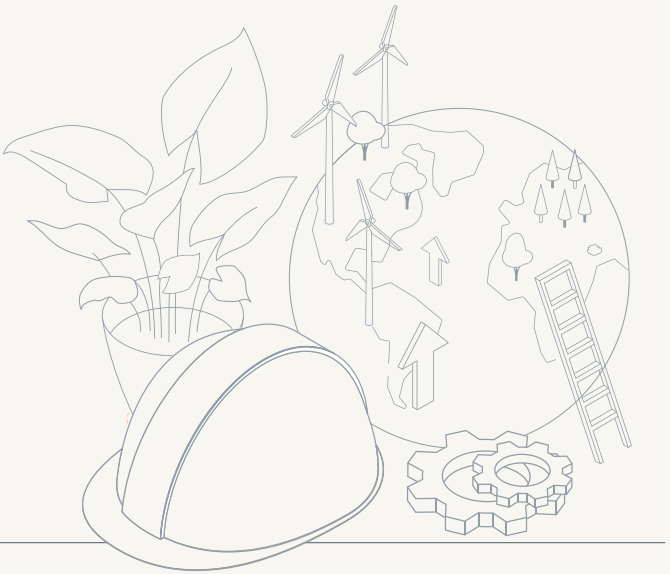
EHS Performance Management HDI has developed company-wide EHS management evaluation indicators and applied them to our business sites in Korea and China. We also manage the indicators through an annual performance analysis in a bid to continuously improve and develop our EHS performance. In addition, we strive to improve the execution capability of our EHS management system and raise the standards by reflecting the EHS management evaluation to the performance indicators of the executives of 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.

EHS IT System HDI has established an EHS IT system for more systematic EHS management. Leveraging the system, we manage EHS information in real time and analyze them comprehensively to respond to areas which need to be strengthened or improved. In 2019, we complemented our existing EHS IT system by adding such functions as laws/standards, chemicals, laboratory safety, firefighting facility management, and employee health checkup history management, and thus developed the "DooGreen" system, with the goal of supporting collaborative EHS activities. In 2020, we overhauled standards in line with the DooGreen system, and in 2021, we consecutively upgraded the system, such as addressing shortcomings that were discovered while operating the system and improving convenience.

In order to secure business continuity by responding to the increasingly strict environmental regulations and preventing environmental accidents, HDI established an integrated IoT-based monitoring system, as a way to reduce environmental risks while increasing the operational efficiency. The system is an integrated management platform that uses a long range (LoRA) network-based IoT platform. In 2020, we integrated previous environmental facility monitoring systems into a single platform and expanded monitoring targets, aimed at maintaining environmental facilities, including dust collectors, in optimal state. This has enabled us to stably control pollutant emissions, and to take immediate measures, such as shutdown, in the event of a pollution spill outside a business site caused by an environmental accident. We further upgraded the system in 2021 so that we can detect spill accidents on internal roads, in addition to facilities, to automatically shut down floodgates. In 2022, we plan to expand the oil leakage detection and emergency shutdown system.

Worksite Energy Consumption and Carbon Emissions

HDI seeks to actively respond to the climate crisis by achieving worksite carbon neutrality and reducing carbon emissions in our product in-use stage.



Our Approach

We are making diverse, active efforts to reduce carbon emissions in the manufacturing and product in-use stages for local communities where our future generations will live in.

2021 ESG STRATEGIC TASKS

Establish a company-wide climate change response strategy: Establishment of plan to achieve worksite carbon neutrality by 2050

HDI analyzed carbon emissions proportions in the value chain to actively respond to climate change to find that most emissions are produced in the manufacturing and product in-use stages. We accordingly established a plan to reduce them, and furthermore, we will achieve worksite carbon neutrality by 2050 by managing emission facilities, adopting renewable energy, participating in an external offset program, etc.

ACTIVITIES AND ACHIEVEMENTS

Identified energy input and the amount of carbon emitted and intensity when producing one product in the manufacturing stage; and established a goal to achieve carbon neutrality based on SBTi 1.5℃ by 2050

PLANS

Conduct a pilot project for adoption of renewable energy (Gunsan)

Sustainable Value Framework

PROGRESS

Respond to climate change: We plan to contribute to responses to climate change by integrating carbon emissions target management into company strategies and plans.

CO_2 emissions in the production processes			(Unit: tCO_2eq)
			96,404
			Goal for 2025
2019	2020	2021	
112,186	90,447	105,016	

CO_2 emission intensity in the production processes			(Unit: tCO_2eq/KRW million)
			0.024
			Goal for 2025
2019	2020	2021	
0.036	0.033	0.029	

Energy Management and Responses to Climate Change

Global warming and climate change caused by GHG emissions are influencing the ecosystem as well as all areas related to humankind, including industrial activities. To preemptively respond to climate change risks and opportunities, HDI forecasts GHG emissions based on our annual production plan, and carries out diverse energy-saving and efficiency-enhancing activities to achieve the emissions target. We are also expanding the development and sales of highly energy-efficient, low-carbon products, including electric excavators. The quantitative data on our energy consumption and GHG emissions over the past three years is found in the "ESG Fact Sheet" (p.108) of this report.

Improving Energy Efficiency

HDI has been making continuous efforts to identify and implement energy conservation tasks, and as part of the commitment, we established and upgraded an energy intensity management system and the energy management system (EMS) to reduce energy consumption and improve energy efficiency at our business sites. Based on EMS, we laid the groundwork for energy-related information reporting that would enable us to monitor the energy consumption and costs, monthly energy consumption trends by energy source, and energy intensity performance in relation to production. Through energy measuring equipment advancement (extension, upgrade), we were also able to strengthen EMS data credibility. Our energy conservation efforts in 2020 include optimizing compressed air supply pressure, applying a high-efficiency motor (IE4 Grade), applying an inverter for control, and installing high-efficiency lighting.

In 2021, we replaced old boilers and air-conditioning, heating, and pump facilities with high-efficiency facilities, and made continued investments to reduce energy consumption. Aligned with our corporate-wide digital transformation strategy, we participated in a Factory Energy Management System (FEMS) national project, organized by the Electronics and Telecommunications Research Institute (ETRI) as a company in demand, and plan to identify items through 2024 (five-year project) for diverse energy-saving and management. As a result of such investments and improvements, the energy intensity of HDI has improved by 11.9% as of 2021 year-end compared to the 2017 figure, despite the global economic downturn caused by COVID-19.

Responsible Response to Climate Change

Emissions Trading Scheme HDI was designated as subject to the Korean government's GHG & Energy Target Management System in 2010, and fulfilled all the legal obligations by 2014. During the first phase of the emissions trading scheme from 2015 to 2017, we kept our total GHG emissions at around 68% of the quota allocated by the government, recording 313,383 tCO_2eq. Only the Incheon Plant is subject to the second phase from 2018 to 2020, and the plant is now managing its emission allowances. During the second phase of the emissions trading scheme from 2018 to 2020, we kept our GHG emissions at around 74% of the sum of the government-allocated quota and credit that was carried forward, thus stably responding to the system.

HDI is striving to lay a foundation for the operation of the emissions trading system and set the direction for responding to the system from the mid- to long-term perspectives, such as preemptive trading. To this end, we have been taking actions to reduce our GHG emissions and to respond to the emissions trading system in a phased manner, as part of our strategic ESG tasks, every year since 2017. In 2021, we established the company-wide climate change response strategy, and in this process, we examined carbon emissions from product development to disposal, in addition to business sites. Going forward, in order to achieve our 2050 carbon neutral goal, we will make continuous efforts to reduce GHG emissions.

Energy Consumption in 2021 (Korea) (Unit: TJ)

2,036.812 TJ

Fuel	Electricity
426.296	1,610.516

GHG Emissions in 2021 (Korea) (Unit: tCO_2eq)

Incheon Plant	Gunsan	Ansan Parts Distribution Center	Seoul Office	Boryeong Proving Ground
83,015	17,251	1,773	1,191	1,786

→ 105,016 tCO_2eq

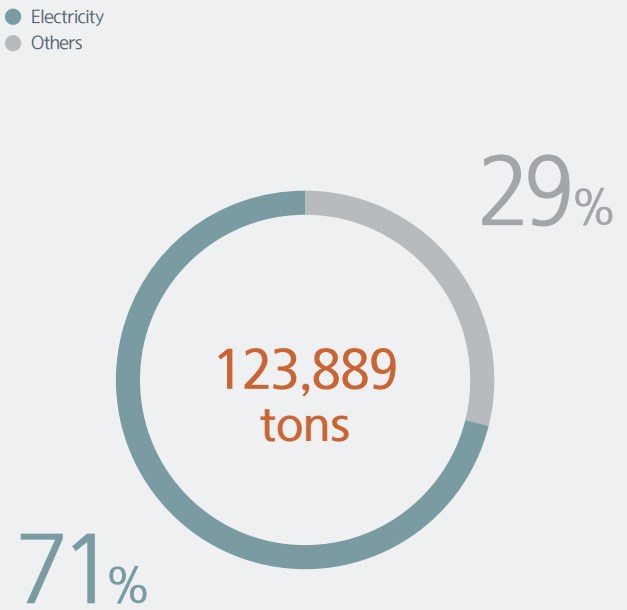
* Total energy consumption is the sum of each energy's consumption rounded off to the nearest tenth, and therefore there may be singular number difference.

Analysis of Carbon Emissions at Business Sites

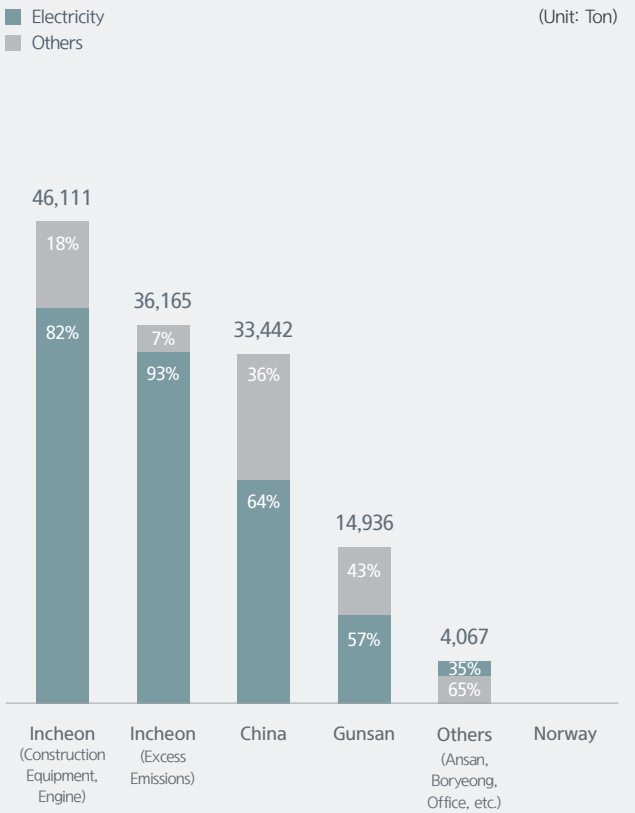
Emissions Status Results of identifying the energy consumption and carbon emissions status of HDI's production sites indicate that the highest proportion is taken up by carbon emissions from electricity. The business site in Norway already achieved carbon neutrality by using water power-based electricity, and this is why we established a strategy with focus on a carbon neutral plan for our business sites in Korea and China.

Intensity Analysis We performed an analysis of energy input and carbon emissions when producing one product per product group of each production site. As a result, we identified that emissions are high when producing one piece of large or ultra-large construction equipment in Korea. An analysis was conducted on the cause.

Total Emissions at Business Sites



Emissions by Business Site



* Based on 2020 emissions

* DIN used 2,012,075 kWh of electricity in 2020. The Grid Emission Factor in Norway was 0.011 kgCO2e/kWh, but the final emission was zero because 100% hydro-based power was used.

Carbon emissions when producing one construction equipment

(Unit: tCO_2e/Vehicle)

	2019	2020	2021
Small- to mid-sized construction equipment	1.1	1.2	1.0
Large construction equipment	3.1	3.3	2.7

Carbon emissions when producing one engine

(Unit: tCO_2e/Vehicle)

	2019	2020	2021
Small engine	0.2	0.2	0.1
Mid- to large-sized engine	0.5	0.6	0.5

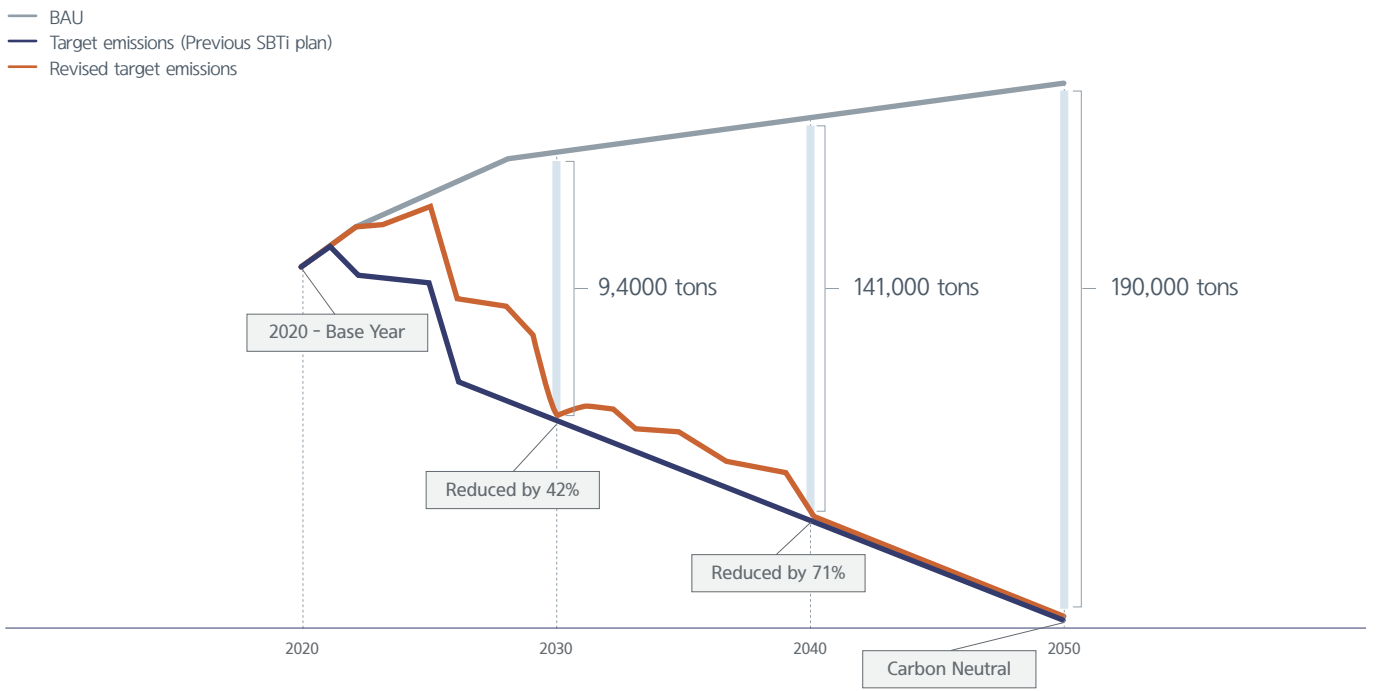
Establishing a Worksite Carbon Neutrality Plan

Based on business site data analysis, we set business-as-usual (BAU) in consideration of growth rate through 2050 and then set a reduction goal based on the 1.5 ℃ scenario of the Science Based Target Initiative (SBTi) tool. Aiming to achieve carbon neutrality by 2050, HDI 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 for 71% of carbon emissions, and offset 29% of carbon emissions by taking part in the government's carbon reduction programs, such as K-EV100, and carbon emissions offset programs. HDI will begin to adopt renewable energy in 2023 and aims to achieve RE100 by 2040.

Estimated Emissions and Reduction Plan by 2050 (Draft)

(Unit: 10,000 tons)



* The Paris Agreement (COP25) sets out a stronger global framework, aimed at holding global warming to well below 2℃ and to pursue efforts to limit it to 1.5℃emissions recorded zero 100% hydropower was used.

Strategic Direction of Worksite Carbon Neutral Strategy and Emissions Reduction Plan (by 2050)

Strategic Direction for Worksite Carbon Neutrality		Reduction of Emissions
Direct reduction (71%)	1 100% use of renewable energy Emissions from electricity 48% NET ZERO	92,000 tons Electricity 100%
	2 Emissions facility management Emissions from electricity and LNG 23% NET ZERO	43,000 tons a Electricity 95% b LNG 5%
Indirect reduction (29%)	3 Others 29% CARBON OFF	56,000 tons a LNG 37% b Other fuel 34% c Diesel, etc. (vehicle) 13% d Diesel (research building) 16%

Adoption of Renewable Energy

In 2021, HDI derived around 20 short- to mid-term tasks in order to move forward with worksite carbon neutral goal, and we are focusing on implementing the short-term tasks in 2022. We aim to adopt renewable energy at our Gunsan business site starting in 2023. In 2022, we will finalize RE100 execution measures and make preparations to enter an agreement.

Environmental Resources Management

HDI does its utmost to use resources as efficient as possible to minimize environmental impact on local communities, and carries out continuous reduction activities for all emissions that take place during its manufacturing process.

2021 ESG STRATEGIC TASKS

Upgrade indices for carbon emissions and resource management HDI effectively responded to the third phase of the national emissions trading scheme that began in 2021 and made preparations to respond to external ESG-related criteria and requirements by upgrading fine dust, waste, and wastewater management indices. We established a plan for net zero by taking part in the establishment of a climate change response strategy, and earned the Gold ZWTL[1] Validation in the waste recycling phase

ACTIVITIES AND ACHIEVEMENTS

Expanded application of increased efficiency of prevention facilities to reduce total pollutant discharge; earned the Gold ZWTL Validation by increasing waste recycling; and expanded the production of reused wastewater and ways for use

PLANS

Expand application of increased efficiency of prevention facilities to reduce total pollutant discharge; carry out reduction activities to achieve the carbon neutral goal; implement the 2040 RE100 pilot project; establish guidelines on installing high-efficiency facilities; maintain the ZWTL level; and stabilize the supply of reused wastewater

[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%).

Improving Resource Efficiency & Reducing Environmental Impact

HDI explores better ways of using limited resources more efficiently while striving to minimize the impact of its business activities on the environment and local communities. To this end, the company has adopted various ways of promoting the eco-friendly use of resources and conducts activities to reduce the discharge of pollutants. In 2021, we used the outcome of an environmental impact assessment based on the material balance for each process, and thus established a goal for each department regarding significant environmental impact and made improvements, thereby improving efficiency in using resources in the production process. In particular, we managed indices that have a large impact on local communities, such as fine dust, waste, and wastewater, as ESG Management Committee tasks. HDI manages the emissions of pollutants more strictly than required by laws in all relevant areas, and there were no cases of environment-related violations in 2021. The quantitative data on the company's resource use and discharge over the past three years is found in the "ESG Fact Sheets" (p.108) of this report.

Improving Resource Efficiency

Water Consumption As extreme weather, such as drought and heavy rainfall, becomes more frequent, the importance of managing water resources has been increasing. Our Incheon Plant, as part of its efforts to reduce water consumption, changed its way of allowing water to flow constantly to prevent pipes from bursting due to freezing weather conditions, and now does so only when burst pipes are anticipated through daily patrols. 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 57% of its wastewater for manufacturing processes and others in 2021, thereby recording 59,707 tons in annual recycled water consumption and saving KRW 104 million on its water bills. Through wastewater reclamation and rainwater reuse systems, it reused 4,610 tons of water for landscaping and coolants.

Wastewater Reuse (Incheon Plant)

Reuse and Recycling of Waste To ensure the efficient use of limited resources at all of its business sites in Korea and China, HDI pursues design optimization, checks its plant facilities, and maintains them in the optimal operational state, thereby conserving resources in its daily operations. In Korea, we have been implementing a resource recycling policy, which has enabled us to reuse at least 96% of the waste in 2020. In 2021, we earned the Zero Waste To Landfill (ZWTL) Validation from Underwriters Laboratories, which is an internationally-recognized organization on environmental safety, determines the waste recycling rate and validates outstanding business sites. Gold is given when the waste recycling rate in a business site is at least 95%. The Incheon Plant is contributing to a circular economy by reusing around 30,000 tons of wastes a year as resources.

HDI 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[1], leading to a 60% or more waste reduction from the 2019 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. We will expand the scope of management to include supplier wastes at the Incheon Plant, in addition to wastes from our business sites, to improve our recycling level.

Management of Environmental Pollutants

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. In addition, there are extra water gates on the last rain water paths at business sites, thereby building a system that blocks the spread of pollution at the source even in the event of an unexpected leakage of hazardous substances.

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 57% 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. HDI 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.

Management of Soil Contamination

In 2010, HDI conducted a voluntary soil contamination survey of the areas where facilities that cause soil contamination were operating in the Incheon Plant, and completed soil remediation in those areas over the following three years. In 2013, we extended the survey scope to the areas surrounding all our worksites. There has been additional voluntary soil remediation work since 2014 which was completed in August 2018, receiving confirmation from the municipal government.

Strengthening Environmental Emergency Response System

HDI has established an emergency response system against environmental spills, including a pollutant leakage block system at the Incheon Plant and spill monitoring system. We increased the number of floodgates to six to minimize the risks of pollutant leakage by rainwater. We also further strengthened our infrastructure to respond to the risks by installing pollutant detection sensors, building automatic water gate shutdown systems, replacing old wastewater pipes, and strengthening environmental accident monitoring system through the improvement of mark-up management of environmental facilities. In 2020, we expanded the existing infrastructure for spill incident, and thus completed the establishment of an IoT-based integrated environmental monitoring system. The system enables optimal operation of facilities that prevent pollutants from leaking into the air and water systems, and also prevents spill incidents before they happen. In addition, we strengthened our ability to respond to environmental accident emergencies, such as inviting and holding a presentation for an illegal discharge monitoring team in the Dong-gu area.

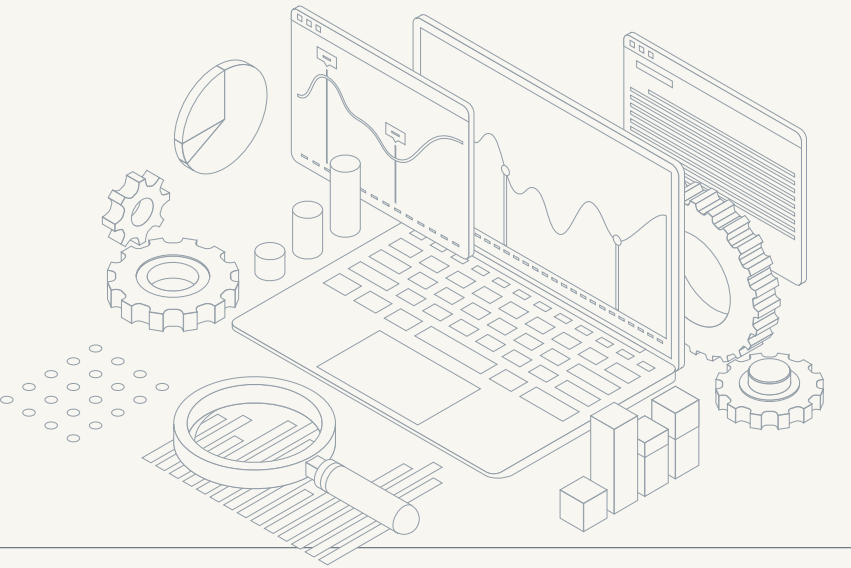
Reducing Environmental Impact on Local Communities

HDI has intensified its efforts to minimize environmental impacts on local communities, and thus making continued improvements for a clean living environment. In 2015, we set up a digital signboard to display information on air pollutants in the Incheon area with two other companies in the area. We fulfill our obligations as a corporate citizen by engaging in precautionary management of factors that may cause resident complaints, such as foul odors, as well as making continuous investments in local communities, including the Hwasu wharf improvement project near the Incheon Plant.

[1] Wastewater treatment sludge: Waste in sludge form that contains water that is created in the process of purification treatment of wastewater using chemicals and microorganisms

Supply Chain Responsibility

HDI strives to grow into a global company based on the principle of building a “virtuous cycle of partnerships” that enables the company to achieve win-win growth with its suppliers.



Our Approach

HDI considers win-win growth with suppliers as a primary source of its competitiveness. We, therefore, share our technology, quality, and management systems with our suppliers to strengthen their competency and build a virtuous cycle of partnerships. In addition, we help them improve ESG capabilities in an effort to fulfill our roles and responsibilities in building a sound economic ecosystem.

Sustainable Value Framework

PEOPLE

Supplier capacity building HDI leads the win-win growth with its suppliers by expanding the HDSEP[1] program which is designed to provide training, consulting, and other support to help suppliers strengthen their competitiveness.

Cumulative No. of HDSEP participants

Goal for 2025: 52

2019	2020[2]	2021[2]
32	38	38

[1] Hyundai Doosan Supplier Excellence Program
[2] Supplier that have participated in MES establishment support from 2020 to 2021 can overlap with previous HDSEP participants

PROGRESS

Supply chain ESG HDI makes continuous efforts to conduct ESG inspection for its core suppliers and help them make improvements as a way to prevent risks and lay solid foundations for win-win growth.

No. of companies subject to supplier ESG inspection[3]

Goal for 2025: 125

2019	2020[4]	2021[4]
116	-	41

[3] Supplier ESG inspection is conducted every other year. Thus, the for 2024 goal is reflected as the goal for 2025.
[4] Supplier ESG inspections resumed in the second half of 2021 due to COVID-19.

Supply Chain ESG Management

Strengthening the ESG Competencies of Suppliers

HDI has established systems and programs designed to enable its suppliers to lay the groundwork for their response to ESG issues, including ethical management, fair trade, human rights, environmental protection, and social problems.

Strengthening ESG Management System of the Supply Chain

HDI has developed the "Supplier CSR Guidelines (2014)", which consists of 27 clauses under 10 categories, such as labor, human rights, health and safety, environment, ethics, and fair trade, and distributed the Guidelines to its suppliers in the form of newsletters and booklets. We also reflect the Guidelines in our purchase policies to ensure that consistent principles are applied not only to diagnose and evaluate but also to purchase, based on which we urge our suppliers to engage in practical ESG activities. The Supplier CSR Guidelines is available at HDI's website.

Reflecting ESG Elements into Supplier Evaluation

HDI reflects such ESG elements as employee training, labor management, environmental management, and regulatory compliance, in the evaluation and registration of its new suppliers at all of its business sites in Korea and China. In the area of EHS, in particular, such as environment and health, we evaluate the status of building foundations and level of practices including the establishment of relevant systems and improvement in risk factors. We also have been conducting on-site EHS assessment of new suppliers prior to their registration since 2015.

Activities to Support and Improve Suppliers' ESG Management

For more systematic ESG management of its supply chain, HDI has established criteria to define core suppliers and set standards in 2018, based on which it conducts surveys on their status; conducts an on-site assessment (OSA) on their response to ESG issues, such as human rights protection, ethical management, and EHS; and identifies suppliers with high ESG risks. The OSA that was planned for 2020 was postponed for two years and held in 2021 due to COVID-19. Among 164 suppliers, we will identify suppliers with high ESG risks and help them make improvements. Going forward, we will enhance ESG management capabilities of our suppliers through comprehensive supplier evaluation linked to the ESG evaluation and improvements.

Management of Conflict Minerals

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). Armed forces in these regions secure funds through mineral mining and distribution, and continue conflicts, which are causing various social issues, including loss of lives, violation of human rights, exploitation of child labor, sexual violence, other human rights issues, and environmental pollution. The international community continues to demand that companies disclose the country of origin of the minerals used in manufactured products and demand that they stop using conflict minerals. As a responsible corporate citizen, HDI 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 HDI products. To this end, all HDI suppliers have to make efforts to not use conflict minerals when manufacturing goods, and are required to submit a document that confirms the country of origin for proof, if needed.

Developing and Supporting Suppliers

HDI strives to enhance its overall competitiveness in purchase and production by helping its suppliers boost their competitiveness. To this end, we provide a range of support programs, including financial support, competency enhancement training, and on-site guidance. In addition, we are implementing the Leading Supplier (LS) project to help our core suppliers grow into small giants based on the Hyundai Doosan Supplier Excellence Program (HDSEP), a system for fostering suppliers.

Fostering Leading Suppliers

HDI conducts an annual survey of core suppliers according to the criteria for core suppliers defined by the analysis of transaction dependency and supplier relationship segmentation. We help them have 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 with top level competitiveness in the local market, setting a benchmark for other suppliers. The LS project aims not only to solve problems that suppliers are facing 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) through one- to three-year support programs. To foster 52 Leading Suppliers by 2025, HDI has selected and supported a total of 38 suppliers from 2014 through 2021.

In 2021, HDI supported the establishment of a manufacturing execution system (MES), which is a part of a smart plant program that increases production efficiency through integrated management of real-time data, including production plan, material flow, and quality information, in a single platform, at five suppliers as part of LS activities.

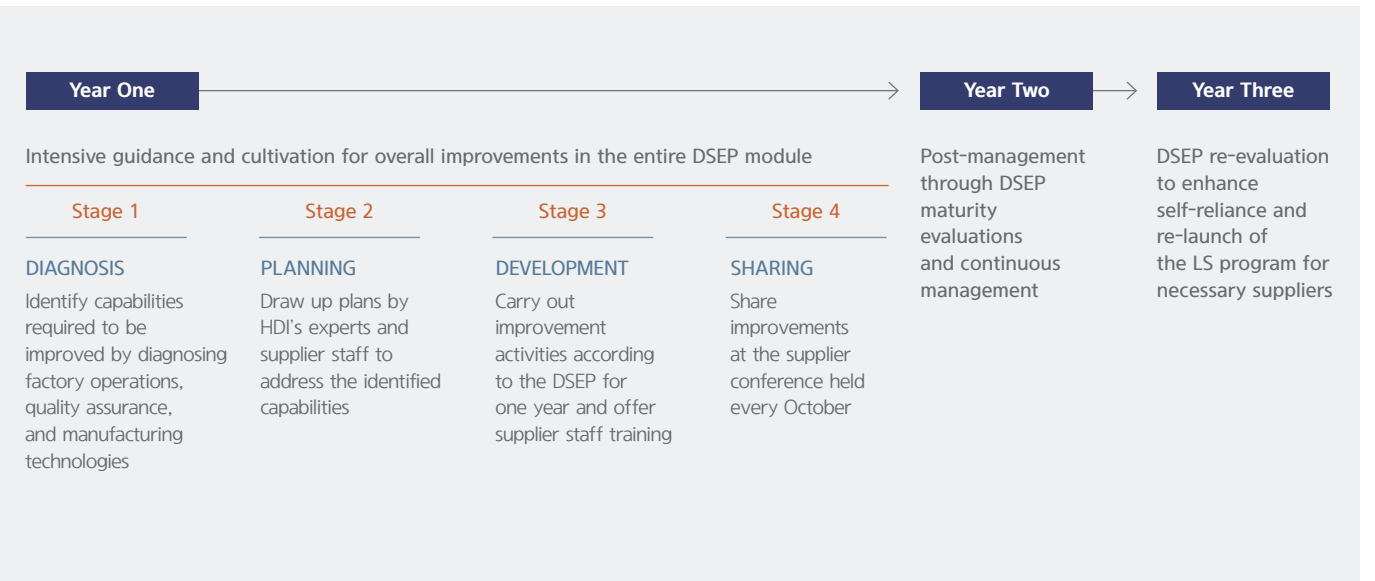
A supplier that received support for MES establishment in 2019 saw an approximately 24% improvement in productivity and 43% reduction in the defect rate. As a result, the supplier took part in a national project on parts localization and completed development. An improvement in operational efficiency that resulted from MES establishment support for a supplier led to the outcome of part localization. A supplier that received MES establishment support in 2020 made quality and productivity improvements, based on which it is working on localization of parts for wheel excavators and loaders that were previously imported. In 2022, we plan to establish the MES and make improvements for six suppliers. We will make continuous efforts to provide support so that suppliers can strengthen their quality capabilities and competitiveness.

Expanding Participation in the 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. HDI collects suppliers' suggestions regarding new product development, parts localization, quality improvements, and design changes through the benefit sharing system. We then reflect good suggestions into our products and share the outcome, thereby creating win-win partnerships with our suppliers.

In 2021, among supplier suggestions, we registered 17 cases of the benefit sharing system and completed four cases, and reflected and managed benefit sharing performance as a KPI of executives in charge of purchasing. Going forward, we will extend the scope of our benefit sharing system to include not only first-tier suppliers but also second-tier suppliers, to enhance our fundamental competitiveness as well as that of our suppliers, create synergy, and establish a fair subcontracting culture.

LS Development Stages



Competitiveness Enhancement Programs

Helping Suppliers Enhance Competitiveness An exclusive team, composed of dedicated staff from the Supplier Development Team and Shared Growth Team, visits suppliers to help them conduct innovative activities. In 2021, 190 employees[1)] were dispatched to support innovative activities. Also, we supported suppliers' recruitment through a job fair, resulting in the recruitment of 20 persons.

Management Doctor System HDI is an active participant in the Management Doctor System which is currently being promoted by the SME Support Center of the Federation of Korean Industries (FKI). Suppliers recommended by large companies are selected through a review process, whereupon experts from three parties – large companies, suppliers, and the FKI's management consulting team – help them improve management environments and solve problems.

[1)] 1 person based on the criteria of the Korea Fair Trade Commission = Total hours of support/8HR/5Days

Industrial Innovation Campaign 4.0 Industrial Innovation Campaign 4.0 is one of HDI's leading programs for win-win growth. Through this program, consultants are dispatched to our suppliers to provide them with practical assistance with their productivity innovation and smart factory operations, based on our financial contributions. The Campaign commenced its second phase in 2019 following the successful completion of the first phase in 2018. We will help some 50 suppliers for the next five years through 2023 to increase their productivity and competitiveness. As a result of such continuous support, two of our suppliers, "Taewon Industry" and "Sunjin Precision" received the "Minister of Trade, Industry and Energy Award" and "Korea Commission for Corporate Partnership Chairman Award", respectively at the 2021 Industrial Innovation Campaign 4.0 Outstanding Company Awards.

Competency Building Training for Suppliers' Staff HDI reflects its suppliers' feedback into the Supplier Academy, a customized training program to help suppliers secure competitiveness, and offers the program every year. In 2021, five suppliers benefited from the Supplier Academy in the areas of Industry 4.0, equipment quality management, logistics, customs clearance, intellectual property, and machine design. We will continue to offer both internal and external training programs in consideration of training efficiency and expand non-face-to-face training.

Seminars for Suppliers HDI has been holding the "Seminar for People in Charge" for its suppliers twice a year since 2017, to introduce its win-win growth programs, motivate suppliers to actively participate in and take advantage of the programs, and help them build competency. In 2021, we provided supplier-tailored HR training together with the Korea Labor and Employment Service to improve suppliers' personnel management capabilities, and held an ESG response measure seminar to raise social interest in ESG and support suppliers' ESG management.

Financial Support

HDI 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.

Financial Support for Suppliers in 2021 (Korea)

	Programs		Amounts supported
Director Support	Facility Investment Fund	Provided suppliers with interest-free facility investment funds	KRW 2.2 billion
	Financial Support for Shaping Fixtures	Provided financial support for shaping fixtures to enhance product competitiveness	KRW 29.7 billion
	Win-win Encouragement Fund	Removed the wage gap for second-tier/third-tier supplier and small in-house subcontractor workers	KRW 1.9 billion
Indirect Support	Network Loans, Family Corporate Loans	Recommended suppliers for loans through an agreement with financial institutions	KRW 30.0 billion
Mixed Support	Shared Growth Special Fund	Helped suppliers receive loans to fund operations with low interest rate based on deposits	KRW 78.5 billion KRW 55.3 billion (loaned)
Special Support	Shared Growth Special Fund for the Industrial Innovation Campaign 4.0 (Korea Foundation for Cooperation of Large&Small Business, Rural Affairs)	Made contributions to shared growth programs for second- and third-tier suppliers	KRW 300 million
	Contribution to Win-Win Supporters	Provided support to ventures and companies that were founded no more than seven years ago	KRW 100 million
	Credit Guarantee Agreement for Suppliers	Signed an MOU on win-win agreement guarantee to support parts suppliers	KRW 1.0 billion

Support for the Creation of Sound Corporate Ecosystem

Beginning in 2017, HDI has been running a supplier support program that helps reduce the wage gap and increase family welfare benefits for the employees of its second- and third-tier suppliers[1], in-house subcontractors[2], and service providers to establish a sound ecosystem with suppliers and companies that HDI trades with and to lead a positive culture of shared growth. For the employees of those companies, we provide them with KRW 1.2 million per year (KRW 100,000 per month for each person) to reduce their wage gap in the form of Win-Win Encouragement Funds while also offering high school tuition fees to their children and allowing them to use our daycare center free of charge to enhance their welfare benefits.

[1] Second- and third-tier suppliers: Suppliers that depend more than 35% in terms of sales on HDI's first-tier suppliers that count on the company by more than 35% in terms of sales

[2] In-house subcontractors: Employees of in-house subcontractors (excluding employees of large companies and foreign enterprises)

Establishing a Culture of Win-win Growth

Building Win-Win Partnerships

HDI 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, HDI'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 HDI, leading to shared growth of the suppliers and HDI. This system enables HDI 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.

Win-win Growth System

Motivating Win-win Growth HDI reflects the win-win growth performance of the relevant executives in the evaluation of their management by objectives (MBO), and it also reflects the findings of the benefit sharing system in the MBO of executives in charge of purchasing to promote the system. Furthermore, to encourage suppliers to participate in win-win growth activities, we reflect their involvement in win-win growth and relevant performance in the comprehensive supplier evaluation.

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 HDI 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 HDI 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.

Sustainable Workplace

HDI fosters talented people who support fundamental values of the company, are committed to enhancing their competitiveness, and act in the right way.

Our Approach

HDI is creating a mutually beneficial cycle in which members of the company grow and their growth in turn leads to the growth of the business based on a corporate culture of respect, consideration for others, and respect for diversity, and a training system for competency-building. We also seek to build a sustainable workplace by placing top priority on employee safety and health.

2021 ESG STRATEGIC TASKS

Provide human rights training to employees & Develop employee survey on corporate culture Since 2015, HDI has been making continued efforts to enhance internal awareness of human rights and to build a management system. In 2021, we continued to provide human rights training to raise human rights awareness and to establish a management system. In addition, we developed organizational culture survey questions and conducted a survey to identify the status of employees' understanding/level of satisfaction toward the organization and functions.

ACTIVITIES AND ACHIEVEMENTS

Developed survey questions based on an internal and external diagnosis tool and focus group interviews and conducted a survey, and received positive response from 76% of all office employee responses.

PLANS

Conduct a human rights impact assessment; and seek to earn a family-friendly company certification

Sustainable Value Framework

PROGRESS

Employee health HDI aims to reduce the occupational illness frequency rate (OIFR) and improve the health and wellbeing of its employees by implementing active illness management.

OIFR[1)]

N/A
Goal for 2025

2019	2020	2021
0.315	0.107	0.176

LTIR[2)]

N/A
Goal for 2025

2019	2020	2021
1.17	0.61	0.73

PEOPLE

Talent retention HDI manages its employee turnover rate as part of its efforts to attract and retain outstanding talent, create socially decent jobs, and create a great workplace for its employees.

Turnover rate (Unit: %)

N/A
Goal for 2025

2019	2020	2021
1.10	1.40	2.05

PEOPLE

Employee development HDI helps its employees develop their capabilities to achieve both corporate and personal growth. To this end, we conduct efficient training activities for employee competency development while managing training hours and expenses per person.

Training hours per employee (Unit: Hour)

N/A
Goal for 2025

2019	2020	2021
40.6	37.7	38.6

Training expenses per employee (Unit: KRW 1,000)

N/A
Goal for 2025

2019	2020	2021
750	400	297

[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)

[2)] 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)

Human Rights Management

Respect for Human Rights and Human Rights Policy As a participant of the UN Global Compact (UNGC), HDI 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. Moreover, we respect the human rights of comprehensive stakeholders, including our employees and suppliers. We do not tolerate any type of verbal abuse, violence, sexual harassment, or other improper acts that violate respect for human rights, in interactions within our organization and with suppliers. HDI runs reporting channels, such as the Human Rights Protection Center (Help Line) and the Internal Reporting Center to report verbal and physical abuse. In the event of a violation, the Personnel Committee will take immediate action according to the relevant regulations and provide education to ensure that the same violation is never repeated and to build up human rights awareness. HDI plans to declare human rights management and regulations on practicing human rights management in 2022.

Strengthening the Management of Human Rights Risks

As a global company, HDI 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. 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 interviews, 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.

In 2022, we will identify and assess human rights risks in overall management through a human rights impact assessment and prevent human rights violations, thereby strengthening our responsibility to respect human rights.

Types and Details of Human Rights Violations

Type[1]	Details	Type[1]	Details
Discrimination	Gender	Verbal and physical abuse	Verbal abuse and violence
	Age, position, and employment type		Sexual harassment
	Country of origin and race		Alienation and bullying
	Marriage and childbearing		Invasion of privacy

[1] The types of human rights violations are based on the company's code of conduct and guidelines on the creation of a sound organizational culture.

Grievance Reporting Channels and Handling Processes

HDI strives to prevent and properly handle sexual harassment and any other verbal and physical abuse in the workplace. To this end, we are operating the Help Line at the Human Rights Protection Center (previously called the Gender Equality Center), while also providing all employees with education on gender equality, including prevention of sexual harassment. We identify employees' grievance through diverse channels, such as the Human Rights Protection Center and the Group's ethical management reporting website, and promptly respond to them. We protect the privacy of the informant by maintaining anonymity, and handle the grievances under the relevant company regulations and procedures. As a result, we have handled all major grievance reports filed in Korea in 2021.

Respect for Diversity

Protecting Employee Diversity Given the characteristics of the machine manufacturing industry, there may be difficulties in attracting female employees. HDI however strives to eliminate bias by having our female engineers take part in the interviews for recruiting. To foster the personal growth of female staff, we do not discriminate against female staff in their job assignments, nor do we place any restrictions on their assignments.

As specified in the Ethics Charter, we respect 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. They are also not treated unfairly depending on their personal relationships with the company's officials based on their academic or geographical backgrounds.

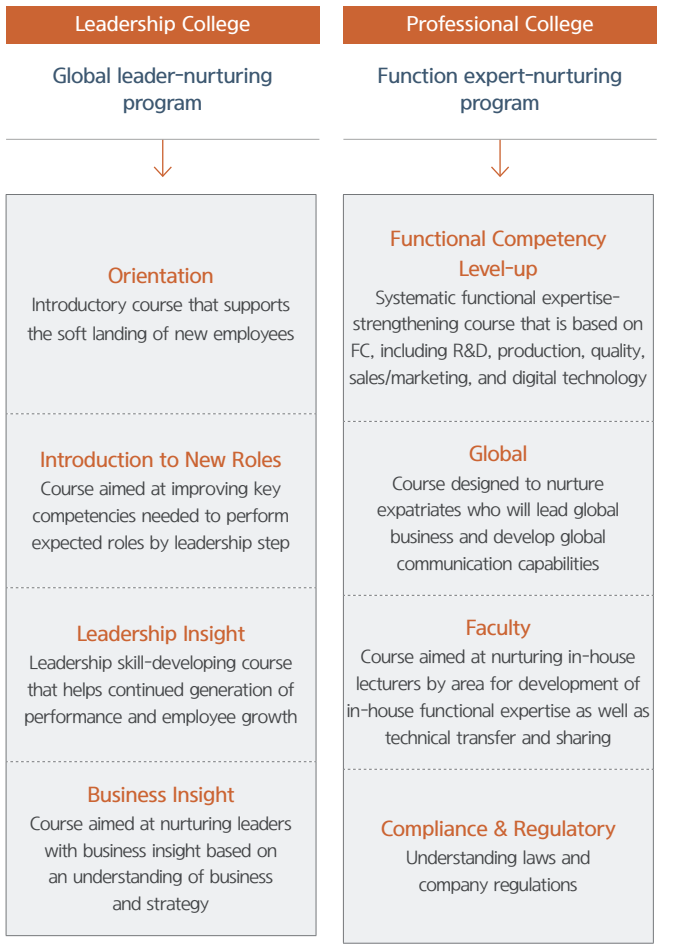
Human Resources Development

HDI 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

Global HR Information System HDI has been standardizing and streamlining its HR systems, processes, standards, and data. We launched an HR system called "MY HR" in March 2017 to integrate some 50 HR systems that had been previously used by different subsidiaries in various countries around the world. MY HR is a globally integrated one-stop HR system designed to handle various HR tasks, such as personnel evaluations and establishment of self-improvement plans as well as training applications. It is available to all HDI business sites in Korea, China, the U.S., and Europe. All employees have the right to create or view personal information about themselves and their team members (if they are managers) through MY HR. They are thus required to sign the Pledge of Personnel Information Protection to promise to handle and process the personnel information of themselves and their team members according to certain principles.

Fair Compensation and Evaluation HDI 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 addition, we establish work-placed growth plans for employee growth, thereby creating a cycle of "growth through work".

HRD System



Enhancing Functional Competency

HDI has put a sophisticated Functional Competency (FC) development system in place, with a focus on headquarters and Chinese subsidiary, in consideration of individual employee's unique skill sets and capabilities. We also encourage our employees to devise their education plans according to the result of their FC assessment.

Building the FC Development System FC enables employees to define the competencies they need to perform their duties successfully and to set their roadmap for personal growth in line with their level of competencies. HDI operates an FC-based HR education and development system to help its employees become experts in their respective fields. We have been implementing the FC diagnosis, aimed for systematic nurturing of function experts, since 2012. From 2019 to 2020, we updated diagnosis items to the latest version by reflecting the latest technology and work area expansions per function. In addition, based on FC diagnosis results, we are providing the FC Level-up program that is specialized for each individual, such as work-based development, training support, and organizational culture activities.

In particular, we adopted the R&D master system to present a growth vision to R&D staff and to secure R&D experts who would lead future technologies. 11 internal R&D staff proven to have top technical skills were honored as masters and are provided with active support so that they can perform roles as a technology pioneer and also nurture successors. In 2021, we further upgraded the in-house academy course, aligned with the FC system, and established an online platform "CELEB" to provide quality content.

To nurture its technical staff to a high level of expertise and competitiveness in their respective fields, in 2014 HDI set up a draft FC system for technical staff based on National Competency Standards (NCS)[1]. This was followed in 2017 by competency assessments across 11 technical categories, and the establishment and systematic implementation of an FC-based HR development plan, including the building of an FC diagnostic system and the launch of job training linked to the FC system in 2018. In 2019, the FC diagnostic system was completed for all 11 job categories to systemize the job competency of technical staff, enabling the establishment of a more systematic expert fostering process. HDI became the first major Korean company to apply the NCS to its technical staff skill diagnostics system, and its NCS-based FC development system for technical staff was recognized as a pioneering case by the Human Resources Development Service of Korea in January 2020. In 2021, we 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. We also developed contents for micro learning to nurture technical experts based on the FC system.

Competency Development Trainings HDI operates in-house Functional Academy aimed at strengthening employees' fundamental competitiveness based on the FC system and to provide solutions that enable them to secure fundamental competencies. Internal experts design their own lectures to offer practical help, and every year, we develop new courses while also updating the existing ones by reflecting technology trends. Employees can participate in the Function Academy courses anytime anywhere by using diverse smart devices, including their personal IT equipment, enabling them enjoy self-directed learning. As set out in the company's digital transformation direction, HDI offers courses to help foster experts with business acumen and theoretical skills in data analysis, management, and utilization.

The "DRAW (Digital Edge Reinforcement at Work)" course was launched in 2018, followed by the "FIDAS (Field Data Scientist)" Foundation course in 2019 to nurture in-house data experts. In 2020, we adopted the FIDAS Advanced course that connects in-depth machine learning and business projects, thereby establishing a course to nurture data experts. We also adopted the "AI Community", a self-directed AI learning group, to share and diffuse knowledge and experiences as a way to support data-based decision-making. In 2021, we made various attempts with the goal of becoming a "data-driven decisioning company" that works and makes decisions based on data, such as selecting a Data Agent for each area and holding a performance briefing session on tasks to facilitate DI360, an in-house integrated data platform, and encourage staff to use it. In 2017, HDI launched "CELL (Community of Employee-Led Learning)", a new employee learning support system. A CELL consists of 3-10 employees who choose the education contents and methods they want to develop, and undertake autonomous learning on this basis for five months. The CELL had run eight classes by the end of 2021, participated by 563 employees in 75 CELLs.

In-house Function Academy Operations (As of December 2021)

Job	Major details	No. of employees who took the course in 2021
R&D, Production/ Quality	Machinery/electrical and electronics/material technology, design tool, patent, operation practice, production/quality, welding, quality management system, statistical quality management, etc.	383
Sales & Marketing	Introductory sales, understanding products, negotiating, marketing, outline of new products, etc.	100
Digital	Basic Python coding, data handling, machine learning/AI project execution, etc.	180

Nurturing Global Leaders HDI offers a wide range of advanced leadership programs, including the Leader Coaching Program and Junior Group Competency-Strengthening Course, to help employees understand and learn about leadership that is needed for each position. Since 2019, we have been offering the one-on-one coaching program to nurture next-generation leaders and the Leader Group Coaching Course that helps team leaders strengthen their ability to execute coaching, which led to positive changes of leaders. We also conducted employee survey on their level of perception of change to verify coaching effectiveness. Year 2020 survey results confirmed around 14% leadership improvement effects in case of Leader Group Coaching. In addition, we have been offering on/offline simulation course for junior group employees since 2019 so that they understand the company's value creation structure and the impact their work has on the company by experiencing business in environments that are similar to the actual environment and to help them develop business insight. As of 2021, we have offered 10 courses and more than 208 employees completed them.

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.

[1] National Competency Standards (NCS): The systemization of the knowledge, skills and processes required to perform various jobs at industrial sites in Korea

HRD System for Technical Staff

System to Foster Technical Staff HDI has been building human resources development (HRD) systems for its technical staff to encourage them to pursue personal development and have a clear vision. To this end, we have been making continued efforts including by reforming the systems for the job assignment, promotion, and competency evaluation; launching courses to develop technical experts; establishing an FC system; operating the change agent (CA) system for technical staff; and conducting global benchmarking. In 2012, we introduced the position and promotion system so as to present our technical staff with a vision for personal growth and pride in their individual ability and status. We also established an assessment system for technical staff and technical specialist courses designed to help our technical staff further develop their job competencies to be acknowledged as an Expert or Meister, which in turn provide them with opportunities for growth. In addition, technical staff performed assistant roles in resolving issues within the organization through CA activities. We also provide learning and growth opportunities through global benchmarking to improve competencies of individual technical staff which also contributed to further enhancing our organizational competitiveness. In 2016, we overhauled our FC-based HRD system in cooperation with field leaders and changed the titles of our technical staff from entry-level employees to managers, thereby bringing about positive effects of raising their social status.

HDI established its Career Development Paths of Technical Staff by creating a technical managing director system and strengthening the existing technical expert system, thereby offering its technical staff a choice of becoming a "field leader" or a "technical specialist". A technical managing director is a person with leadership and practical skills and plays his/her role as a team leader in the company's production units, presenting technical staff with a vision to be a top leader. A technical specialist is a field expert with professional skills and strong competitiveness, leading the growth of the company.

Through this system, technical staff can choose from the two development paths - the "technical specialist track" which enables them to grow into Meisters and the 'field leader track' in which they develop into executives in charge of production sites. In January 2017, in 80 years after the company's founding, the first technical managing director was appointed. After 2019, there are a total five Meisters. Going forward, we will continue to foster technical staff in a systematic way so that they can improve their work engagement with pride, thereby building a virtuous cycle of growth at the corporate level.

Competency-building Programs 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.

In 2021, there were 52 programs for the employees' study clubs, aimed at sharing technologies or passing technical license exams, and 285 persons (including double counting) completed the courses. As a result of these efforts to foster technical experts, 173 HDI employees had been nationally certified as master technicians as of December 2021, and 15 of them have obtained their master technician title in more than two areas, meaning that the company has obtained 193 master technician licenses. Those employees who acquire expertise through the company's support system in turn disseminate it throughout the company, creating a virtuous cycle within the organization.

HDI runs group coaching programs tailored for field leaders in technical positions. This helps to resolve any on-site issues with the support of professional coaches, and is bringing about practical changes and more advanced leadership through daily learning and coaching. In 2021, we improved our existing technical staff leadership courses for employees moving to new positions and for those who have recently been promoted as well as the Vision Camp. We also reorganized the "Vision Camp IV - Dialogue of Connection" for technical managers, "Happy Retirement Preparation Course (for the first and third year in the three-year program)" for employees soon to be retired, and introductory training for new technical staff.

The training for technical staff who were promoted was in non-face-to-face format in 2021 so that the training could continue even under COVID-19 circumstances. We also developed the "junior foremen school" program for systematic competency-building of junior foremen, who are in the first step of field leaders in technical positions, and produced a micro-learning course on how to use the EHS system and registered it on CELEB, an in-house training portal.

Outcomes of Development of Technical Staff (As of December 2021; Accumulated figure)

Master Technician	Master Craftsman
173	2

Master Craftsman of Korea[1]: 2

[1] Master Craftsman of Korea: This refers to those who are designated by Article 11 of the Act on Encouragement of Skilled Crafts among those who have the highest level of skilled crafts, and greatly contributed to the development of skilled crafts and the improvement of the status of skilled craftsmen by having worked in industrial fields for a long period of time.

Organizational Culture

Improving the Way of Working

Operating a CA Channel HDI forms a sound communication culture and makes constant improvements in its way of working through the Change Agent (CA) channel run by each executive organization. Serving as a bridge of communication within the organization, a CA has a CORE Time to share opinions on work efficiency improvements and needs within the organization, thereby facilitating horizontal communication and deriving solutions. After becoming a member of Hyundai Heavy Industries Group, CAs will continue to perform roles for harmony and generation of synergy between the two different organizational cultures.

Improving Office Work Productivity Since 2018, HDI 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. Also, focus was placed on eliminating gray zones under supervision of the organizational culture department, resulting in a reduction in Gray Zone tasks from 31 in 2020 to ten in 2021, thereby resolving issues that arise from job assignments falling into gaps between departments, new types of work emerging, and ambiguities in roles and responsibilities (R&R) occurring.

Communication and Consideration

HDI operates diverse communication channels, including online and offline grievance mechanisms, the Human Rights Protection Center, the company website, and the in-house portal with the goal of boosting employees' satisfaction at work through genuine communication between the company and its employees. 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 share 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.

Organizational Culture Survey HDI is well aware of the importance of management activities that reflect employees' experiences and opinions. We have therefore 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. The overall positive response rate was 76%, and the positive response rate was similar for all areas of job value, way of work, and voluntary engagement environment. In particular, there was a high positive response rate in the area of way of work for simplification of the outcome-sharing and approval process that resulted from improvements we made over the past few years to our meeting and reporting culture with the aim of enhancing work efficiency. In addition, there was a high level of satisfaction toward such systems as Teams, DI360, and Microsoft 365.

Work-Life Balance HDI complies with the labor regulations of the countries in which it operates. To further improve our employees' quality of life, we offer a wide range of welfare benefits that match each country's unique situation.

In particular, we proactively support a sound work-life balance through family-friendly management practices, including the operation of childcare centers and the granting of parental leave, reduced working hours, and family care leave. We also carry out customized activities to improve corporate culture by promoting the use of flextime.

Operation of Flextime In Korea, HDI 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. After the COVID-19 pandemic, we encouraged our employees to continue to work from home and distributed contactless work guidelines, thereby further facilitating the flextime system.

Support for Building a Stable Life In Korea, HDI 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 HDI runs the Employee Assistance Program (EAP) which offers counseling and education on health, finance, and other matters. In Korea, we have been operating DOOHUG, an in-house psychological counseling center, since 2014. (Please refer to page 92 of this report for further details about DOOHUG.)

Recharging Opportunities In Korea, HDI encourages its employees to take a two-week concentrated vacation 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.

Family-friendly Management

HDI 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 also operate in-house daycare centers at three worksites. Based on this institutional and cultural foundation, we will move forward with receiving family-friendly company certification in 2022.

Support Systems for Family-friendly Business Management (Korea)

	System	Details	Eligibility and period
Pregnancy	Pregnant employee caring	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)
	Time for prenatal checkup	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)
Childbearing	Leave before or after childbearing	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
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	Employees with children aged 3-5 years
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	A maximum 10 days a year to take 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	

Employee Safety and Health

Win-Win Labor-Management Relations

Compliance with Labor Policies HDI complies with the labor standards of the International Labour Organization (ILO). We conduct investigations to detect any child labor or forced labor practices within the company through the annual ESG assessment of all domestic and major overseas business sites. In 2020, the self-assessment proved that none of the company's business sites in Korea and overseas have resorted to child labor or forced labor of any kind. We have also signed the Guidelines on the Protection of the Working Conditions of In-house Subcontractors' Workers with the Korean Ministry of Employment and Labor. Accordingly, the company ensures compliance with relevant regulations through a regular monitoring, and we also comply with the government's guidelines on fair transactions and thus properly operate in-house subcontracting activities. Since 2011, HDI has maintained and developed labor-management relations based on mutual trust and respect, including the strike-free conclusion of collective bargaining agreement for 11 years in a row. Labor and management continue to communicate through diverse channels, including the Labor-Management Council and the Welfare Subcommittee, and share major issues through the quarterly Business Information Session.

Our Chinese subsidiary has established a special council in accordance with the Trade Union Law of the People's Republic of China which is equivalent to the Labor Standard Act in Korea. The special council's members are elected by vote. It holds a monthly meeting with the special council to discuss major developments and share opinions on various worksite issues, and discusses wage on an annual basis.

Prevention-focused Worksite Safety Management

With the amendment of the Occupational Safety and Health Act, effective as of January 16, 2020, the responsibilities of employers have been increased so that they are subject to a shutdown and/or suspension of business in the event of an industrial accident in any of their workplaces. To achieve zero accident, HDI has established such mid- to long-term goals as the establishment of a disaster prevention system, internalization of self-management activities for risk factors, and facilitation of compliance monitoring and evaluation. Accordingly, we have been making concentrated efforts to prevent serious disasters; promote a safety culture based on close cooperation between labor and management as well as with suppliers; and strengthen relevant organizations and workforce.

Safety Training HDI provides safety education aimed at encouraging voluntary participation and capacity building of its employees. To this end, we run training programs designed to promote EHS leadership by job title, increase employee awareness, cultivate knowledge, and encourage self-development. In 2021, we created a small-group, non-face-to-face training curriculum, to minimize impacts caused by COVID-19. We provided intensive training programs for supervisors, made a connection with the technical position training, and provided training to employees in charge of facility/construction and suppliers, and took other such measures to operate EHS training courses in line with our training programs, while also producing and distributing an EHS handbook to increase employee knowledge of EHS regulations.

Worksite Hazard Management HDI 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 2021, we strengthened self-management activities for risk factors, and thus identified hazardous behaviors and safety risk factors and improved them

Acquisition of Safety Zone Certification Awarded by Safety Zone-CERTI[2] and supervised by the National Fire Agency, the Safety Zone Certification is the only voluntary corporate safety evaluation system in Korea and entails a comprehensive evaluation of building design, construction, and maintenance. HDI's Incheon Plant received a detailed evaluation in 2020 on six safety areas, including the safety management system, firefighting, building/fire proof, dangerous goods, machine/electricity/gas, and evacuation/natural disaster, from experts in the field of disaster and safety, and made improvements for matters that were pointed out. As a result, it obtained the Safety Zone Certification (valid for three years) for the third consecutive time in December 2020 following 2014 and 2017. HDI is the first in the machinery industry to maintain the Safety Zone Certification three consecutive times. Gunsan Plant acquired the Safety Zone Certification in 2015, resulting in all business sites in Korea being certified by the government in terms of disaster safety. HDI continues to review, in detail, all measures to protect employees. We will further expand the awareness of the importance of fire and disaster prevention and systematically and efficiently manage safety facilities based on the Safety Zone Certification.

Response to Process Safety Report Evaluation Worksites with large hazardous, dangerous facilities have risks of fatal industrial accidents, so that they are required to operate the Process Safety Management (PSM) system. 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. HDI carried out an internal audit on the PSM of its Incheon Plant and Gunsan Plant, and based on the results of the internal audit, the company identified improvement measures, such as increasing supplier safety training, expanding the scope of job safety analysis (JSA), and revising safe work permissions, and continues to inspect the implementation status.

Creating a Culture of Safety Management

HDI believes that the safety awareness of its employees is the most important factor in preventing safety accidents, along with efforts to improve facilities. We, therefore, actively implement programs and operate systems in which both our employees and those of the suppliers participate so as to strengthen the safety culture. Each month, the heads of Business Groups provide safety reports to employees. We have designated April as Health and Safety Month during which we strive to improve safety and raise safety awareness through education sessions, promotional campaigns, and inspections. Visitors to our worksites are required to watch a video on safety precautions first to raise their safety awareness.

Helping Suppliers Enhance Safety Management Capabilities

HDI focuses on promoting the Safety Observation System (risk factors self-control), a scheme for removing potential risks based on concentrated daily monitoring by not only field supervisors but also working-level employees, so that suppliers themselves can identify risk factors and work on them. HDI has been implementing "Symbiotic Cooperation Programs" since 2012 to help its suppliers boost their safety management capabilities under its EHS principles - "We aim to create a pleasant and safe people-oriented working environment, improve the health and quality of life of all employees, including those of our suppliers, prevent losses, and thus ultimately realize a zero-accident workplace". Launched by the Ministry of Employment and Labor in 2011, the Symbiotic Cooperation Program is designed to urge large companies to improving the health and safety capabilities of their suppliers to prevent industrial accidents through continuous cooperation. In 2021, we improved risk factors and evaluated risks at supplier business sites, provided safety and health training and guidelines, and helped with relevant items. In 2022, we plan to provide support for in-house supplier EHS technology and risk assessment recognition.

Safety Management for Outsourced Projects

HDI is further strengthening safety management to prevent supplier safety accidents during outsourced projects at its worksites. The company operates a daily on-site patrol to check on-site safety status and the Safety Walk that is carried out by management and working-level teams to inspect potential safety risks. In particular, to prevent falling accidents, we completed a total inspection of internal buildings and addressed all accident risk factors. In addition to strengthening the safe work plan and approval process, we set up a special safety and health budget and made priority investments in high-risk work. In 2022, we created the "Safety and Health Planning Team" and strengthened internal awareness of the safety culture through a safety culture project and field-tailored training. We also recruited additional employees to supervise construction sites and carry out safety patrols to strengthen supervision of field safety management. We are thus conducting strengthened safety management activities for the safety of all suppliers and visitors.

Emergency Response System

Fire Response

To prevent fires related to electricity, overheating, and dust, HDI has been upgrading its firefighting facilities and improving its firefighting capabilities. The "2019 Self-Defense Forces Firefighting Training Assessment" is a fire drill led by Incheon Metropolitan City to strengthen the initial response and firefighting capability in the event of a fire. The Incheon Plant conducted evacuation, fire suppression, and emergency drills following a hypothetical firefighting scenario in which its R&D center is hit by an earthquake.

Following the fire drill, we had trainings on the risks of smoke inhalation, an air mat experience, how to operate a fire extinguisher, and cardiopulmonary resuscitation, thereby increasing employees' response capabilities. In 2021, we upgraded our drills to better handle fire suppression, fire truck entry, and lifesaving, with a particular focus on such processes with a high probability of a fire as painting and commissioning. We also strengthened our prevention system so that we can respond quickly and efficiently by developing an emergency response scenario for each department.

Industrial Accident Rate Management

The traditional method used to calculate the industrial accident rate does not faithfully reflect the incidence of minor accidents. HDI, therefore, began to use the LTIR[1], TRIR[2], and LWSR[3] indicators in 2018, which allowed the company to identify minor accidents that resulted in lost time as well as those who received treatment at the company or its suppliers. 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 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).

[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

[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

Enhancing Employee Health Management

Responding to COVID-19

In response to the COVID-19 pandemic in 2020, we provided masks to our employees and in-house suppliers, disinfected business sites, set up hand sanitizers and thermometers, while also establishing "COVID-19 response guidelines" that reflected guidelines of the Korea Centers for Disease Control and Prevention and strictly observing the guidelines, as part of our efforts to create a safe work environment.

Activities to Prevent Infection To prevent the spread of COVID-19, HDI provided masks to its employees as well as in-house suppliers, set up hand sanitizers and thermometers, and installed thermal imaging cameras right when COVID-19 first emerged. In addition, we reviewed various situations in advance based on quick information-sharing and precise decision-making, and established "COVID-19 response guidelines" that includes response measures for each phase of the spread of the disease as well as the reporting system in the event of an emergency and employee behavior standards. To prepare for similar situations in the future, we have established rules on infectious disease response management, and strengthened the infectious disease response management process to respond to regular infectious disease, such as seasonal infectious disease.

Preventing the Spread of Infection To prevent the spread of COVID-19 in the event of a confirmed case, HDI has established a process for each situation and continued to share the content with employees and in-house suppliers aimed at raising their awareness of the infectious disease. When an employee, an employee's family, and a person who came into close contact showed symptoms, the company provided paid leave and enabled telecommuting for self-quarantine and disinfected the work site of the person who showed suspicious symptoms.

Creating Healthy Workplace

Managing Occupational Disease HDI strives to prevent occupational diseases such as noise-induced deafness and musculoskeletal disorders. To this end, we hold a monthly meeting of the Musculoskeletal Disorder Improvement Working Council, which is composed of labor union officials, worksite managers, and employees in charge of EHS and 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, HDI has set a strategic direction to fundamentally minimize noise-generating processes while also offering high-quality earplugs and other protective gears, and providing education on the proper use of them. As a result, 78% of noise excess processes were improved in the last decade. In 2021, we carried out improvement activities for processes that cause musculoskeletal burden, and improved 34 out of a total 43 processes. We also provide protective gears against fine dust and appropriate rest time to help with smooth work.

Health Management Programs In helping its employees manage their health, HDI operates various health promotion programs, including the installation of automated external defibrillators (AEDs) and the preparation of a low sodium diet menu. Whenever a healthcare issue such as the spread of an infectious disease arises, we operate the Emergency Situation Room and promptly offer the relevant information on preventive measures to our employees. 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.

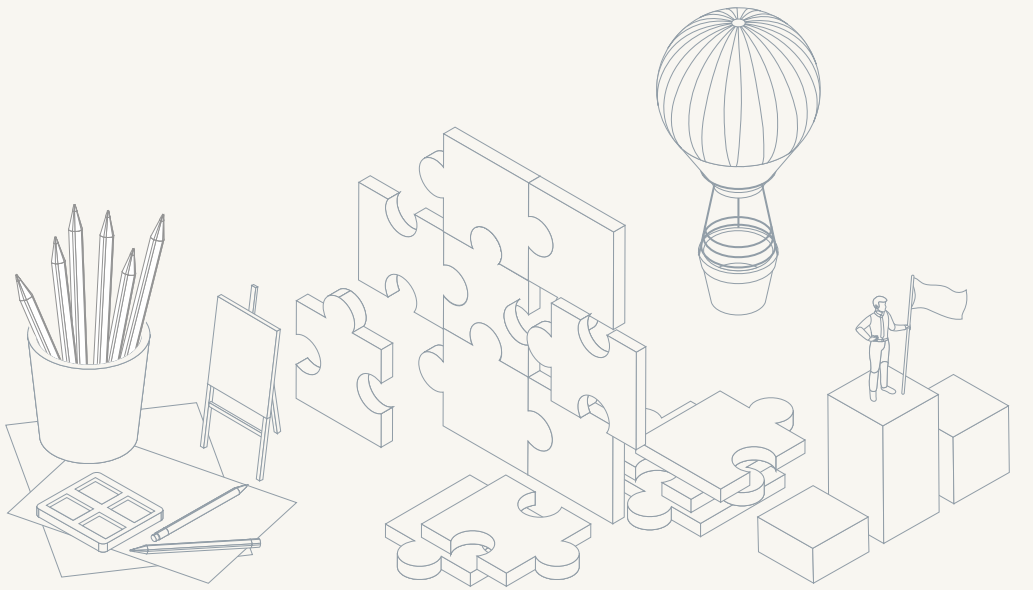
IT System for Health Checkup History Management Through "DooGreen", an integrated EHS IT system that includes an employee health checkup history management function, HDI presents legal risks related to a lack of health checkup and special checkup data. In addition, we offer support at the company level through the system as a way to help our employees improve their health by managing their personal health checkup-related items, including health checkup history management, management of chemicals used for each task, and management of working environment measurement results.

Programs to Manage Job Stress HDI conducts 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, "DOOHUG" is a professional counseling service offered in partnership with an external professional institution. It provides employees with professional counseling services about not only their work-related concerns but also personal worries. We keep all DOOHUG counseling details and personal information strictly confidential, and pay all of counseling expenses. In 2021, we conducted a "Psychological Health Test" for all of our employees to diagnose their stress level and provided counseling and healing programs to employees with a high level of stress through our in-house counseling center and an outside counseling center. In addition, we provided training and conducted stress assessments for emotional workers, offered professional EAP training, and provided depression counseling for employees suffering emotional effects due to self-quarantine or other COVID-19 related matters.

Certified as Excellent Worksite in Employee Health Promotion In October 2019, HDI's Incheon Plant was re-certified by the Korean Ministry of Employment and Labor and the Korea Occupational Safety and Health Agency for its excellence in promoting employees' health, following its initial certification in 2013 and the recertification in 2016 (evaluation period: 3 years). The Gunsan Plant was first designated as an Excellent Worksite in Employee Health Promotion in November 2015, and re-certified in February 2019 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.

Healthy Communities

HDI will grow into a reliable and reputable company by contributing to the sustainable growth of local communities by generating not only business opportunities but also social values based on its expertise and competencies.



Our Approach

HDI seeks to realize "a better world, a brighter future" and spread the culture of sharing to local communities through corporate community involvement (CCI) programs that it has continued over many years. HDI has established a global CCI system and guidelines that reflect its corporate capabilities and social demands while carrying out CCI activities worldwide guided by a common set of core values. By practicing the spirit of sharing through direct employee participation, we seek to dream of a happy future together through continued sharing activities. The CCI Committee ensures that donations are spent in a transparent way. Together with our employees around the globe, we are implementing CCI programs that are instrumental to the development of local communities.

Sustainable Value Framework

PEOPLE

Corporate citizenship and donations HDI, as a responsible corporate citizen, aims to contribute to the creation of a sustainable community through constant CCI activities based on partnerships.

CCI investment (Korea) (Unit: KRW billion)

N/A

Goal for 2025

2019	2020	2021
8.64	8.91	7.24

CCI investment per sales (Korea) (Unit: %)

N/A

Goal for 2025

2019	2020	2021
0.28	0.33	0.20

CCI Strategies and Directions

CCI System

CCI Strategies HDI generates not only business opportunities but also social values to grow into a trusted and reputable company that contributes to the sustainable growth of its own and local communities as well. To this end, we plan and execute CCI activities that take into account the characteristics of local communities based on our CCI guidelines and continuous communication with local communities. The ESG Team at the head office is taking a central role and works in partnership with staff in charge of our domestic and overseas business sites. On the occasion of the 10th anniversary of Dream School in 2021, we shared stories of growth of participants over the last decade by creating a webpage and holding a performance briefing session. In addition, we continually supported local communities and facilities that are experiencing difficulties due to COVID-19. In 2022, we will develop programs for local communities in line with the social contribution strategies of Hyundai Heavy Industries Group and CCI programs for the local community where our new office building is located.

CCI Committee HDI 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 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 KRW 100 million or those deemed necessary to be reviewed by the BOD are deliberated and approved by the BOD.

Strategic Directions of Hyundai Heavy Industries Group's Social Contribution

Vision

"A Better World, A Brighter Future"

Main Direction

Participative	Sustainable	Empathizing
Participative contribution activities to involve all personnel in sharing	Sustainable contribution activities to pursue the future together with the Group	Empathizing contribution activities valued on social responsibility and authenticity

Focused Areas

Co-prosperity with local communities	Care for the marginalized	Self-reliant future generations
Company and local communities develop together and realize a foundation for happy lives by promoting the founder's philosophy	Realizing a brighter life environment and improving the quality of life through various sharing activities that are participated in by all employees	Laying the foundation for economic independence and realizing a bright future by improving educational opportunities and environment in Korea and abroad

Win-Win with Local Communities

HDI seeks to growth together with local communities and realize a foundation for happy lives by promoting the founder's philosophy. 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.

HDI carries out a variety of CCI activities with the participation of not only its employees but also their family members in a way that the activities can bring practical assistance to local communities. We carry out activities that improve the residential environment and welfare facilities of local communities located near our business sites as part of our efforts to improve the welfare of local residents.

In 2021, HDI participated in the "My House Space Filling Project", an Incheon Metropolitan City's permanent rental housing support program to provide household appliances for spatial use of rental housing, thus helping with home improvements for the underprivileged in the local community. Due to difficulties in face-to-face volunteer activities caused by COVID-19, we provided vehicles for meal delivery and heating supplies to local communities (Incheon, Gunsan, Boryeong) and welfare centers located near our business sites. In China, we received recognition for our efforts to overcome COVID-19 and improve the educational environment in local communities, such as the Hope Elementary School activity, and were chosen as a "model Korean CSR company in China" for seven consecutive years in 2021. HDI will continue with CCI activities based on continued interest as a member of local communities.

Caring for the Underprivileged

HDI seeks to realize a brighter life environment and improve the quality of life through various sharing activities that are participated in by employees. We share kimchi prepared for the winter and briquettes with the underprivileged in local communities and continually support social welfare organizations, including welfare facilities and soup kitchens. We continually carry out volunteer activities for the underprivileged in local communities through voluntary service club activities. We held a non-face-to-face Junior Engineering Class on science and engineering principles to children at a child care center in Incheon in 2021. Due to COVID-19, we donated goods instead of carrying out voluntary service club activities to the Incheon Immigrant Women's and a soup kitchen in Ansan. For the local community in Incheon, we held the "Sharing Rice of Love" event for underprivileged neighbors on every national holiday.

Construction Support for Hope Elementary Schools in China

Under the slogan of 'We will build a beautiful China together', 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. It has been supporting the construction of Hope Elementary Schools, thereby providing local youths 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 HDI 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. In 2021, customized support was provided to 10 schools, among previously established Hope Elementary Schools, to promote continued school development.

Support for Future Generation

Dream School

HDI has been running 'Dream School', a dream-finding program for youth based on mentoring, since 2012 together with World Vision, an international NGO devoted to humanitarian aid across the world. As one of our flagship CCI programs, the Dream School helps youth living nearby our business sites in Seoul, Incheon, and Gunsan to nurture their dream for five years from second grade of middle school by offering mentoring programs, education for self-discovery, Dream Project activities, and other experiential programs to help them shape their career path. Middle school mentees take part in a mentoring program provided by HDI employees for two years – it also includes education for self-discovery, specialist mentoring sessions, and career experiences. High school mentees engage in self-directed activities, including meeting with professionals through Dream Club activities, in an effort to shape their career paths.

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 in line with the sharply-changing era. The high school program focuses on emotional support and capacity building through coaching programs while also increasing the practical understanding of their dreams and aspired careers through opportunities to meet professionals.

Dream School programs in 2021 were ran online to prevent the spread of COVID-19, and 22 mentees of the 8th class with 15 mentors of our employees participated in career exploration activities online. We have been making continuous efforts to help the mentees to grow into good members of society by encouraging them to participate in various community activities, such as experiential activities, professional coaching, and peer activities, in addition to mentoring support offered by our employees.

10th Anniversary of Dream School

We celebrated the 10th anniversary of Dream School in 2021 by opening an official webpage and social media channel to share information about the course of Dream School over the past decade and to share the value of "dream".

A Dream School 10th anniversary briefing session was held in November 2021 during which information about a performance evaluation was shared by researchers, presentations on cases were given by actual participants, and panel discussions were held by experts, thereby sharing the value and significance of Dream School. Over the last 10 years, a total of 459 young mentees and 404 employee mentors jointly went on a dream-discovering journey. Youths who participated in Dream School from the 1st to 3rd class have grown into members of society and are achieving their dreams. Going forward, we will continue to perform roles as a corporate citizen so that youths who will lead our society can develop their dreams.

2012-2021
Countless hours of Dream School

459
Mentees who found their dreams together with Dream School over the last decade

404
Mentors who grew together with children over the last decade

487
People who took part in Dream School over the last decade

Our Dream Story

Support Based on the Company's Core Competencies

HDI leverages its business resources to promote its CCI activities, including expertise in construction mechanical engineering and product development.

Support for Natural Disaster Relief In the event of a massive disaster such as an earthquake or a typhoon, HDI provides construction equipment, such as excavators, wheel loaders, and compact construction machinery, thus providing support based on its core competencies. We have provided construction equipment and donations for rapid relief and recovery from devastating natural disasters around the world, such as Hurricane Katrina in the U.S. in 2005, the Sichuan earthquake in China in 2008, the earthquake in Haiti in 2010, the Tohoku earthquake in Japan in 2011, Typhoon Haiyan in the Philippines in 2013, the devastating earthquake in Nepal in 2015, and the earthquake that hit Indonesia in 2018.

Donation of Equipment and Model HDI 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 2019, we donated prototype engines for educational use to the University of Seoul and Seoul University of Science and Technology, and donated construction equipment, engines, hydraulic pumps, and cylinders, and also ran training programs for the Ajou Motor College. In April 2020, we donated a D34 engine to the Gimje Campus of Korea Polytechnics. In 2021, we donated a protype engine for educational purposes to the Inpyung Automotive High School. By donating equipment, we seek to help foster construction equipment and engine talent, thereby supporting future generations and contributing to the development of local communities.

The Junior Engineering Class Launched in 2008, the Junior Engineering Class is a talent donation circle with a history of 13 years, mainly consisting of HDI's R&D executives and employees. We offer experience-based classes, including science kits, to elementary school students nearby our business sites in Korea to help them learn the basic principles of science in an easy and interesting way. Classes were given on various science and technology subjects, such as steel, solar cars, electrostatic power plants, and glasses which prevent drowsiness. We held the "online Junior Engineering Class" using a video conference platform due to COVID-19 in 2021. Students learned about ICT principles and the latest scientific principles, such as creating a wagon that is controlled using a smartphone application.

Employee Engagement

Employee Donations Approximately 70.6% of HDI's employees in Korea, excluding expatriates working overseas, participate in the company's employee donation programs as of the end of 2021. These consist of the "Collecting Small Change from Employee Salary" scheme and the "Employee Donation Accounts", alongside the company's matching grant. The funds raised are donated to the Community Chest. Information on usage of the funds is transparently disclosed through the CCI information system and internal portal news.

HDI has been making donations since 2011 as part of its efforts to spread a culture of sharing and donation. We conduct a CCI survey and receive employee recommendations on groups that require support from the company, and then use employee donations to engage in activities that improve the environment of local community welfare facilities and to support local resident welfare-enhancing programs.

Building a System for Employee Engagement HDI is operating various systems to establish a corporate culture where employees' participation in CCI is encouraged. The company built a CCI Information System on the company Intranet to increase employees' awareness of the company's voluntary services while keeping track of their participation and managing the employee donation. In addition to company-led CCI programs, we operate a support system for voluntary service clubs run by our employees. In addition, we run diverse support programs, such as the CCI diligence and indolence system and reward system, to encourage the voluntary participation of employees in CCI activities.

APPENDIX

Financial Performance

Consolidated Statements of Financial Position

Hyundai Doosan Infracore Co., Ltd. and Subsidiaries

December 31, 2021 and 2020

(in Korean won)

	December 31, 2021	December 31, 2020
ASSETS		
Current assets		
Cash and cash equivalents	₩ 545,383,450,272	₩ 1,663,459,039,827
Short-term financial instruments	78,617,146,367	139,940,131,859
Short-term investment securities	29,628,600	111,160,898,007
Trade and other receivables	1,358,091,518,641	1,358,281,427,677
Derivative assets	1,886,450,241	415,822,604
Inventories	1,077,584,469,079	1,589,908,086,009
Other current assets	178,251,465,519	186,449,615,091
	3,239,844,128,719	5,049,615,021,074
Non-current assets		
Long-term financial instruments	1,288,780,690	582,864,908
Long-term investment securities	19,078,504,426	40,447,591,006
Long-term trade and other receivables	7,829,091,484	4,969,070,586
Investments in associates and joint ventures	393,863,593	143,219,994,410
Property, plant and equipment	1,162,534,800,169	1,851,511,569,146
Intangible assets	165,399,677,304	4,480,673,780,764
Investment properties	11,148,499,179	135,527,255,910
Deferred tax assets	94,433,403,506	156,818,059,667
Right-of-use assets	36,852,362,288	88,408,864,815
Other non-current assets	43,486,686,377	75,112,121,557
	1,542,445,669,016	6,977,271,172,769
Total assets	₩ 4,782,289,797,735	₩ 12,026,886,193,843

(in Korean won)

	December 31, 2021	December 31, 2020
LIABILITIES		
Current liabilities		
Trade and other payables	₩ 949,708,464,572	₩ 1,600,710,190,244
Short-term borrowings	468,222,918,528	930,840,259,045
Current portion of bonds	741,411,814,544	612,592,894,338
Current portion of long-term borrowings	38,765,974,986	80,918,529,449
Current tax liabilities	211,150,780,775	32,897,125,091
Current derivative liabilities	2,354,540,803	220,775,235
Provisions	116,303,366,399	240,699,675,799
Current lease liabilities	13,601,820,753	25,214,690,922
Other current liabilities	227,249,861,350	358,548,574,067
	2,768,769,542,710	3,882,642,714,190
Non-current liabilities		
Other non-current payables	4,122,351	5,658,287
Bonds	504,723,820,697	1,795,800,115,056
Long-term borrowings	6,575,146,557	868,988,012,974
Net defined benefit liabilities	13,282,472,967	438,980,831,440
Non-current derivative liabilities	-	43,774,149,009
Deferred tax liabilities	34,261,161,774	272,264,977,225
Non-current provisions	37,734,432,460	62,526,535,945
Non-current lease liabilities	11,190,372,322	52,184,669,864
Other non-current liabilities	35,924,831,769	120,719,925,261
	643,696,360,897	3,655,244,875,061
Total liabilities	3,412,465,903,607	7,537,887,589,251
EQUITY		
Share capital	197,434,567,000	1,079,658,125,000
Capital surplus	629,006,834,313	166,597,929,630
Other components of equity	(1,580,314,102,146)	(71,162,757,356)
Accumulated other comprehensive income	245,424,395,334	(205,475,268,112)
Retained earnings	1,879,093,975,716	1,408,125,824,003
Equity attributable to owners of the Parent Company	1,370,645,670,217	2,377,743,853,165
Non-controlling interest	(821,776,089)	2,111,254,751,427
Total equity	1,369,823,894,128	4,488,998,604,592
Total liabilities and equity	₩ 4,782,289,797,735	₩ 12,026,886,193,843

Consolidated Statements of Profit or Loss

Hyundai Doosan Infracore Co., Ltd. and Subsidiaries

Years Ended December 31, 2021 and 2020

(in Korean won)

	2021	2020
Revenue	₩ 4,593,665,146,349	₩ 3,988,103,997,064
Cost of goods sold	(3,706,827,366,414)	(3,146,070,044,294)
Gross profit	886,837,779,935	842,033,952,770
Selling and administrative expenses	(622,329,974,358)	(577,589,318,925)
Operating profit	264,507,805,577	264,444,633,845
Finance income	118,981,946,352	116,516,290,967
Finance costs	(160,535,739,367)	(246,322,974,886)
Other non-operating income	10,739,743,808	10,737,444,913
Other non-operating expenses	(37,835,258,651)	(28,874,960,044)
Loss on equity method	(21,844,588,648)	(3,838,742,518)
Profit before income tax	174,013,909,071	112,661,692,277
Income tax expense	(62,429,670,386)	(59,411,943,560)
Profit from continuing operations	₩ 111,584,238,685	₩ 53,249,748,717
Profit from discontinued operations	₩ 49,154,568,299	₩ (6,162,194,843)
Profit for the year:	₩ 160,738,806,984	₩ 47,087,553,874
Owners of the Parent Company	₩ 461,535,332,054	₩ 148,834,138,692
Non-controlling interest	106,300,498,206	136,239,544,457
Earnings per share attributable to the equity holders of the Parent Company		
Continuing operations and Discontinued operations		
Basic earnings per share	₩ 5,816	₩ 2,278
Diluted earnings per share	5,336	2,263
Continuing operations		
Basic earnings per share	₩ 1,335	₩ 586
Diluted earnings per share	1,228	582

Consolidated Statements of Comprehensive Income

Hyundai Doosan Infracore Co., Ltd. and Subsidiaries

Years Ended December 31, 2021 and 2020

(in Korean won)

	2021	2020
Profit for the year	₩ 567,835,830,260	₩ 285,073,683,149
Other comprehensive income		
Itesm that will not be reclassified to profit or loss:		
Remeasurements of net defined benefit liability	12,567,971,522	(11,017,849,266)
Revaluation reserves of property, plant and equipment	3,199,520,031	-
Gain on valuation of equity instruments at fair value through other comprehensive income	1,544,268,015	-
Share of other comprehensive income of associates	-	43,762,664
Items that may be subsequently reclassified to profit or loss:		
Exchange differences	200,422,321,301	(76,846,084,349)
Cash flow hedges	(220,337,813)	3,056,646,628
Other comprehensive income for the year, net of tax	217,513,743,056	(84,763,524,323)
Total comprehensive income for the year	₩ 785,349,573,316	₩ 200,310,158,826
Total comprehensive income for the year is attributable to:		
Owners of the Parent Company	₩ 616,637,221,671	₩ 104,600,518,607
Non-controlling interest	168,712,351,645	95,709,640,219
	₩ 785,349,573,316	₩ 200,310,158,826

Consolidated Statements of Changes in Equity

Hyundai Doosan Infracore Co., Ltd. and Subsidiaries

(in Korean won)

Years Ended December 31, 2021 and 2020

	Attributable to owners of the Parent Company					Non-controlling Interest	Total
	Share capital	Capital surplus	Other components of equity	Accumulated other comprehensive income	Retained Earnings	Subtotal		
Balance at January 1, 2020	₩ 1,040,806,395,000	₩ 154,356,219,760	₩ (70,649,474,593)	₩ (159,818,151,453)	₩ 1,257,868,188,737	₩ 2,222,563,177,451	₩ 2,044,988,860,808	₩ 4,267,552,038,259
Total comprehensive income:								
Profit for the year	-	-	-	-	148,834,138,692	148,834,138,692	136,239,544,457	285,073,683,149
Remeasurement of net defined benefit liabilities	-	-	-	-	(417,257,631)	(417,257,631)	(10,600,591,635)	(11,017,849,266)
Revaluation reserves of property, plant and equipment	-	-	-	(1,799,768,503)	1,799,768,503	-	-	-
Share of retained earnings of associates	-	-	-	-	40,985,702	40,985,702	2,776,962	43,762,664
Exchange differences	-	-	-	(46,801,841,183)	-	(46,801,841,183)	(30,044,243,166)	(76,846,084,349)
Cash flow hedges	-	-	-	2,944,493,027	-	2,944,493,027	112,153,601	3,056,646,628
Total comprehensive income for the period	-	-	-	(45,657,116,659)	150,257,635,266	104,600,518,607	95,709,640,219	200,310,158,826
Transactions with owners:								
Cancellation and redemption of share options	-	513,282,763	(513,282,763)	-	-	-	-	-
Exercise of stock warrants	38,851,730,000	10,892,620,131	-	-	-	49,744,350,131	-	49,744,350,131
Issuance of convertible bonds	-	835,806,976	-	-	-	835,806,976	-	835,806,976
Dividend of subsidiary	-	-	-	-	-	-	(29,443,749,600)	(29,443,749,600)
Total transactions with owners	38,851,730,000	12,241,709,870	(513,282,763)	-	-	50,580,157,107	(29,443,749,600)	21,136,407,507
Balance at December 31, 2020	₩ 1,079,658,125,000	₩ 166,597,929,630	₩ (71,162,757,356)	₩ (205,475,268,112)	₩ 1,408,125,824,003	₩ 2,377,743,853,165	₩ 2,111,254,751,427	₩ 4,488,998,604,592
Balance at January 1, 2021	₩ 1,079,658,125,000	₩ 166,597,929,630	₩ (71,162,757,356)	₩ (205,475,268,112)	₩ 1,408,125,824,003	₩ 2,377,743,853,165	₩ 2,111,254,751,427	₩ 4,488,998,604,592
Total comprehensive income:								
Profit for the year	-	-	-	-	461,535,332,054	461,535,332,054	106,300,498,206	567,835,830,260
Remeasurement of net defined benefit liabilities	-	-	-	-	7,888,551,644	7,888,551,644	4,679,419,878	12,567,971,522
Revaluation reserves of property, plant and equipment	-	-	-	3,199,520,031	-	3,199,520,031	-	3,199,520,031
Loss(Gain) on valuation of financial assets at fair value through other comprehensive income	-	-	-	-	1,544,268,015	1,544,268,015	-	1,544,268,015
Exchange differences	-	-	-	142,692,502,747	-	142,692,502,747	57,729,818,554	200,422,321,301
Cash flow hedges	-	-	-	(222,952,820)	-	(222,952,820)	2,615,007	(220,337,813)
Total comprehensive income for the period	-	-	-	145,669,069,958	470,968,151,713	616,637,221,671	168,712,351,645	785,349,573,316
Transactions with owners:								
Cancellation and redemption of share options	-	289,872,269	(289,872,269)	-	-	-	-	-
Exercise of stock warrants	190,248,616,000	67,801,213,194	-	-	-	258,049,829,194	-	258,049,829,194
Acquisition and disposition of treasury shares	-	3,784,187	(1,093,992,368)	-	-	(1,090,208,181)	-	(1,090,208,181)
Changes in Shares of Subsidiaries	-	-	(166,663,913,629)	-	-	(166,663,913,629)	(138,500,758,821)	(305,164,672,450)
Capital increase	115,107,913,000	568,598,691,210	-	-	-	683,706,604,210	-	683,706,604,210
Capital reduction without consideration	(318,097,492,000)	-	318,097,492,000	-	-	-	-	-
Spin-off	(869,482,595,000)	(174,284,656,177)	(1,659,201,058,524)	305,230,593,488	-	(2,397,737,716,213)	(2,142,288,120,340)	(4,540,025,836,553)
Total transactions with owners	(882,223,558,000)	462,408,904,683	(1,509,151,344,790)	305,230,593,488	-	(1,623,735,404,619)	(2,280,788,879,161)	(3,904,524,283,780)
Balance at December 31, 2021	₩ 197,434,567,000	₩ 629,006,834,313	₩ (1,580,314,102,146)	₩ 245,424,395,334	₩ 1,879,093,975,716	₩ 1,370,645,670,217	₩ (821,776,089)	₩ 1,369,823,894,128

Consolidated Statements of Cash Flows

Hyundai Doosan Infracore Co., Ltd. and Subsidiaries

Years Ended December 31, 2021 and 2020

(in Korean won)

	2021	2020
Cash flows fromoperating activities		
Cash generated from operations:		
Profit for the year	₩ 567,835,830,260	₩ 285,073,683,149
Adjustments	329,543,741,991	711,646,180,133
Changes in operating assets and liabilities	(483,842,464,590)	289,155,613,357
Interest received	12,451,669,045	18,463,373,663
Interest paid	(122,304,729,369)	(143,306,988,879)
Dividends received	448,000,000	560,000,000
Income tax paid	(106,022,958,098)	(110,745,091,807)
Net cash inflow from operating activities	198,109,089,239	1,050,846,769,616
Cash flows from investing activities		
Decrease in short-term financial instruments	39,322,985,491	5,030,514,078
Decrease in long-term financial instruments	-	240,578,471
Disposal of short-term investment securities	12,774,451,423	-
Disposal of long-term investment securities	3,612,403,602	3,225,381,820
Decrease in loans	15,643,237	260,528,473
Disposal of property, plant and equipment	5,291,125,862	8,520,711,678
Disposal of investment properties	406,880,321	53,367,500
Disposal of intangible assets	2,452,985,930	5,076,894,597
Others	7,747,375,000	1,382,892,899
Increase in long-term financial instruments	(3,721,226,431)	-
Acquisition of short-term investment securities	(225,073,803)	(100,500,186,033)
Acquisition of long-term investment securities	(6,353,884,653)	(30,599,233,803)
Increase in loans	(1,292,898)	(28,321,200,000)
Acquisition of property, plant and equipment	(119,325,994,512)	(220,138,150,928)
Acquisition of intangible assets	(36,912,836,532)	(95,719,541,929)
Acquisition of investment properties	(463,969,580)	(1,436,320,658)
Acquisition of investment in associates and joint ventures	(3,604,000,000)	(46,184,763,344)
Others	(77,268,031,278)	(4,056,208,823)

(in Korean won)

	2021	2020
Net cash outflow from investing activities	(176,252,458,821)	(503,164,736,002)
Cash flows from financing activities		
Capital increase	688,345,319,740	-
Net increase in short-term borrowings	-	345,268,747,480
Proceeds from long-term borrowings	553,898,760,857	258,849,691,723
Proceeds from issuance of bonds	504,097,301,104	1,447,919,299,190
Exercise of stock warrants	257,496,711,725	49,540,236,110
Disposal of treasury shares	1,832,377	-
Net decrease in short-term borrowings	(362,225,676,584)	-
Repayment of long-term borrowings	(53,383,480,745)	(646,518,781,751)
Repayment of bonds	(687,000,000,000)	(962,019,463,446)
Cost of issuance of new shares	(4,638,715,530)	-
Changes in Shares of Subsidiaries	(295,043,826,999)	-
Payments for lease liabilities	(27,641,638,915)	(34,657,953,968)
Dividends paid	-	(29,443,749,600)
Acquisition of treasury shares	(1,101,427,547)	-
Net cash inflow (outflow) from financing activities	572,805,159,483	428,938,025,738
Effects of exchange rate changes on cash and cash equivalents	71,151,023,091	(69,334,390,641)
Decrease cash due to spin-off	(1,783,888,402,547)	-
Net increase (decrease) in cash and cash equivalents	(1,118,075,589,555)	907,285,668,711
Cash and cash equivalents at the beginning of the year	1,663,459,039,827	756,173,371,116
Cash and cash equivalents at the end of the year	₩ 545,383,450,272	₩ 1,663,459,039,827

Non-Financial Performance

ESG Fact Sheets

Economic

Economic Growth: Sales Records

Classification		Unit	2019	2020	2021
Consolidated	Sales	KRW million	4,128,136	3,988,104	4,593,665
	Operating income	KRW million	375,435	264,445	264,508
	Net income	KRW million	395,698	285,074	567,836
Separate	Sales	KRW million	3,102,184	2,712,338	3,618,065
	Operating income	KRW million	178,187	89,362	190,710
	Net income	KRW million	53,024	(37,858)	29,341

Financial Soundness: Financial Status

Classification		Unit	2019	2020	2021
Consolidated	Total assets	KRW million	11,338,593	12,026,887	4,782,290
	Total liabilities	KRW million	7,071,041	7,537,888	3,412,466
	Total equity	KRW million	4,267,552	4,488,999	1,369,824
Separate	Total assets	KRW million	4,965,757	5,180,809	3,503,272
	Total liabilities	KRW million	3,490,347	3,679,161	2,412,266
	Total equity	KRW million	1,475,410	1,501,648	1,091,006

DISCLAIMER

[1] The dominant company completed a spin-off of the investment business unit, from among businesses that the company conducts, on the spin-off date of July 1, 2021, in accordance with an AGM resolution on May 13, 2021.

[2] The investment business unit underwent a spin-off based on a spin-off merger, through which it was merged into Doosan Heavy Industries & Construction. The business performance of the investment business unit, which is succeeded to the succeeding company after division, was indicated as a suspended business.

[3] Accordingly, the comparatively-indicated performance of the 19th, 20th, and 21st terms was recreated.

Research & Development

Classification		Unit	2019	2020	2021
R&D personnel[1]	Korea	Persons	739	749	750
R&D investment		KRW million	149,291	136,231	135,642
R&D investment per sales		%	4.8	5.02	3.74

* Based on separate financial statements

[1] Newly disclosed item in 2021

Classification			Unit	2019	2020	2021[4]
Intellectual properties	Application[1]	Global[3]	Cases	3,914	4,285	2,763
	Registration[2]		Cases	2,871	3,224	1,955

[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

[4] Changed to consolidated basis company basis after the M&A (August 2021)

Retirement pension system reserves[1]

Classification		Unit	2019	2020	2021
Retirement pension system (DB)	Korea	KRW million	-	-	215,107
Retirement pension system (DC)		KRW million	-	-	22

[1] Newly disclosed item in 2021

Quality Management

Classification		Unit	2019	2020	2021
No. of ISO 9001-certified worksites	Korea	Sites	4	4	4
	China	Sites	2	2	2

Transparent Management

Corporate Governance

Classification		Unit	2019	2020	2021
Attendance rate of directors in BOD meetings[1]	Korea	%	92.9	97.1	94.4
Percentage of female directors		%	0.0	0.0	0.0

[1] The total BOD (internal/outside director) attendance rate is disclosed

CEO-to-Worker Remuneration Ratio

Classification		Unit	2019	2020	2021
CEO remuneration	Korea	KRW million	1,443	581	1,815
Average remuneration per employee		KRW million	89	86	95
Ratio[2]		%	16.21	6.76	19.11

[1] Figure reflected a decision to return 30% of executive salaries due to Group business conditions (April 2020)
[2] Figure calculated by dividing the total CEO remuneration by the average remuneration per employee

Ethical Management

Classification		Unit	2019	2020	2021[2]
Completion rate of ethical management training[1]	Korea	%	95.0	99.5	Not held
	China	%	100.0	99.1	Not held

[1] No. of employees who have completed the ethical management training / No. of total employees (once a year per person)
[2] There was no Group-level ethics training in 2021 because the company was incorporated into the Hyundai Heavy Industries Group.

Classification	Unit	2019	2020	2021
Collection rate of statement of interests form[1]	%	100	100	98

[1] No. of employees who submitted a signed copy of statement of interests form / No. of office worker who has a job title of part leader or higher from among employees in Korea and expatriates working in China

Actions Taken Against Code of Conduct Violations[1]

Classification		Unit	2019	2020	2021
Disciplinary action	Korea	Persons (Percentage)	5 (71%)	11 (61%)	5 (55%)
Warning or lesser measure		Persons (Percentage)	2 (29%)	7 (39%)	4 (45%)
Total		Persons (Percentage)	7 (100%)	18 (100%)	9 (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	2019	2020	2021
No. of times of compliance training[1]	Korea	Cases	4	2	4
No. of employees who participated in compliance training		Persons	283	882	914
No. of cases of legal advice related to fair trade[2]		Cases	-	-	54
No. of cases of legal advice related to anti-bribery and economic sanctions[2]		Cases	-	-	9
No. of cases of violation of the Improper Solicitation and Graft Act		Cases	0	0	0

[1] Compliance training: Compliance-related training that is operated so that a company can voluntarily comply with fair trade-related laws
[2] Performance from Year 2021 is disclosed for this data

Compliance

Classification		Unit	2019	2020	2021
Legal measures on unfair trade conduct	Korea	Cases	0	0	0
Fine levied due to violation of laws or regulations		KRW billion	0.1	0	0
No. of cases of violation of environmental laws	Korea	Cases	0	0	0
Fines due to violating environmental laws		KRW billion	0	0	0

Policy-related Expenditures

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

Largest Expenditures to Associations in 2021

Classification		Unit	2021
Korea Foundation for Cooperation of Large & Small Business, Rural Affairs	Korea	KRW million	400
Korea Enterprises Federation		KRW million	243
Korea Construction Equipment Manufactures Association		KRW million	103
Incheon Chamber of Commerce & Industry		KRW million	80
Gunsan Chamber of Commerce & Industry		KRW million	47

Customers

Protection of Customer Information

Classification		Unit	2019	2020	2021
Customers information leakages	Korea	Cases	0	0	0
	China	Cases	0	0	0

Product labeling[1)]

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

[1)] Newly disclosed item in 2021

Environment

Environmental Expenditure and Investment

Classification		Unit	2019	2020	2021
Environmental investments and operating costs	Korea	KRW billion	7.9	13.2	7.1

Environmental Management System

Classification		Unit	2019	2020	2021
Worksites with ISO 14001 (EMS[1)]) certification	Korea	Sites	3	4	4
	China	Sites	1	1	1

[1)] EMS: Environmental Management System

Energy Consumption

Classification			Unit	2019	2020	2021
Energy consumption (Domestic)	Korea	Total energy consumption[1)]	TJ	2,145	1,733	2,040
		- Intensity	TJ/Sales (KRW million)	0.00069	0.00064	0.00056
		- Energy savings	TJ	80.99	98.25	116.39
		- Reduction in energy costs	KRW million	1,018	1,296	1,466
		Direct energy (fuel) consumption[2)]	TJ	444	364	426.296
		Indirect energy (electric power) consumption[3)]	TJ	1,702	1,369	1,610.52
		Other energy consumption[4)]	TJ	0	0	3.223
		Renewable energy consumption[5)]	TJ	0	0	0
Energy consumption (Overseas)	China[6)]	Total energy consumption	TJ	456.1	499.1	411.9
		Direct energy (fuel) consumption	TJ	273.5	269.1	228.1
		Indirect energy (electric power) consumption	TJ	149.8	173.2	129.0
		Other energy consumption	TJ	32.7	56.8	54.8
		Renewable energy consumption	TJ	0.0	0.0	0.0

[1)] Total energy consumption=Direct energy consumption+Indirect energy consumption+Other energy consumption(All figures are rounded off to the nearest tenth, and therefore there may be singular number difference in the sum of figures.)

[2)] Direct energy (fuel) consumption: Nuclear fuel, coal, oil, natural gas, etc.

[3)] Indirect energy (electric power) consumption: Non-renewable electric power

[4)] Other energy consumption: Steam, heating, cooling, etc. (non-renewable)

[5)] Renewable energy purchased or generated (wind power, solar power, biomass, hydroelectric, geothermal, etc.)

[6)] China calculates energy consumption based on net calorific value according to the "General Principles for Calculation of Comprehensive Energy Consumption GB/T2589—2008" (for steam, a formula developed by the Yantai municipal government is applied). In 2019, unit of China's energy consumption was changed to TJ, and accordingly, energy consumption data for the past three years was revised.

Resources Usage

Classification			Unit	2019	2020	2021
Raw material consumption	Korea	Scrap metal	ton	34,225	23,560	27,362
		Scrap metal intensity	ton/KRW million	0.011	0.009	0.008
		Sand (molding sand)[1]	ton	18,406	17,284	15,691
		Sand intensity	ton/KRW million	0.006	0.006	0.004

* Intensity is calculated based on sales of separate financial statements of each year.
[1] Molding sands are 100% recycled.

Classification			Unit	2019[4]	2020	2021
Water consumption	Korea	Volume of water consumed	ton	584,771	478,505	477,205
		Water consumption intensity[1]	ton/KRW million	0.189	0.176	0.132
		Recycled or reused water[2]	ton	56,771	53,195	64,317
	China[3]	Volume of water consumed	ton	93,289	89,784	61,021

[1] Intensity is calculated based on sales of separate financial statements of each year.
[2] Total volume of reused water, including reused waste water, reclaimed water, and recycled rainwater
[3] The 2017 data is DICC data. Starting from 2018, the data scope was expanded to all business sites in China (including DICC, DISD, DICI).
[4] In January 2019, the volume consumed by industrial vehicles was excluded from the volume of water consumed.

Air Emissions

Classification			Unit	2019	2020	2021
Emissions of greenhouse gas (Domestic) (Including direct and indirect emissions)	Korea	Total[1]	$tonCO_2eq$	112,186	90,447	105,016
		Scope 1	$tonCO_2eq$	29,550	23,961	27,834
		Scope 2	$tonCO_2eq$	82,639	66,486	77,184
		Intensity[2]	$tonCO_2eq$/KRW million	0.036	0.033	0.029
Emissions of greenhouse gas (Overseas) (Including direct and indirect emissions)	China[3]	Total[4]	$tonCO_2eq$	29,214	33,442	26,436
		Scope 1	$tonCO_2eq$	9,012	9,044	7,617
		Scope 2	$tonCO_2eq$	20,201	24,398	18,819
		Intensity[2]	$tonCO_2eq$/KRW million	0.021	0.022	0.022

[1] There is a difference between the total emissions volume by GHG type and the total of worksites which sums up rounding off numbers of each worksite's emissions.
[2] Intensity is calculated based on sales of separate financial statements of each year. Intensity for the Chinese business sites is calculated after Korean won calculations that are based on the average exchange rate of the respective year (Exchange rate in 2021: KRW 180 = RMB 1)
[3] Figure was calculated by applying energy usage volume to the "Yantai Energy Reduction Information System," and can be subject to error. Doosan Infracore plans to carry out external verification of GHG emissions to increase reliability.
- Source of Scope 1 emissions includes LNG, diesel fuel, LPG, gasoline, and carbon dioxide (shielding gas for welding)
[4] All figures are rounded off to the nearest tenth, and therefore there may be singular number difference in the sum of figures.

Classification			Unit	2019	2020	2021
Emissions of air pollutants	Korea	Nox	kg	5,129	3,824	4,054
		Sox	kg	689	50	104
		VOCs(Continuous type/ Non-continuous type)	kg	13,555	10,443	13,590
		Dust	ton	22.71	11.45	13.73
	China	VOCs	mg/m^3	2.82	5.22	6.39
		Dust	mg/m^3	2.76	2.69	3.82

Classification			Unit	2019	2020	2021
Emissions of ozone-depleting substances	Korea	CFC, HCFC, CH_3Br, R-22	ppm	0	0	0

* Zero emissions of ozone-depleting substances

Effluents and Waste

Classification			Unit	2019	2020	2021
Emissions of effluents		Korea	ton	87,137	82,097	77,792
		China	ton	71,878	64,588	49,875
Emissions of water pollutants	Incheon	BOD[1]	mg/L	7.4	11.0	16.40
		TOC[2]	mg/L	10.6	18.5	20.50
		Suspended solids[3]	mg/L	4.0	1.4	9.20
	Gunsan	BOD[1]	mg/L	103.2	76.1	98.81
		TOC[2]	mg/L	143.5	95.6	108.24
	China	Suspended solids[3]	mg/L	8.5	7.8	19.21
		COD	mg/L	21.5	24.0	35.00

[1] Legal standard 120mg/L, company's internal standard 48mg/L
[2] Legal standard 130mg/L, company's internal standard 52mg/L
[3] Legal standard 120mg/L, company's internal standard 48mg/L

Classification			Unit	2019	2020	2021
Waste discharge	Korea	Total waste	ton	37,655	27,736	31,081
		General waste	ton	33,845	24,095	28,484
		Specified waste	ton	3,810	3,640	2,597

Classification			Unit	2019	2020	2021
Waste conversion and treatment	Korea	Total waste	ton	37,655	27,736	31,081
		Recycled waste	ton	35,660	26,730	29,470
		Incinerated amount	ton	932	1,351	1,563
		Reclaimed amount	ton	37	22	36
		Recycling rate	%	95	95	95
	China	Total waste[1]	ton	4,878	5,155	4,825
		Recycled waste[2]	ton	2,836	3,080	3,003
		Incinerated amount	ton			1,560
		Reclaimed amount	ton			262
		Recycling rate	%	58	60	62

[1] Includes both hazardous and non-hazardous waste
[2] Waste steel, waste wood

Safety and Health

Occupational Safety and Health

Classification		Unit	2019	2020	2021
Occupational accident rate	Korea	%	1.05	0.57	0.88
	China	%	0	0.08	0

* Based on accidents requiring medical care covered by Industrial Accident Insurance

Classification			2019	2020	2021
LTIR[1]	Korea		1.17	0.61	0.73
TRIR[2]			1.99	1.15	1.14
LWSR[3]			70.31	32.24	58.69
LTIR	China		0	0.08	0.00
TRIR			0	0.08	0.00
LWSR			0	1.99	0.00

* LTIR, TRIR, and LWSR have been managed since 2018
[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

No. of safety training participants[1]

Classification		Unit	2019	2020	2021
No. of safety training participants	Korea (employees)	Persons	-	-	2,518

[1] Newly disclosed item in 2021

Occupational Illness Frequency Rate

Classification		Unit	2019	2020	2021
OIFR[1]	Korea	%	0.315	0.107	0.176

* Began to manage OIFR-related data in 2018
[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	2019	2020	2021
No. of business sites with ISO 45001 (OHSMS[1]) Certification	Korea	Sites	-	4	4
	China	Sites	-	0	1

[1] OHSMS: Occupational Health and Safety Management System

Shared Growth

Support for Suppliers

Classification			Unit	2019	2020	2021
Financial support	Korea	Number of suppliers received financial support	Companies	53	56	56
		Amount of financial support[1]	KRW billion	43.5	43.5	43.5
		Ratio of cash settlement cases	%	0.2	0.2	0.3
		Number of payments	Times	Once a month	Once a month	Once a month

[1] Excluding indirect support

Classification			Unit	2019	2020	2021
Technical development support	Korea	Support for developing technology	Cases	22	22	22
		Support for protecting technology	Cases	6	6	6
Education support	Korea	Training courses	Courses	12	19	6
		Staff at suppliers who completed trainings	Persons	96	37	8
	China	Training hours	Hours	108	127	100
Competitiveness enhancement support	Korea	Operation days	man-day	195	248	183
	China	Operation days	man-day	357	357	357

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

Classification			Unit	2019	2020	2021
Part development capacity enhancement support	Korea	Provision of casting molds to strengthen suppliers' part development capacity	Companies	134	135	196
			KRW billion	28.7	20.2	29.7
	China		Companies	77	77	77

* Including multiple provision of casting molds to suppliers

Supply Chain ESG Management

Classification			Unit	2019	2020	2021
Supply chain ESG management	Korea	No. of suppliers that received an ESG inspection	Companies	116	N/A	41
		EHS support	Companies	55	49	15
Supply chain ESG management	China	No. of suppliers that received an ESG inspection	Companies	N/A	N/A	N/A
		EHS support	Companies	13	14	12

Employees

Employment

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

Classification			Unit	2019	2020	2021
By job	Korea	Office	Persons	1,622	1,587	1,536
		Technical	Persons	1,238	1,204	1,305
By employment type	Korea	Temporary[1]	Persons	96	65	171
		Ratio of temporary[2]	%	3.4%	2.3%	6.0%
Diversity	Korea	Disabled[3]	Persons	35	36	34
		Veterans[4]	Persons	92	92	90
		Elderly[5]	Persons	327	412	483
		Male	Persons	2,608	2,551	2,613
		Female	Persons	252	240	228
By job	China	Office	Persons	562	556	556
		Technical	Persons	693	649	639
By employment type	China	Temporary	Persons	39	45	44
		Ratio of temporary	%	3.1	3.7	3.7
Diversity	China	Disabled	Persons	0	0	0
		Elderly	Persons	9	11	13
		Male	Persons	1,071	1,022	1,011
		Female	Persons	184	183	184

[1] Contract workers (entrustment, technology entrustment, outside directors, advisory, outside appointment)
[2] Temporary worker / Total staff * 100
[3] Based on MY HR: national disabled classification (levels 1-6)
[4] Based on MY HR: national merit recipients (person with a merit number or someone approved)
[5] Above the age of 55 (Based on total staff in Korea)

Employment

Classification		Unit	2019[1]	2020	2021
Turnover rate[1]	Korea	%	1.10	1.40	2.05
Turnover rate by age group[2]	20s	%	2.26	2.44	2.17
	30s	%	1.19	1.64	2.58
	40s	%	0.75	1.42	2.51
	50 and above	%	0.52	0.32	0.34
Turnover rate by gender	Male	%	1.91	2.20	1.43
	Female	%	0.54	0.49	0.62
Average continuous years of service	Korea	Years	12.58	13.61	11.68
Continuous years of service by gender	Male	Years	13.14	14.18	11.68
	Female	Years	5.91	6.75	11.66

[1] Based on regular workers. Total number of turnovers in 2020 / Total number of employees as of end of 2019
[2] Based on regular workers. Total number of turnovers in 2020 by age / Total number of employees in 2019 by age
[3] Figures for 2018 and 2019 were revised due to changes in turnover rate calculation method

Classification			Unit	2019	2020	2021
Number of employees on parental leave	Korea	Male[1]	Persons	118	117	96
		Female[2]	Persons	11	12	11
Number of employees eligible for childcare leave[3]	Korea	Male	Persons	926	908	878
		Female	Persons	65	68	69
Number of employees on childcare leave[4]	Korea	Male	Persons	19	26	38
		Female	Persons	22	10	15
Number of employees returning to work after childcare leave[5]	Korea	Male	Persons	19	25	28
		Female	Persons	11	16	12
Continue to work rate for 12 months after childcare leave[6]	Korea	Male	%	100	100	100
		Female	%	100	100	100

Classification			Unit	2019	2020	2021
Number of employees on parental leave	China	Male	Persons	53	41	27
		Female	Persons	17	10	11
Return to work rate after parental leave	China		%	100	100	100

[1] Employees who began their paternity leave in 2020
[2] Employees who began their maternity leave in 2020
[3] Staff in Korea with children aged eight or under, or second graders in elementary school or below
[4] Number of employees who began childcare leave in the base year
[5] Number of employees who returned from childcare leave in the base year
[6] (12 months after the return to work) Number of current employees in 2020 from among employees who returned in 2019 / Employees who returned in 2019 * 100. Calculation for 2020 is based on figures as of March 31, 2021

Evaluation & Compensation

Classification			Unit	2019	2020	2021
Ratio of employees who receive a personnel evaluatoin	Korea	Total	%	96.9	98.0	94.2
		Office workers	%	58	58	57
		Technical workers	%	42	42	43
		Male	%	91	91	91
		Female	%	9	9	9
Average employee salary	Korea	Total	KRW million	85.0	85.0	92.0
		Male	KRW million	88	88	94
		Female	KRW million	57	58	68

Labor Union

Classification		Unit	2019	2020	2021
Union membership rate	Korea	%	94.4	94.4	94.3

* Based on technical staff (1,091 with membership out of 1,156 in total as of December 31, 2020)
* Based on technical staff (1,093 with membership out of 1,159 in total as of December 31, 2021)

Talent Nurturing

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

[1] There was a change in the per-capita annual average training expense management standards in 2019. Accordingly training expenses per person for the past three years have been recalculated.
[2] Korean won calculations are based on the average exchange rate of the year (Exchange rate in 2021: KRW 180 = RMB 1)

Classification		Unit	2019	2020	2021
Participation rate in education on human rights protection and sexual harassment prevention[1]	Korea	%	95.8	97.1	99.8

[1] (No. of office workers completed sexual harassment prevention education + No. of technical staff completed sexual harassment prevention education) / No. of total employees based on the data of this report

Community Involvement

Community Involvement Activities

Classification			Unit	2019	2020	2021
Number of employees who participated in CCI activities	Korea	Including double count	Persons	970	183	253
		Excluding double count	Persons	440	56	51
	China		Persons	1,892	1,201	561
Total hours of CCI activities	Korea		Hours	3,902	591	752

* CCI participation was reduced due to the COVID-19 pandemic in 2020.

Classification			Unit	2019	2020	2021
CCI investment	Korea	CCI investment[1]	KRW billion	8.64	8.91	7.24
		CCI investment per sales[2]	%	0.28	0.33	0.20
	China	CCI investment[3]	KRW billion	0.15	0.35	0.12

[1] Used amount of donation
[2] CCI investment / Sales of each year based on separate financial statements
[3] Korean won calculations are based on the average exchange rate of the year (Exchange rate in 2021: KRW 180 = RMB 1)

Classification	Unit	2019	2020	2021
Employee participation rate in the salary fraction donation campaign[1]	%	73	72	70.6
Annual fund raised by the salary fraction donation campaign[2]	KRW million	143	141	120

[1] Excluding expatriates working overseas
[2] In 2019, a change was made to disclose the fund raised by employee donation (sum of funds from the Collecting Small Change from Employee Salary scheme, Employee Donation Accounts, and the company's matching grant), and accordingly, amount of fund raised for the past three years was revised.

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SASB Index

Topic	Type	Code	Accounting Metrics		Description	Note	Page
Energy Management	Quantitative	RT-IG-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable, (4) total energy production	1. The entity shall disclose (1) the total amount of energy it consumed as an aggregate figure, in gigajoules (GJ).	1.1 The scope of energy consumption includes energy from all sources, including energy purchased from sources external to the entity and energy produced by the entity itself (self-generated). For example, direct fuel usage, purchased electricity, and heating, cooling, and steam energy are all included within the scope of energy consumption. 1.2 The scope of energy consumption includes only energy directly consumed by the entity during the reporting period. 1.3 In calculating energy consumption from fuels and biofuels, the entity shall use higher heating values (HHV), also known as gross calorific values (GCV), which are directly measured or taken from the Intergovernmental Panel on Climate Change (IPCC), the U.S. Department of Energy (DOE), or the U.S. Energy Information Administration (EIA).		107
				2. The entity shall disclose (2) the percentage of energy it consumed that was supplied from grid electricity.	2.1 The percentage shall be calculated as purchased grid electricity consumption divided by total energy consumption.		73, 107
				3. The entity shall disclose (3) the percentage of energy it consumed that is renewable energy.	3.1 Renewable energy is defined as energy from sources that are replenished at a rate greater than or equal to their rate of depletion, such as geothermal, wind, solar, hydro, and biomass. 3.2 The percentage shall be calculated as renewable energy consumption divided by total energy consumption. 3.3 The scope of renewable energy includes renewable fuel the entity consumed, renewable energy the entity directly produced, and renewable energy the entity purchased - if purchased through a renewable power purchase agreement (PPA) that explicitly includes renewable energy certificates (RECs) or Guarantees of Origin (GOs), - a Green-e Energy Certified utility or supplier program, or other green power products that explicitly include RECs or GOs, - or for which Green-e Energy Certified RECs are paired with grid electricity. 3.3.1 For any renewable electricity generated on-site, any RECs and GOs must be retained (i.e., not sold) and retired or cancelled on behalf of the entity in order for the entity to claim them as renewable energy. 3.3.2 For renewable PPAs and green power products, the agreement must explicitly include and convey that RECs and GOs be retained or replaced and retired or cancelled on behalf of the entity in order for the entity to claim them as renewable energy. 3.3.3 The renewable portion of the electricity grid mix that is outside of the control or influence of the entity is excluded from the scope of renewable energy. 3.4 For the purposes of this disclosure, the scope of renewable energy from hydro and biomass sources is limited to the following: 3.4.1 Energy from hydro sources is limited to those that are certified by the Low Impact Hydropower Institute or that are eligible for a state Renewable Portfolio Standard; 3.4.2 Energy from biomass sources is limited to materials certified to a third-party standard (e.g., Forest Stewardship Council, Sustainable Forest Initiative, Programme for the Endorsement of Forest Certification, or American Tree Farm System), materials considered eligible sources of supply according to the *Green-e Framework for Renewable Energy Certification, Version 1.0* (2017) or Green-e regional standards, and/or materials that are eligible for an applicable state renewable portfolio standard.		Not reported

Topic	Type	Code	Accounting Metrics		Description	Note	Page
Employee Health & Safety	Quantitative	RT-IG-320a.1	(1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR)	1. The entity shall disclose its total recordable incident rate (TRIR) for work-related injuries and illnesses.	1.1 An injury or illness is considered a recordable incident if it results in any of the following: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness. Additionally, a significant injury or illness diagnosed by a physician or other licensed health care professional is considered a recordable incident, even if it does not result in death, days away from work, restricted work or job transfer, medical treatment beyond first aid, or loss of consciousness. This definition is derived from U.S. 29 CFR 1904.7. 1.2 The U.S. Occupational Safety and Health Administration (OSHA) provides additional resources for determining if injuries or illnesses are considered recordable incidents in its guidance for OSHA Forms 300, 300A, and 301.		109
				2. The entity shall disclose its fatality rate for work-related fatalities.			Not reported
				3. The entity shall disclose its near miss frequency rate (NMFR) for work-related near misses.	3.1 A near miss is defined as an unplanned incident in which no property or environmental damage or personal injury occurred, but where damage or personal injury easily could have occurred but for a slight circumstantial shift. 3.2 The U.S. National Safety Council (NSC) provides guidance on implementing near miss reporting, including in, "Near Miss Reporting Systems." 3.3 The entity may disclose its process for classifying, identifying, and reporting near misses.		Not reported
Fuel Economy & Emissions in Use-phase	Quantitative	RT-IG-410a.1	Sales-weighted fleet fuel efficiency for medium- and heavy-duty vehicles	1. The entity shall disclose its sales-weighted average fleet fuel efficiency for medium- and heavy-duty vehicles, where:	1.1 Fleet fuel efficiency is defined as the average fuel economy of its medium- and heavy-duty commercial vehicles, weighted by the number of each sold during the reporting period and measured in gallons per 1,000 ton-miles. 1.2 The scope of disclosure includes vehicles in the fleet that weigh 8,500 pounds or more, and which are covered under the U.S. Heavy Duty (HD) National Program, including combination tractors (commonly known as semi-trucks), heavy-duty pickup trucks and vans, and vocational vehicles. 1.3 Where fleet averages are calculated by model year for regulatory purposes, the entity shall use these performance data. 1.4 In the absence of regulatory guidance on calculating a fleet average, the entity shall calculate performance based on the fuel economy of vehicles sold during the reporting period, weighted by sales volume.		Not reported
	Quantitative	RT-IG-410a.2	Sales-weighted fuel efficiency for non-road equipment	1. The entity shall disclose its sales-weighted average fuel efficiency for its non-road equipment and vehicles, where:	1.1 Fuel efficiency is defined as the average fuel economy of its non-road equipment, weighted by the number of each unit sold during the reporting period and measured in gallons of fuel consumed per hour of operation (gallons per hour). 1.1.1 In calculating gallons per hour, the entity shall use the model-rated fuel efficiency value for each piece of equipment where available. 1.1.2 Where model-rated fuel efficiency values are not available, the entity shall calculate a gallons-per-hour operational efficiency for the equipment, assuming normal, reasonable operating conditions (e.g., for load factor, speed, and environmental conditions). 1.2 Non-road equipment includes, but is not limited to, excavators and other construction equipment, farm tractors and other agricultural equipment, heavy forklifts, airport ground service equipment, and utility equipment such as generators, pumps, and compressors.		Not reported

Topic	Type	Code	Accounting Metrics	Description	Note	Page
Fuel Economy & Emissions in Use-phase	Quantitative	RT-IG-410a.3	Sales-weighted fuel efficiency for stationary generators	1. The entity shall disclose the sales-weighted average fuel efficiency of its stationary generators, where: 1.1 Sales-weighted fuel efficiency is the average fuel efficiency of stationary generators sold during the reporting period, measured in watts per gallon.		N/A
	Quantitative	RT-IG-410a.4	Sales-weighted emissions of: (1) nitrogen oxides (NOx) and (2) particulate matter (PM) for: (a) marine diesel engines, (b) locomotive diesel engines, (c) on-road medium- and heavy-duty engines, and (d) other non-road diesel engines	1. The entity shall disclose the sales-weighted average emissions of (1) nitrogen oxides (NOx) and (2) particulate matter (PM) for each of the following product categories: (a) marine diesel engines, (b) locomotive diesel engines, (c) on-road heavy-duty engines, and (d) other non-road diesel engines, where: 1.1 Emissions are calculated as the average emissions of (1) NOx and (2) PM for engines, weighted by the number of each sold during the reporting period and measured in grams per kilowatt hour. 1.2 Marine diesel engines are defined as those that are addressed within the scope of U.S. 40 CFR Part 1042, 40 CFR Part 94, 40 CFR Part 89, or non-U.S. equivalent. 1.3 Locomotive diesel engines are defined as those that are addressed within the scope of U.S. 40 CFR Part 1033, or non-U.S. equivalent. 1.4 On-road heavy-duty engines are defined as those that are addressed within the scope of U.S. 40 CFR Chapter 1 Subchapter C Part 86, or non-U.S. equivalent. 1.5 Other non-road diesel engines are defined as those that are addressed within the scope of U.S. 40 CFR Part 1039, or non-U.S. equivalent, and typically include excavators and other construction equipment, farm tractors and other agricultural equipment, heavy forklifts, airport ground service equipment, and utility equipment such as generators, pumps, and compressors. 1.6 Emissions shall be calculated according to the test method described in U.S. 40 CFR Part 1065, or non-U.S. equivalent. 1.7 The entity may disclose if any products do not meet current emission standards established in the above-referenced U.S. 40 CFR Part 1042, 40 CFR Part 94, and 40 CFR Part 89 for marine diesel engines; 40 CFR Part 1033 for locomotive diesel engines; 40 CFR Part 86 Subpart A for heavy-duty on-road engines; 40 CFR Part 1039 for other non-road diesel engines, or non-U.S. equivalents.	1. The company discusses strategy and approach to manage fleet fuel economy and exhaust gas risks and opportunities. 2. The approach and strategy to be discussed include improving existing products and technologies, adopting new technologies, efforts to research and develop cutting-edge technologies, and partnerships with colleagues, academic organizations and/or customers (including government customers).	Not reported
Materials Sourcing	Quantitative	RT-IG-440a.1	Description of the management of risks associated with the use of critical materials	1. The entity shall describe its strategic approach to managing its risks associated with the use of critical materials in its products, including physical limits on availability and access, changes in price, and regulatory and reputational risks, where: 1.1 A critical material is defined as a material that is both essential in use and subject to the risk of supply restriction. This definition is derived from the U.S. National Research Council of the National Academies' Minerals, Critical Minerals, and the U.S. Economy. 1.2 Examples of critical materials include, but are not limited to, the following as defined by the National Research Council: 1.2.1 Antimony, cobalt, fluorspar, gallium, germanium, graphite, indium, magnesium, niobium, tantalum, and tungsten; 1.2.2 Platinum group metals (platinum, palladium, iridium, rhodium, ruthenium, and osmium); and 1.2.3 Rare earth elements, which include yttrium, scandium, lanthanum, and the lanthanides (cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, and lutetium).		40-41, 79
				2. The entity shall identify the critical materials that present a significant risk to its operations, the type of risk(s) they represent, and the strategies the entity uses to mitigate the risk(s). 2.1 Relevant strategies may include diversification of suppliers, stockpiling of materials, development or procurement of alternative and substitute materials, and investments in recycling technology for critical materials.		

Topic	Type	Code	Accounting Metrics		Description	Note	Page
Remanufacturing Design & Services	Quantitative	RT-IG-440b.1	Revenue from remanufactured products and remanufacturing services	1. The entity shall disclose the amount of revenue from products that are remanufactured and services associated with remanufacturing goods, where:	1.1 A remanufactured product is defined as an end-of-life product or component (i.e., one that was previously sold, worn, or non-functional) that has undergone an industrial process to be returned to original working condition (i.e., is considered "like new"). 1.2 Remanufacturing services are defined as providing the service of repairing, restoring, and/or remanufacturing end-of-life goods to original working condition.	1. The company discusses initiatives adopted to obtain parts for remanufacturing and end-of-life products, including a product retrieval program. 2. Relevant disclosure includes customer and supplier participation efforts, equipment service or exchange program, dealer deposit that is returned when a used part or product (also called "core") is returned to the manufacturer within a designated period, and other incentives to facilitate remanufacturing of end-of-life parts.	23
Activity Metrics	Quantitative	RT-IG-000.A	Number of units produced by product category		At a minimum, the entity should indicate the number of units produced for the following product categories: (1) vehicles and agricultural and construction equipment, (2) engines and power generation equipment, and (3) parts and components.		7
	Quantitative	RT-IG-000.B	Number of employees				110

Independent Assurance Report

To the management of Hyundai Doosan Infracore.

We have undertaken an engagement requested by Hyundai Doosan Infracore (the "Company") to review the information established in 2021 Integrated Report (the "Report"). It is the responsibility of the management to prepare the Report, and it is our responsibility to perform a limited assurance engagement and issue a statement based on the information collected.

Responsibilities of the Company and Ernst & Young Han Young

The Company is responsible for collecting and presenting the data within the Report. This responsibility involves structuring, implementing, and maintaining the relevant corporate system so that there is no critical misstatement due to fraud or error.
Our responsibility, in line with the contract, is to perform a 'limited level' of assurance regarding the selected quantitative and qualitative performance stated in the Report. We shall hold no responsibility whatsoever to any other purpose, individual or organization in respect to the result of the limited assurance performed. The decision made by the third party based on the Report is the sole responsibility of the third party.

Scope and context

The limited assurance was performed based on the following information:

- GRI index: p113~p116
- ESG Fact Sheets: p105~p112

Description of procedures performed

We conducted the assurance engagement in accordance with ISAE3000[1] developed by IAASB. The following procedures were performed to reach our conclusion on the Report:

- Identified the Company's processes for stakeholder engagement
- Identified the Company's processes for determining material issues of key stakeholders
- Examined media coverage of the Company's environmental, social and governance ("ESG") issues during the reporting period
- Analyzed recently reported ESG issues of the Company's global competitors
- Conducted interviews with respective personnel regarding the Company's ESG activities and reporting process during the reporting period
- Inspected data regarding the Company's ESG performance, supporting evidence for assertions, and intranet source data
- Identified the Company's process for collecting and consolidating ESG performance data
- Reviewed whether the financial performance data has been appropriately extracted from the Company's audited financial statements.

[1] International Standard on Assurance Engagements: Assurance Engagements Other than Audits or Reviews of Historical Financial Information issued by International Federation of the Accountants

Level of assurance

We conducted our limited assurance engagement in accordance with ISAE 3000.
Procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than in a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Conclusion on limited assurance

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Report is not prepared, in all material respects, in accordance with the standard adopted by the Company.

Independence

We comply with the Code of Ethics issued by the International Federation of Accountants.

Our engagement team

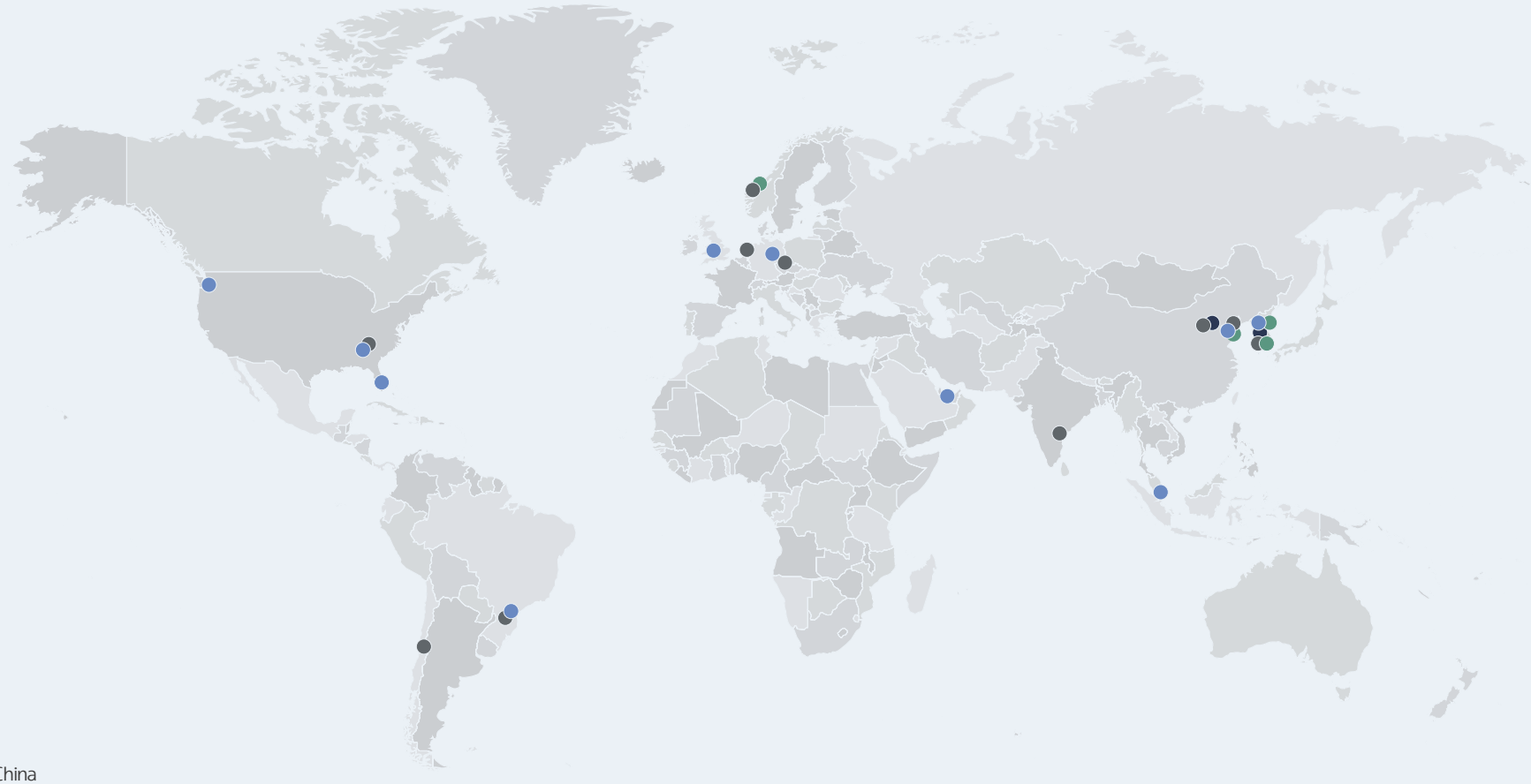
This engagement was performed by an assurance team of extensive experience and expertise in the ESG sector.

26 July, 2022

Ernst & Young Han Young
CEO Yong Keun Park

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 | 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

Parts Distribution Center (PDC)

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

Please refer to our website for more information.

HYUNDAI DOOSAN INFRACORE