

INTEGRATED SOLUTIONS



FOR A BETTER LIFE

About this Report

REPORT FEATURES

This is the Integrated Report of Doosan Heavy Industries & Construction (DHIC) which introduces the various systems, activities and accomplishments of the company for the purpose of enhancing its social and financial sustainability. The report includes not only a detailed description of DHIC's business strategies and the new businesses regarded as future growth drivers, but also activities and performance results related to the company's sustainability efforts in the areas of the environment and society. DHIC has published the report annually as a way to continuously communicate with our stakeholders.

REPORT CRITERIA

This report has been prepared based on the Core Options in GRI (Global Reporting Initiative) Standards, the global standard for report preparation. Through third-party verification, it has been confirmed that the report meets all relevant requirements. The details of how the GRI standards are described in the GRI Index in the appendix. The report adequately reflects industry standards as required by the Sustainability Accounting Standards Board (SASB) and adheres to the principles of the UNGC Communication on Progress (CoP) and the climate-related financial information disclosure recommended by the task Force on Climate-related Financial Disclosures (TCFD).

REPORT DURATION AND SCOPE

The report was prepared on the basis of financial and non-financial performance from January 1, 2020 to December 31, 2020. Significant matters that could affect stakeholder decision-making were covered for the period up to the first half of 2021. Some quantitative performance information shows data from the past three years so that trends may be observed. The financial performance data has been prepared using consolidated financial statements based on the K-IFRS (Korean International Financial Reporting Standards). If the information presented in the previous report is either corrected or rewritten, the changes are explained with footnotes. The scope of the report includes all DHIC projects, both domestic and overseas. If necessary, it includes the activity and performance of overseas subsidiary companies.

REPORT VERIFICATION

To ensure the reliability and quality of the contents of this report, the non-financial information has been verified by an external agency. The financial information has been reviewed by an independent audit corporation, with the audit results being reflected accordingly. The non-financial information was verified by the Korea Foundation for Quality. Each verification opinion can be found from page 110 to page 115.

ADDITIONAL INFORMATION

The report will be published and distributed in Korean and English. It will be available for download in PDF format from the DHIC website. Any opinions or comments can be conveyed to the contact number listed below.

www.doosanheavy.com

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Department in Charge Credo/ESG Team

2020 INTEGRATED REPORT OF
DOOSAN HEAVY INDUSTRIES & CONSTRUCTION

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Group Introduction

The oldest company in Korea

Doosan is the oldest company in Korea with history of 125 years. In 1896, Korea's first modern store, the "Park Seung-jik Store", opened its doors at Baeogae (today's Jongno 4-ga in Seoul). Since then, Doosan has gone through continuous change and growth for more than a century.

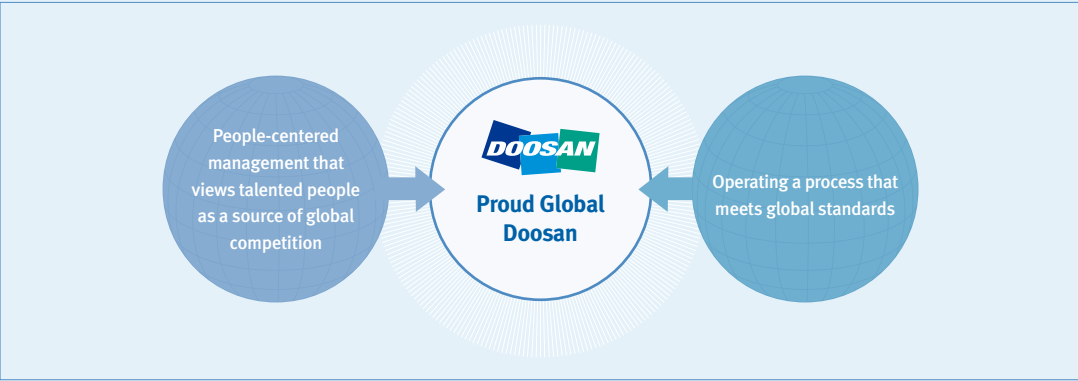
Advancing to become an innovative global company

Doosan is active in networks formed throughout Europe, Asia, and the Americas. Doosan is growing into a global company with customers by providing differentiated products and services which instill trust and pride in our customers as the core of the business needed to build and operate social infrastructure.

Company of people-centered management

Based on the unique "People-centered" value of Doosan, we strive to maximize the value of customers, shareholders, and investors and realize customer satisfaction one step further.

Group Vision



Overview of Doosan Group Companies

Doosan Group				
Doosan Corporation	Major Affiliates*			Auxiliary Institutions
Doosan Electro-Materials	Doosan Heavy Industries&Construction	Doosan Robotics	Oricom	Doosan Yonkang Foundation
Doosan Industrial Vehicle	Doosan Infracore	Doosan Mobility Innovation	Doosan Magazine	Doosan Art Center
Doosan Corp. Retail	Doosan Bobcat	Doosan Logistics Solutions	Doosan Bears	Doosan Leadership Institute (DLI)
Doosan Fuel Cell Power	Doosan E&C	Doosan Mecatec	Doosan Cuvox	
Doosan Digital Innovation	Doosan Fuel Cell		Hancomm	

* These affiliates may differ in part from those in the business report due to description of major affiliates.

Doosan Credo

Our Faith and Philosophy

Doosan Credo

The Doosan Credo embodies the management philosophy and business method that have been upheld by Doosan for the last one hundred years. The Doosan Credo contains 9 core values. The core values serve as the standard for all decision making and actions implemented by Doosan. Doosan aims to achieve its ultimate goals based on these core values. The Doosan Credo consists of the Aspiration and Core Values of Doosan.

Aspiration

Doosan's ultimate goal is to become a "Proud Global Doosan". "Proud Global Doosan" refers to the aspiration of having all stakeholders, including the employees, feel pride in being associated with Doosan. For employees, this means feeling pride for being a member of the Doosan organization, and for customers, it means becoming proud consumers of Doosan's quality products and services. For shareholders, it would mean being a proud shareholder of a company that provides fairly generated, high profits.

Core Values

Doosan people seek to uphold the nine core values of the Doosan Credo wherever Doosan business takes place to ensure that a "Proud Global Doosan" can be realized. The way we operate our business, the way we treat one another and the way we work together with our partners are all embodied in the core values. Those nine core values of Doosan are as follows.

1 Talented human resources	2 Training talented human	3 Honesty & Transparency
4 Inhwa	5 Customers	6 Technology & Innovation
7 Profit	8 Social Responsibility	9 Safety & Environment

Doosan People

Doosan's human resources, i.e., "Doosan People", includes all employees who are able to and will contribute to the organization and practice the Doosan Credo, continuously strive to improve their abilities. In addition, Doosan people are people who place importance on our fundamental values and talents and incorporate them into our actions. The temperamental traits of the proud Doosan people are as follows.

Limitless Aspiration

Cultivating People

Inhwa

Open Communication

Tenacity & Drive

Prioritization & Focus

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Dear Esteemed Stakeholders,

I would like to express my sincere appreciation for the steadfast support you have provided to our company, Doosan Heavy Industries & Construction. It gives me great pleasure to share with you our latest Integrated Report, through which we hope to lay the foundation for our company's sustainable growth and provide an overview of our company's current status and plans.

Doosan Heavy Industries & Construction aims to focus on the eco-friendly energy business as our future growth driver.

The year 2020 was a most challenging year for the business community, with the coronavirus pandemic greatly impacting our daily lives and the financial market also taking a major hit. Moreover, with global climate change becoming a serious issue, carbon neutrality has risen in importance and eco-friendly energy has become a megatrend. Such changes are providing Doosan with numerous new challenges and opportunities.

Major countries are now devising a wide array of policies aimed at promoting the rapid growth of renewable energy in order to achieve their country's carbon neutrality goals. As such, not only are the existing renewable energy sources, such as wind power and solar energy, growing at a rapid pace, but other sources like small modular reactors(SMRs), which represent the next generation of nuclear power plants, and hydrogen, a clean energy source that is becoming increasingly popular, are all gaining much attention. Gas-fired power plants are also receiving the spotlight, as they are viewed as a viable alternative for coal-fired power plants and a good supplement to intermittent renewable energy.

While facing such business conditions, Doosan has been diligently working to make another leap forward. We have completed the Phase 1 performance test of a large industrial gas turbine that is currently being developed as part of a national project, and construction was initiated late last year for the Gimpo Combined Heat and Power(CHP) Plant, which is to be the first site of delivery for the gas turbine. Furthermore, by partnering with NuScale Power in the States, we were able to successfully penetrate the U.S. SMR market and also won many eco-friendly energy projects in new business areas, such as the Changwon Hydrogen Liquefaction Plant project in South Korea, Upper Trishuli Hydroelectric Power Plant project in Nepal and the Wandoan Energy Storage System(ESS) project in Australia.

Our plan is to focus on gas turbines, renewable energy, hydrogen and next generation nuclear power plants as our new growth drivers to solidify our position as a leading eco-friendly energy company.

We will be performing corporate-wide ESG management to ensure our company's sustainable growth.

Nowadays, ESG (Environment, Social and Governance) management is no longer an option, but a requirement of companies. ESG has become a key metric that is used to determine a company's sustainability. As such, numerous global entities are rushing to declare their commitment to ESG management and the same trend is appearing in Korea as well, as made evident in how this year was proclaimed the Year of ESG, with ESG management fast becoming a common practice among the leading Korean companies.

Doosan Heavy Industries & Construction has defined ESG as one of its key business principles, one that is considered essential to strengthen the company's competitiveness. As such, we have a set of ESG-based strategies and policies established and applied across all our operations. Along with our efforts to expand the eco-friendly energy business, we are endeavoring to minimize any negative environmental impact from our business activities, and our employees seek to prevent serious industrial accidents from happening by working together with our partners to guarantee basic safety protocol compliance at all our local and global work sites. We will strive to maintain mutually beneficial and cooperative labor-management relations, one that is based on mutual trust and understanding. We will be pursuing activities aimed at promoting shared growth with our partners, achieved via open communication and consensus, to help our partners build up their competitiveness, and will also strive to practice ESG management with them.

Over the years, Doosan Heavy Industries & Construction has undergone a countless number of changes. While there have undoubtedly been some hardships, we have always managed to persevere and become stronger than ever. We plan to use the current energy transition trend as a new opportunity for growth and will continue with our efforts to become the unrivalled global leader of the energy industry.

I trust that we can look forward to your continuous support and encouragement going forward.

Thank you.

Chairman & CEO **Geewon Park**

Global Leader in Power & Water

Doosan Heavy Industries & Construction’s vision management, “Global Leader in Power & Water,” expresses the company’s willpower to become an enterprise that leads the global power generation and water markets. In order to become an innovative global leader that offers services that improve quality of life, we strive to meet the highest standards in all aspects, including cutting-edge technology, competitive costs, quality, sales scale and profitability, cultivation of global talent, and corporate culture, all the while putting the Doosan Credo into practice. As a global leader, we strive to effectively respond to rapidly changing global technology trends and lead market changes.

Total Assets KRW**25.6**trillion

Revenue KRW**15.1**trillion

Operating Profit KRW**154.1**trillion

* Consolidated accounting basis as of the end of 2020

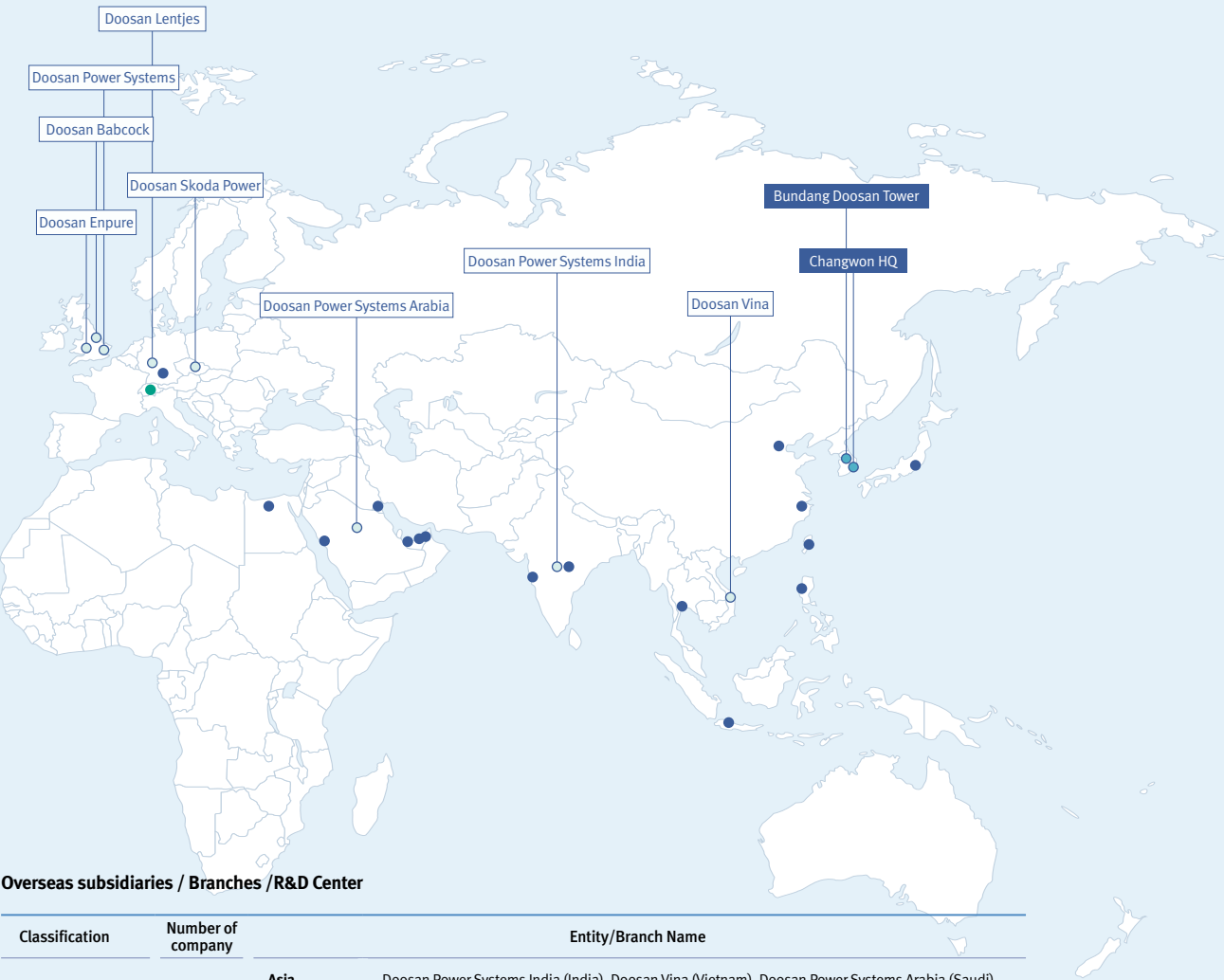
Number of Employees **5,587**people

National Quality Meisters **28**people

Korean Tech. Meisters **14**people

* As of the end of 2020

Company Established	September 20, 1962
Representative Directors	Geewon Park, Yeonin Jung, Sanghyun Park
Business Type	Manufacturer of Machineries and Equipment
Location	Headquarters 22 Doosan Volvo-ro, Seongsan-gu, Changwon City, Gyeongnam Province Bundang 155, Jeongjail-ro, Bundang-gu, Seongnam-si, Gyeonggi-do

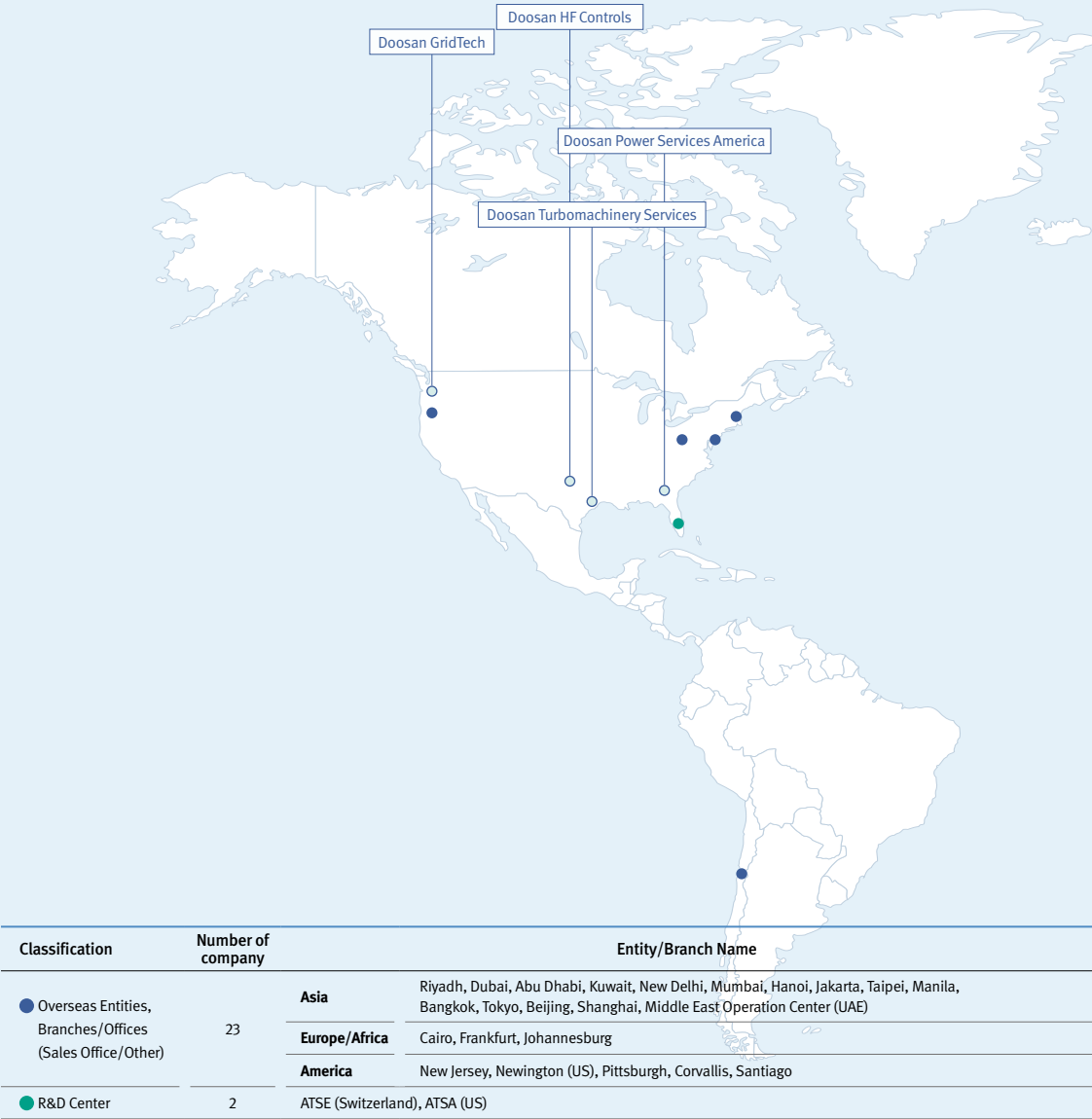


Global Network

Overseas subsidiaries / Branches /R&D Center

Classification	Number of company	Entity/Branch Name
● Overseas Subsidiaries	12	Asia Doosan Power Systems India (India), Doosan Vina (Vietnam), Doosan Power Systems Arabia (Saudi)
		Europe/Africa Doosan Power Systems (UK), Doosan Babcock (UK), Doosan Enpure (UK), Doosan Lentjes (Germany), Doosan Skoda Power (Czech Republic)
		America Doosan Power Services America (US), Doosan HF Controls (US), Doosan GridTech (US), Doosan Turbomachinery Services (US)

Doosan History



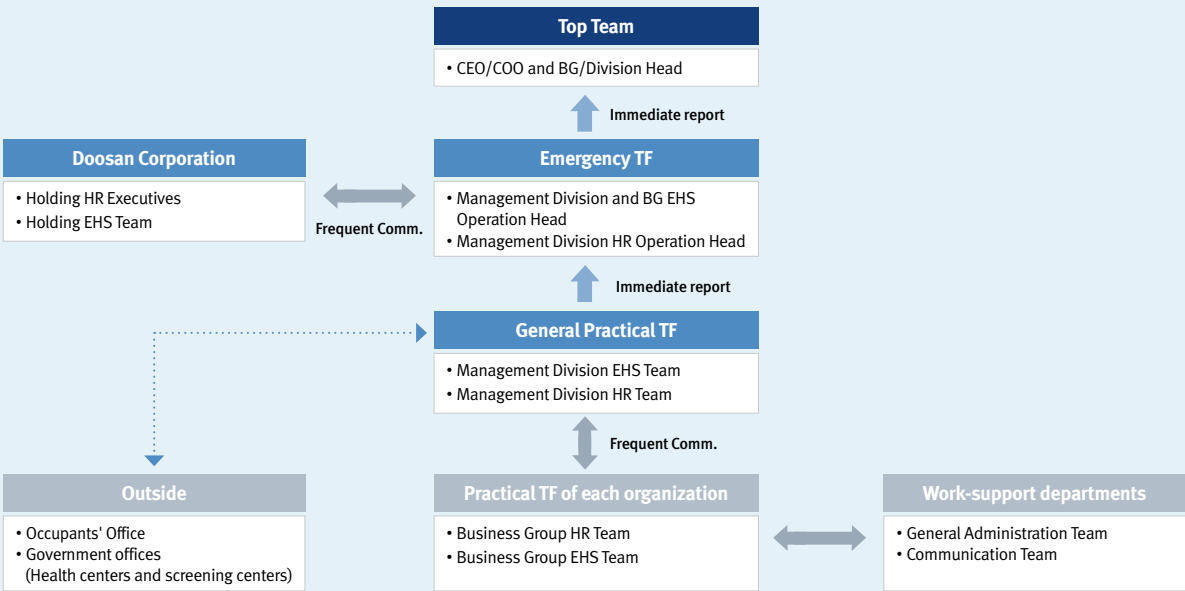
Classification	Number of company	Entity/Branch Name
● Overseas Entities, Branches/Offices (Sales Office/Other)	23	Asia Riyadh, Dubai, Abu Dhabi, Kuwait, New Delhi, Mumbai, Hanoi, Jakarta, Taipei, Manila, Bangkok, Tokyo, Beijing, Shanghai, Middle East Operation Center (UAE)
		Europe/Africa Cairo, Frankfurt, Johannesburg
		America New Jersey, Newington (US), Pittsburgh, Corvallis, Santiago
● R&D Center	2	ATSE (Switzerland), ATSA (US)

COVID-19 Crisis Response Activities

The COVID-19 pandemic has swept through the world and brought economic and social changes that we have never experienced. It has impacted every aspect of life, including business practices and individual life. Unexpected issues, such as the collapse of worldwide supply chains and the shutdown of workplaces because of affected employees, put our crisis-response capabilities to the test.

DHIC immediately built a COVID-19 response system for the safety of employees, families, partner companies, customers, and the local community as our first priority in such a critical situation. The COVID-19 situation of each organization is managed by group of plans, and is immediately reports to the top team through the Emergency Response Commission, in the case of an incident. Systematic response to risks is also possible at the group-level by periodically discussing COVID-19 related issues with Doosan Corporation.

Organization of Covid-19 Emergency Response TF



BASIC GUIDE TO RESPONSE AGAINST COVID-19

DHIC is doing its best for infection prevention by preparing a basic guide to respond to COVID-19, focusing on employee safety.

Operation & Control of Workplaces	Attendance Management	Behavioral Guidance
<ul style="list-style-type: none">Preparation of the COVID-19 Emergency Response ManualDistribution of personal quarantine articles to employees and business partnersRegular and special disinfection of offices and essential in-house operating facilitiesRestriction on the use of in-house public facilitiesTemperature measurement of persons entering the workplaceRefraining in/out of outsiders and posting a guest bookPublic announcements guiding social distancing in the office building	<ul style="list-style-type: none">Expansion of the flex-time work systemEstablishment of telecommuting standards suitable for work situationsEncouragement of rotational telecommuting and using annual leavesDistributed lunchtime operationProhibition of overseas business trips and control of domestic business tripsEstablishment of office attendance standards for confirmed cases, suspected cases	<ul style="list-style-type: none">In case of suspected symptoms (fever or respiratory symptoms, etc.), standby at homeMeasurement of temperature twice a day (morning and afternoon)Mandatory mask usage in the companyEncouragement of thorough control of personal hygiene such as hand washing and disinfectionEstablishment of office work guide to minimize contact among employees



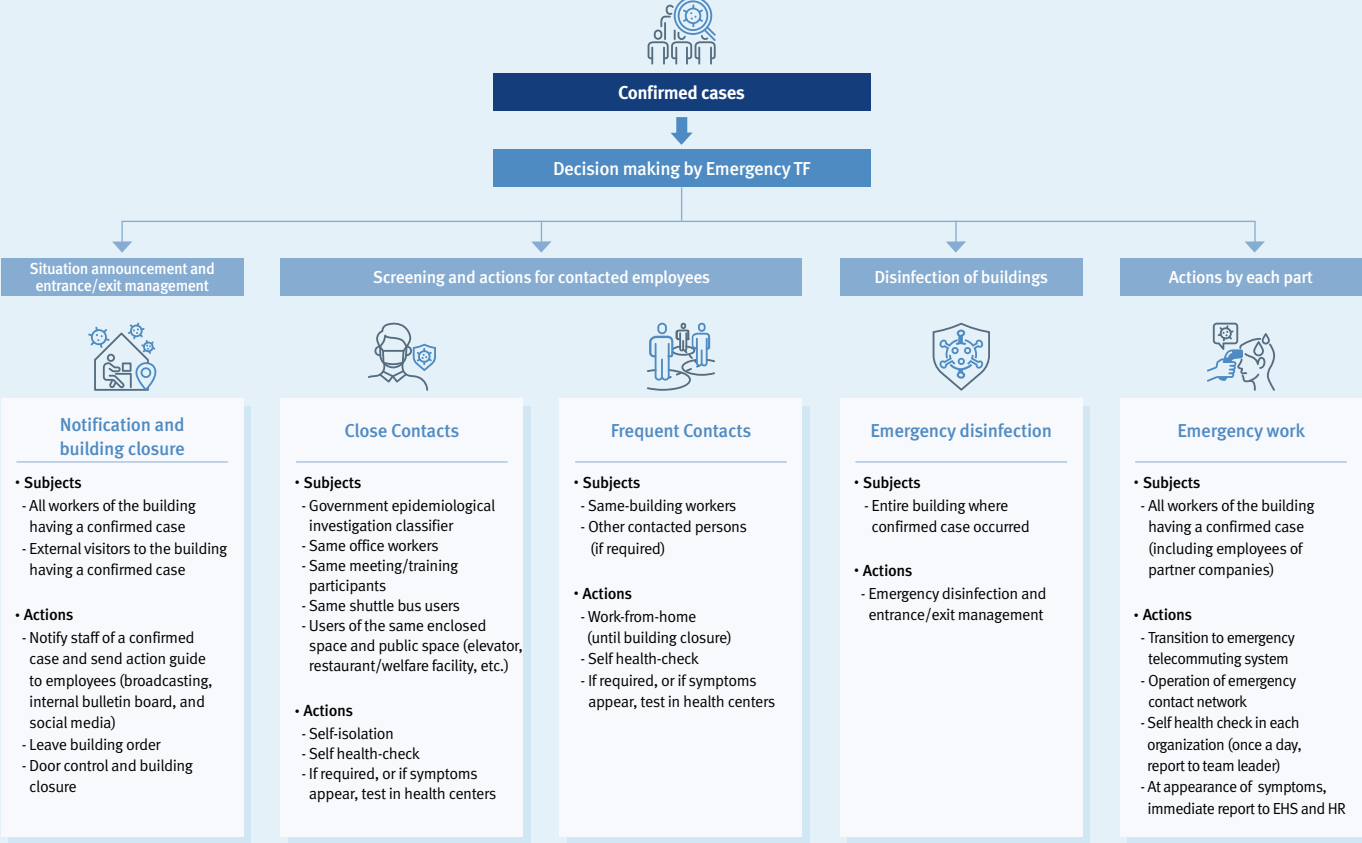
COVID-19 RESPONSE MAIN ACTIVITIES

DHIC strives to prevent COVID-19 infections through the COVID-19 emergency response system and a detailed response guide and assists confirmed, suspected, and self-quarantining employees to quickly return to their daily lives and work.

DHIC is making thorough management efforts to protect the safety of employees working abroad by supplying rapid diagnosis test kits, emergency medicine, and other convenience products.

Manpower management at overseas sites	<ul style="list-style-type: none">Supply of quick diagnostic test kits and emergency medicines in overseas sitesSupport of self-isolation camps for positive cases, with packed meals and other essential goodsOffering remote medical consultation services via global medical institutions
Control of employees on overseas business trips	<ul style="list-style-type: none">Guide to stepwise prevention of infection, self-isolation method, and living rules, from preparations for business trips to their returnSupport of those on overseas business trip and regular vacationers of sites, with lodging costs for self-isolationObligatory work-from-home for those returning from overseas business trips or work for 14 days
Control of confirmed cases	<ul style="list-style-type: none">Operation of an emergency response process at appearance of confirmed casesMonitoring of treatment situation of confirmed casesFree comprehensive physical examination to control the health of family members of confirmed casesSending COO's letters of encouragement, providing health foods, and operating psychological counseling programs for the recovering (removed from quarantine)
Digitalization	<ul style="list-style-type: none">Application of mobile inquiry systemRequesting cooperation for infection prevention of infection and sending action guide messages to employeesFormation of contact-free work environment, based on Office 365/Teams

Emergency response process at appearance of confirmed cases



BUSINESS STRATEGY

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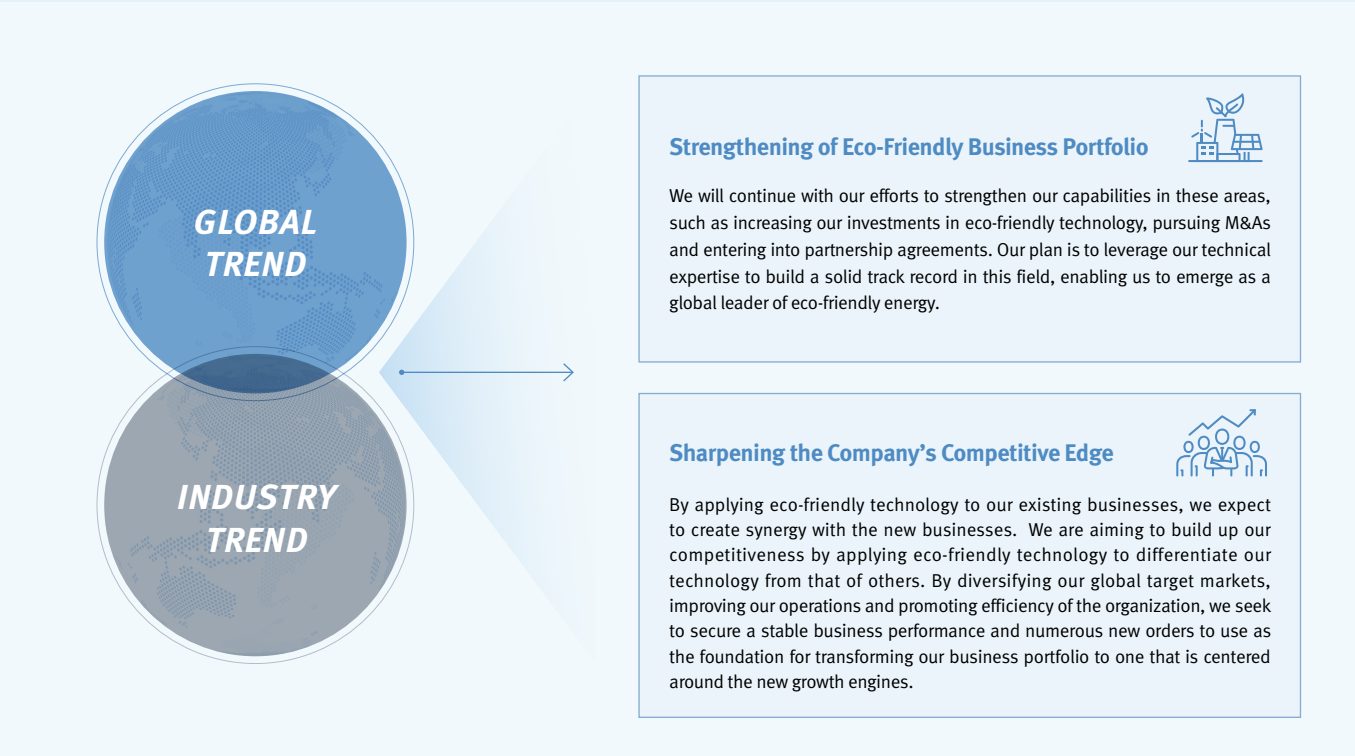
DHIC is incorporating ESG management into its core strategy to respond to rapid changes in the energy industry. We will enhance environmental and social values, and sustainability through eco-friendly management and business.

Global Industry Trends & Policy Changes

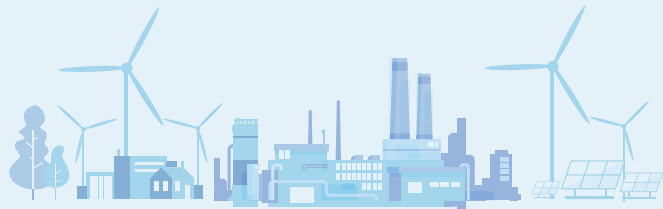
In response to the climate changes brought on by global warming, the international community is actively pursuing activities aimed at achieving carbon neutrality by focusing on effective methods for reducing greenhouse gases. While some are calling for stronger regulations, such as implementing a carbon border tax and a plastic tax, there has been a rapid increase in investments being made into the eco-friendly business sector. The energy sector is at the center of these changes, as we can see the industry shifting from the usage of fossil fuels for power generation to more sustainable energy sources in order to realize the vision of a low-carbon economy. In line with the global trends centered around eco-friendly business practices, the South Korean government joined the commitment to the Paris Climate Agreement of reducing greenhouse gases to 37% below BAU(business-as-usual) levels. To this end, the “2050 Carbon Neutrality Strategy” was released in December 2020, outlining the detailed plans for implementing the related initiatives. With an increasing number of countries declaring their commitment to carbon neutrality and with ESG management being promoted at a wider scale, it is forecast that there will be some additional upward adjustments of the targets in 2021. Thus, we expect that the governmental policies concerning the shift to sustainable clean energy will be further strengthened. With the world being hit by the COVID-19 pandemic, this had the effect of further highlighting the seriousness of the climate change issue, caused some fundamental changes to the criteria used in assessing companies’ sustainability and emphasized the importance of managing ESG risks, along with financial results like profitability and revenue. Despite the worldwide drop in energy demand caused by the COVID-19 situation, the demand for renewable energy continued to show a steady growth, signifying that the paradigm shift in the energy sector had already started.

Doosan Heavy Industries & Construction’s Strategy




In response to the changes in the government’s energy policies and global industry trends, DHIC has been preparing for the restructuring of our business portfolio to be more oriented toward the businesses identified as our new growth engines. Eco-friendly business areas, namely the gas, renewable energy, hydrogen and SMR (small modular reactors) businesses, have been identified as our four new growth engines. By participating in national projects aimed at development of related technology and successfully executing demonstration projects, we are striving to become a market leader in the eco-friendly energy sector.



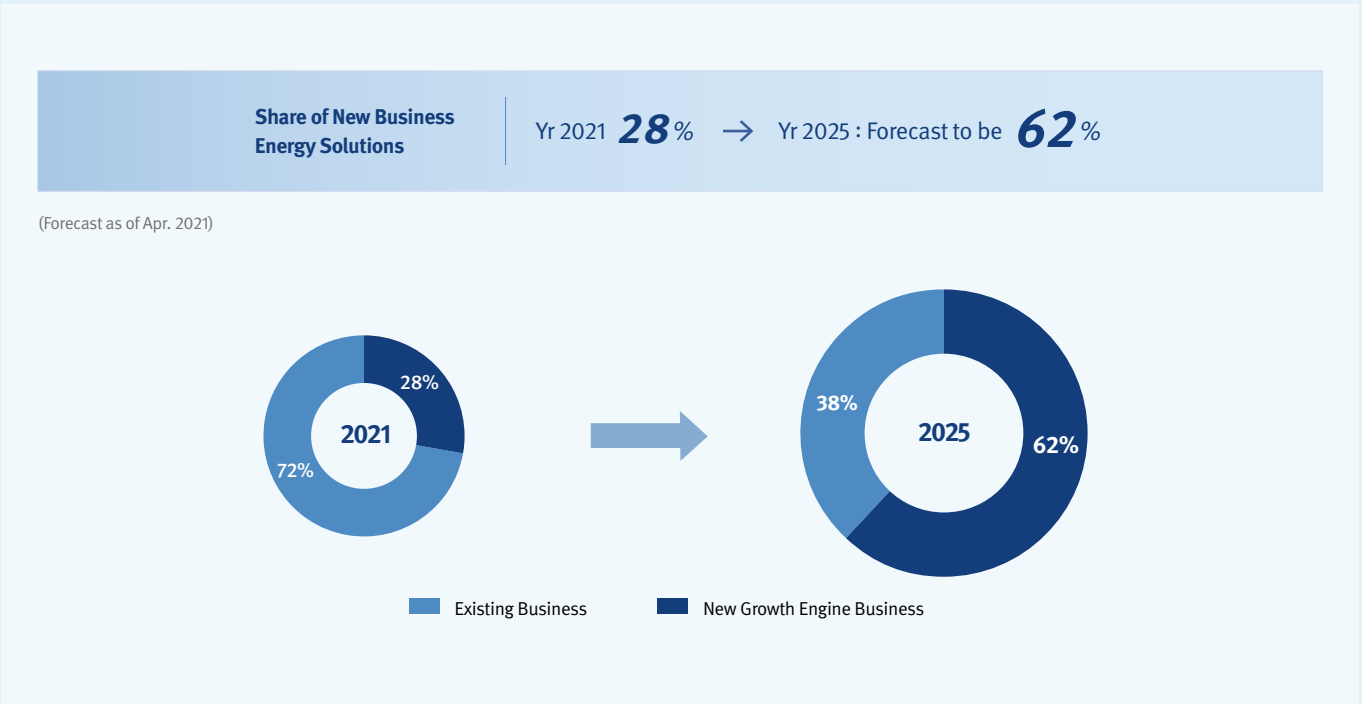
Strengthening of Eco-Friendly Business Portfolio



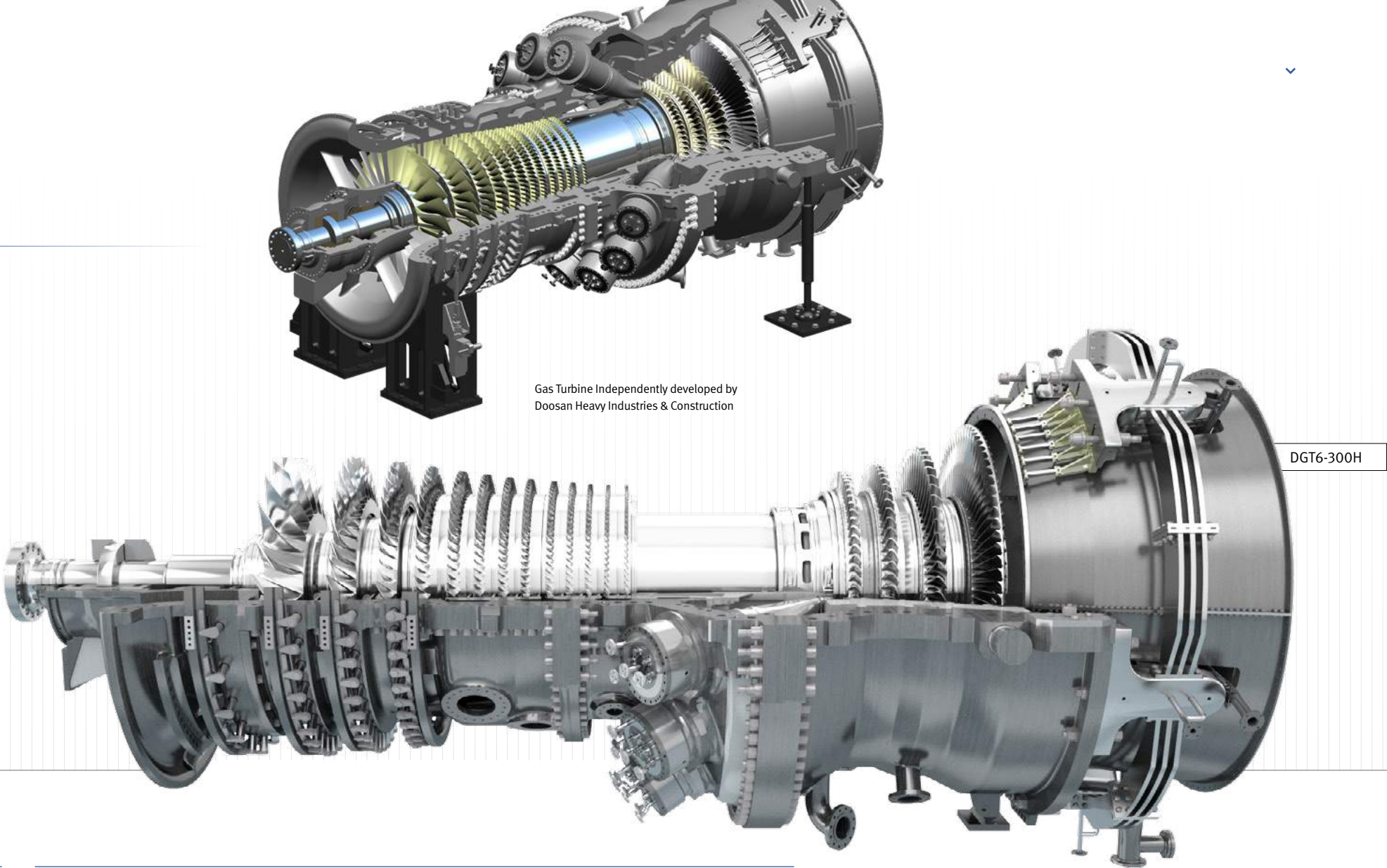
Performance Results of Eco-Friendly Business Portfolio

Gas Turbines 	<ul style="list-style-type: none">• By successfully developing Korea’s first gas turbine for power generation in 2019, became the fifth company in the world to own technology for large industrial gas turbines• Delivered Korea’s first locally-manufactured gas turbine model to the Gimpo Combined Heat & Power (CHP) Plant and currently pursuing demonstration project• High-efficiency gas turbines expected to be the underpinning technology of the future for eco-friendly hydrogen gas turbine development
Renewable Energy (Wind Power) 	<ul style="list-style-type: none">• Completed development of large 5.5MW offshore wind turbine in 2019 and currently developing ultra-large 8MW wind turbine model• Plan to pursue sales growth by leveraging our business competitiveness as the industry leader and only company in Korea to hold a track record in the offshore wind power sector
Hydrogen Energy 	<ul style="list-style-type: none">• In November 2020, signed contract on constructing Korea’s first hydrogen liquefaction plant• Currently participating in a megawatt-scale green hydrogen production demonstration project in Korea, through which we expect to secure green hydrogen production technology and build a track record in this field
Small Modular Reactors (SMRs) 	<ul style="list-style-type: none">• As a carbon-free energy source, SMRs are regarded as having great growth potential as it is deemed as being safer and more economical than the conventional large nuclear power plants• Starting with our first SMR project being jointly pursued with NuScale Power in the U.S., expect to see an expansion of the SMR components supplying business in the U.S. and other global markets

Mid-to-Long Term Forecast for Order Intake



Gas Turbine

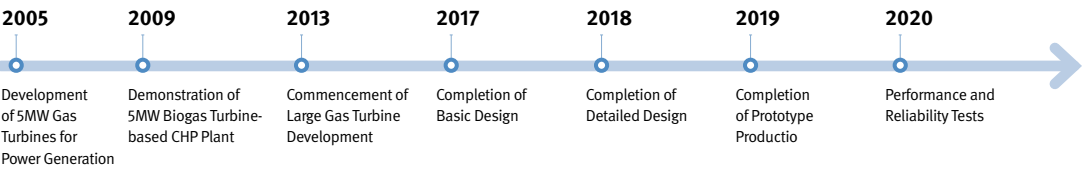


Gas Turbine

Expansion of Gas Turbine Market

The importance of gas turbines is increasing at the time of global transition of energy sources to renewable energy. Gas turbines complement the variability and intermittency of renewable energy, enabling stable power supply and demand. They are more effective in carbon reduction than coal power generation, and the demand for them is expected to increase further as they can serve as a stepping stone to a carbon-neutral society. In the domestic market, coal power generation is expected to be reduced in accordance with the 9th Power Supply and Demand Plan confirmed in December 2020, and 24 out of the 30 units of the coal-fired power plants to be shut down will be converted to LNG power plants. Accordingly, the LNG facility capacity as of the year 2034 is expected to be 59.1GW, accounting for 30.6% of the total power supply.

Roadmap for Developing Standard Gas-Fired CCPP Turbine Model



Development of Korea's First Gas Turbine for Power Generation

Considering the increased market share of gas-fired power generation expected in the future, achieving technical independence for gas turbines is the first and foremost task to be addressed. Especially since all gas turbines are being imported from overseas manufacturers, it is critical to localize the manufacturing of gas turbines to ensure stable energy security and strong competitiveness of basic industries. Starting with the development of 5MW high-efficiency gas turbines in 2005, we began development of large-capacity 270MW gas turbines in 2013. After basic design and detailed design, we succeeded in the final assembly of the prototype in November 2019, and completed the Phase 1 verification test in July 2020. As a result, Doosan Heavy Industries & Construction stepped up to become the fifth company in the world to possess its own large-sized gas turbine technology, following America, Germany, Japan and Italy.



President Moon's visit to gas turbine factory in Changwon

Participation in Verification Project for Standard Gas-Fired CCPP Turbine Model

The first Korean-made gas turbine model, which has completed performance and reliability verification tests, will be supplied for the Gimpo CHP (Combined Heat & Power) project and tested. Doosan Heavy Industries & Construction signed a gas turbine supply contract with the Korea Western Power Co., Ltd. (KOWEPO) in December 2019 for the Gimpo CHP Plant, and received additional orders for key power plant equipment delivery and construction projects in June 2020. The Gimpo CHP Plant, which will be built in Yangchon-eup, Gimpo-si, Gyeonggi-do, is a 500MW-class power plant that uses LNG as a heat source, and it will be completed in the first half of 2023. Korea's first gas turbine model, independently developed by Doosan as a national project, will be applied to this plant.



Aerial View of Gimpo CHP Project

Project Milestones

2019.12	Signing of Gas Turbine Supply Contract
2020.06	Signing of Contracts for Key Power Plant Equipment Delivery and Construction
2023.01	Commissioning
2023.06	Commercial Operation

Future Direction

Doosan Heavy Industries & Construction plans to nurture the gas turbine industry as Korea's new growth driving, export-leading industry for the next-generation by designating gas turbines as the company's main growth engine and continuously developing products with top-tier performance and efficiency. Currently, we are developing an ultra-high-efficiency 380 MW model with the world's highest performance, which is an upgraded model from the initial 270MW model, and actively participating in government-led national projects in materials, parts, and equipment industries. Based on our strong technical competitiveness, we will successfully advance into domestic and overseas markets. In addition, we will continuously pursue growth to become Korea's leading eco-friendly energy company, reinforcing the competitiveness of domestic gas turbines and leading the achievement of carbon neutrality in the mid and long-term by spurring the development of hydrogen turbines for eco-friendly power generation.

Development and Demonstration of Hydrogen Gas Turbine Combustor

Project Name	Development of a 100% hydrogen-fueled low NOx combustor for distributed heat & power gas turbines	Development of a 50% hydrogen dual-fuel combustor for 300MW-class high-efficiency gas turbines
Project Period	May 2020 ~ Dec 2024	May 2020 ~ Dec 2024
Development Goal	Development of a 100% hydrogen-fueled combustor for 5MW-class small gas turbines	Development of a low emission – low vibration – flashback prevention hydrogen dual-fuel combustor
Demonstration	2025~	2025~

Renewable Energy (Wind Power/Hydroelectric Power/ESS and Solar Energy)



Southwest Offshore Wind Farm

Wind Power

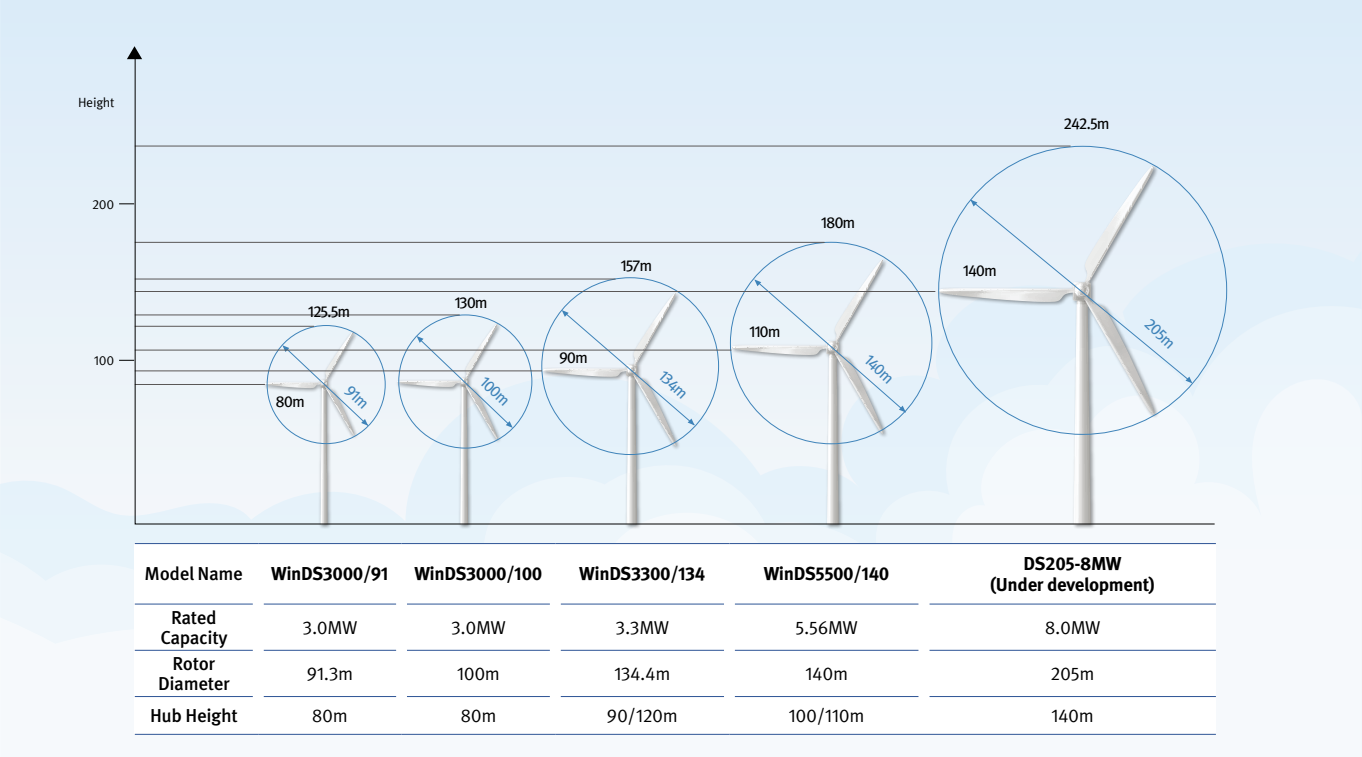
Wind Power Market - Market with Strong Growth Prospects

In line with the South Korean government’s renewable energy-oriented energy policy, it is forecast that new orders amounting to 23GW will be secured by 2034 for Korea’s wind power market, particularly for offshore wind farms. The wind power sector is expected to have new build projects amounting to about 14GW by 2030, which would translate into an investment of approximately 66 trillion won in site development and 46 trillion won in site operation for the following 20 years after development. Since the declaration was made for net zero carbon building, the global wind power market has been growing steadily. In case of the onshore wind power market, it has been showing an annual growth of 60GW on average, mostly in Europe, North America and China, while the offshore wind power market is forecast to have wind turbines amounting to a scale of 157GW installed by 2030, mostly centering around the regions of Europe, North America and Asia.

South Korea’s Leading Offshore Wind Power Company

As the holder of the strongest track record in South Korea for offshore wind power, Doosan Heavy Industries & Construction is positioning itself as a total solutions provider, as our services range from feasibility studies, which involve looking at the selected wind farm locations and assessing wind conditions, to equipment supply, EPC work, operation & maintenance(O&M) services and project development based on financial investments. Moreover, as the sole company in Korea to hold a track record for offshore wind power EPC work (60MW Southwest Offshore Wind Farm), we hold a noticeably strong competitive edge over others in the field of offshore wind power. Our company has been working on the development of wind turbines since 2005 and we have managed to narrow down the gap with other leading global players by securing our own homegrown technology and constantly pursuing technology development. By focusing on the development of offshore wind power, which we believe to have huge growth potential, we succeeded in developing Asia’s very first offshore wind turbine in 2010 and we obtained international certification(DEWI-OCC, Germany) for our 5.5MW offshore wind turbine model in 2019, thereby securing competitiveness for our offshore wind power business. In line with the rising demand for large-sized wind turbine models, we embarked on the development of an ultra-large 8MW wind turbine model in 2018, one that is

Doosan Heavy Industries & Construction’s Wind Turbine Model Line-up



suitable for Korea’s wind speed, and we are now waiting to commercially launch it in 2022.

To prepare for the increase in business expected from the constantly growing wind power market, our company built a second wind turbine shop on the grounds of our Changwon headquarters in March 2021. This equipped us with the capacity to manufacture up to 30 units of offshore wind turbines per year and by applying digital smart factory technology, we were able enhance the efficiency of our production and quality management system. We plan to make further investments in a wind turbine shop in order to acquire the capacity to produce large 8MW wind turbines.



Wind Turbine Shop #2 at Changwon Headquarters

Major Accomplishments & Future Plan

Doosan has a track record of having supplied wind turbines with a combined capacity of 239.5MW in the domestic market and is the sole company in Korea to hold a track record for delivering offshore wind turbines. We are now leveraging our expertise and applying it to a large-scale offshore wind power project that is being jointly pursued with the South Korean government. As a participant of the national project, titled “8MW Floating Offshore Wind Power System Development” project, we are currently engaged in the work of developing a floating offshore wind turbine. As floating wind turbines are essentially offshore wind turbines mounted on a floating structure, in contrast to the conventional fixed offshore wind turbines which are installed on sea beds in shallow water, these floating wind turbines boast of higher efficiency, since they are used in far sea areas where the water is typically deep and winds are strong. Given that wind conditions are comparatively better in the far sea areas compared to coastal areas, the utilization rate is much higher here and risks of environmental degradation is also much lower. Our role in the project will be to handle the development and manufacturing of the offshore wind turbine. We will be working together with the local government (South Gyeongsang Province, Jeju Island) and public corporations (Korea South-East Power, Jeju Energy Corporation) to complete the wind turbine development by April 2025.

Hydroelectric Power

Expansion of Hydroelectric Power as a New Renewable Energy Source

With the global community striving to effectively respond to climate change, renewable energy has become increasingly important and green energy, such as hydroelectric power, is in high demand these days. South Korea is also seeing a revival of its hydroelectric power sector, as reflected in the large-scale investment plans, totaling 7 trillion won, announced by Korea Hydro & Nuclear Power (KHNP), which include modernization of an aged hydroelectric power plant (1 trillion won), construction of a new pumped storage hydropower plant (3 trillion won) and execution of global hydroelectric power plant projects (3 trillion won). As the only company in Korea to hold the capacity and technology to manufacture and supply the main components for large-capacity hydroelectric and pumped storage hydropower plants, such as the hydropower turbines, hydro generators and I&C systems, Doosan Heavy Industries & Construction is striving to become an active player in the constantly growing global hydro power market.

Picking Up Speed in Securing New Global Hydro Power Projects

By leveraging our competitiveness in the hydro power business, Doosan Heavy Industries & Construction was able to win the Upper Trishuli-1 (UT-1) Hydropower Plant project in Nepal in October 2020. The UT-1 Hydropower Plant, with a capacity of 216MW, will be located on the Trishuli River, 70km to the north of Nepal's capital Kathmandu. In our role as EPC contractor, we will be in charge of manufacturing and supplying the main equipment, such as turbines and generators, and will be responsible for the overall construction of the hydropower plant. Backed by the project delivery experience acquired from this project, we plan to focus on expanding our overseas hydropower business going forward.

Future Direction

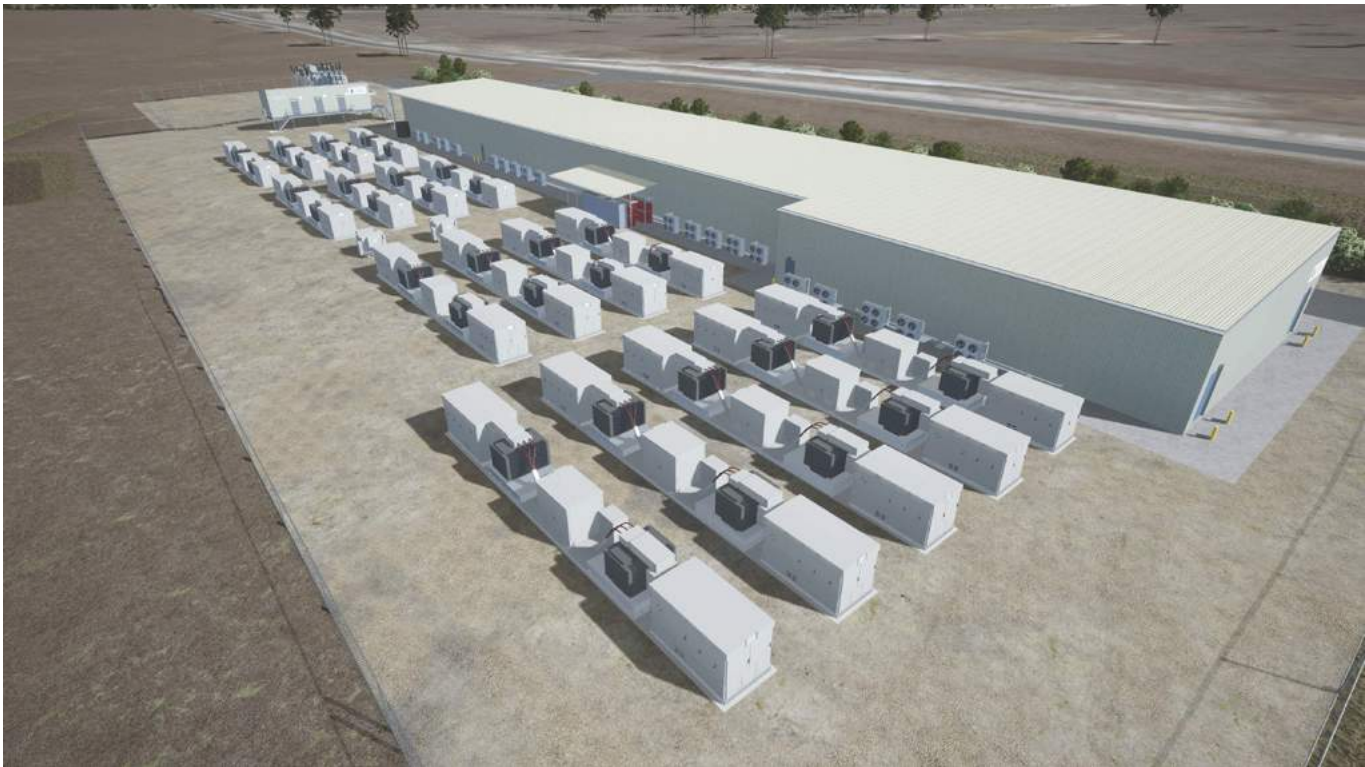
Doosan Heavy Industries & Construction has been pursuing the local manufacturing of main components for hydropower plants, which had formerly been sourced from leading foreign companies. To this end, we have been making plans since 2021 to secure technological self-reliance for manufacturing 30MW hydraulic turbines and generators. We are constantly endeavoring to acquire the required competencies through means such as technology transfers from global partners, so that we may secure the foundation to sufficiently supply the main components for hydropower plants ourselves, particularly for local hydropower plant modernization projects and pumped storage hydropower plant new build projects. As part of these efforts, in November 2020, we signed a memorandum of understanding with Korea Western Power on jointly developing the Phou Ngoy Hydroelectric Power Plant Project in Laos and cooperating on the local manufacturing of main components for hydropower plants and developing sales channels for exports. Based on our competitive technology and extensive hydro power experience, which includes the Nepalese UT-1 project, we aim to aggressively pursue development of the overseas hydro power market. By cooperating with related local institutions, we are actively pursuing hydro power projects in the Southeast and Southwest Asian regions, as we are committed to doing our utmost to deliver low-carbon energy sources to countries suffering from energy shortages.



UT-1 Hydropower Plant EPC Contract Signing Ceremony



Phou Ngoy Hydropower Plant MOU Signing Ceremony



Aerial View of Doosan GridTech ESS to be built in Queensland by 2021

ESS and Solar Energy

The New Future of Power Generation

As a business devised by combining digital technology with eco-friendly green energy, the energy storage system (ESS) refers to a system which has electrical energy generated from sources, such as solar energy and wind power, and stored in a rechargeable battery for later use as needed. Equipped with our own specialized technology and Doosan GridTech, a subsidiary with leading ESS-related expertise, we have become a total solutions provider that offers not only the ESS and control system software based on the distributed energy resources(DER) platform, but also EPC and O&M services.

Large-Scale ESS Project Won in Australia

In December 2020, our U.S.-based subsidiary Doosan GridTech successfully won a large-scale ESS project in Queensland, Australia. As an EPC project aimed at delivery of a 150MWh system with the capacity to generate electric energy for 23 thousand households per day, Doosan will be handling the overall process from the supply of equipment to construction. Doosan Heavy Industries & Construction and Doosan GridTech aim to apply their EPC capabilities, backed by Doosan's ESS software technology, system integration engineering expertise and extensive project experience, to successfully carry out the project.

Future Direction of ESS & Solar Energy Business

Based on our stable self-developed software and proven project executing capabilities, we plan to continuously expand our ESS business in line with the growing global demand for renewable energy. We will be particularly focusing on developing the Australian and U.S. ESS markets, which are forecast to grow most rapidly. As for the solar energy business, we are scheduled to deliver the solar power equipment for the 310MW Tae'an Solar PV(Photovoltaic) Power Plant, located in Anmyeondo of South Chungcheong Province. We plan to use the experience acquired from this project to actively pursue other solar PV power plant projects, so that we may further diversify our business models and expand our renewable energy business.

Hydrogen Energy



Aerial View of Changwon Hydrogen Liquefaction Plant

Responding to the Booming Hydrogen Economy

Hydrogen Rising as Next Generation Eco-Friendly Energy Source

Hydrogen is drawing attention these days as a next generation eco-friendly energy source, leading to forecasts of the global hydrogen market growing to the size of 12 trillion dollars by 2050. In the domestic hydrogen market, the South Korean government became the first in the world to enact a hydrogen law (Act on Hydrogen Economy Development and Hydrogen Safety Management) as of February 2021, and efforts are currently underway to implement the Hydrogen Energy Portfolio Standard (HPS), a system that makes it mandatory to have a separate supply of hydrogen power generation. All such efforts signify that the nationwide efforts to transition to a hydrogen economy will be further escalated.

Expertise Accumulated for Hydrogen Business

As Korea’s leading energy company, Doosan Heavy Industries & Construction is leveraging the business experience and network it has acquired over the years in the power generation sector to emerge as a competitive player in the hydrogen business sector. In March 2021, the Doosan Group Hydrogen Task Force Team, consisting of members from Doosan Heavy Industries & Construction, Doosan Fuel Cell and Doosan Mobility Innovation, was launched to lead the efforts to review new markets and business plans identified for the various stages of the hydrogen value chain. We plan to collaborate with our subsidiaries and other Doosan Group affiliates to create corporate group-wide synergy and strengthen our project delivery capabilities for the hydrogen business.



Becoming First Mover in Hydrogen Economy

In November 2020, Doosan Heavy Industries & Construction signed a contract for construction of Korea’s first hydrogen liquefaction plant. Doosan will be participating as the EPC contractor and will be providing operation & maintenance services for 20 years after the construction. The plant, which is being built on the grounds of Doosan Heavy Industries & Construction’s Changwon headquarters, will have the daily capacity to produce 5 tons of liquid hydrogen and is scheduled to be built by 2022. Once it goes into commercial operation in 2023, it will be used to supply liquid hydrogen to hydrogen bus fueling stations. Application of the CCUS (Carbon Capture, Utilization and Storage) technology to capture the CO₂ emitted during the hydrogen production stage to ultimately create blue hydrogen is being reviewed for the project.

Hydrogen Value Chain & DHIC Business Areas

Hydrogen Production

Changwon Hydrogen Liquefaction Plant Project in progress
• 5 tons of hydrogen to be produced, liquefied and supplied daily

Participating in Green Hydrogen Demo Project
• State projects in East Sea and Jeju

Storage & Transportation

Supplying equipment for hydrogen stations
• High-pressure storage tanks, PCHE

Utilization

Currently developing hydrogen gas turbine
• Participating in national project

*For details on hydrogen gas turbine development, refer to New Growth Engines' gas business section.

Hydrogen Liquefaction Demonstration Plant EPC Contract Signing Ceremony

Doosan Heavy Industries & Construction is currently participating in all the green hydrogen demonstration projects of varying capacity in Korea. Green hydrogen is produced by applying water electrolysis using renewable energy. It is recognized as being a clean hydrogen, as zero CO₂ is emitted throughout the entire stage of the hydrogen production. Thus, the use of green hydrogen will be required if we wish to establish an eco-friendly hydrogen economy in the future. By taking part in these demonstration projects, we expect to soon acquire the technology and track record for green hydrogen production ahead of others.

Participation in National Green Hydrogen Demonstration Project

Project Name	East Sea Solar PV Power Plant P2G System Engineering & Business Model Development	Development and Demonstration of Jeju Rated Wind Turbine Power-based Hydrogen Production & Storage Technology
Timeline	May 2019 ~ April 2024	Nov 2020 ~ April 2023
Project Goal	Development and demonstration of 2MW green hydrogen production system	Development and demonstration of 3MW green hydrogen production system

Furthermore, we have also completed the local manufacturing of safe and durable high-pressure hydrogen storage tanks to be used at hydrogen stations and are now pursuing business with such hydrogen fueling stations.

Future Direction

By successfully carrying out the development and demonstration projects that we are currently engaged in, we plan to secure business competitiveness across all the stages of the hydrogen value chain. Doosan Heavy Industries & Construction aims to lead the hydrogen industry by becoming a total solutions provider that offers solutions covering the production & storage, as well as transportation & utilization of hydrogen.

SMR

Small Modular Reactors - Next Generation Nuclear Power Plant

SMRs Rising as a Solution for Carbon Reduction

Nuclear power, being recognized as a carbon-free energy source, is rising as a viable alternative solution for carbon reduction, which is essential to achieve the goal of carbon neutrality. Small modular reactors (SMRs) in particular boast of being more safer and economical than conventional large nuclear power plants and can be conveniently constructed even in small areas with limited space, which is why the leading countries of nuclear power, including South Korea, the United States, United Kingdom, Russia and China, are all stepping up their SMR development efforts.

The United States in particular has taken the noteworthy action of classifying SMR as a clean energy source in its carbon neutrality roadmap and has planned for large-scale SMR investments. The U.S. Department of Energy has announced plans to provide a financial investment of 1.4 billion dollars to Utah Associated Municipal Power Systems (UAMPS), the client that placed the order for NuScale Power's SMR, to support the States' first SMR construction project and to also provide financing of 3.2 billion dollars to two developers to support the development of the next-generation SMR.

Since the 1990s, South Korea has been pursuing the development of SMART (System-Integrated Modular Advanced Reactor) and is jointly working with Saudi Arabia to receive the design certification for the model. We are planning to embark in earnest on the development of the innovative SMR (i-SMR) in order to lead the SMR market in the future.

Key Benefits of SMR

Safe	Probability rate for major accidents is 1/1000 that of conventional large nuclear plants as it is designed to be safely operated even without the supply of external power or coolant.
Economical	As the nuclear reactor, steam generator and pressurizer are all built inside one single module, a larger amount can be manufactured, and the construction lead time & costs can be reduced.
Useful	Can be used as a small-scale power facility to supply power to remote areas and regions suffering from power grid shortage.
Complementary	As the power output can be adjusted flexibly in line with the demand, can be used as a complementary carbon-free energy source to supplement intermittent renewable energy.
Widely Applicable	The electricity and high temperature steam generated from the nuclear reactor can be used to produce carbon-free hydrogen and fresh water.

Leader of SMR Market

Doosan Heavy Industries & Construction has a strong track record of supplying nuclear components, as we have supplied as many as 33 nuclear reactors and 120 steam generators to South Korea, China and the UAE, including the main components for the Vogtle Nuclear Power Plant Units 3 and 4 in the States. We are also planning to deliver a nuclear reactor to the Shin-Kori Nuclear Power Plant Unit 6 in June 2021, followed by a steam generator in July. Based on our technological competitiveness, we aim to take part in the engineering of main components for Korea's SMART model and secure the supplier rights. In July 2019, we signed a business partnership agreement with the U.S.-based NuScale Power to cooperate on the supply of nuclear reactor modules and other nuclear components, and as such, are planning to manufacture and supply nuclear reactor modules for a 720MW SMR project, the first nuclear SMR project in the U.S.



Aerial View of NuScale SMR Plant

Doosan plans to maintain a strategic partnership with NuScale Power, such as by completing the investment in NuScale's shares, and by using this first SMR project as a stepping stone, we plan to pursue the plan of supplying a minimum 1.3 billion dollars' worth of NuScale SMR components to customers in the global market, not to mention the U.S. market.

With the design certification having been obtained for NuScale Power's SMR from the U.S. Nuclear Regulatory Commission (NRC) in August 2020, the safety and reliability of the NuScale model has been verified. It is forecast that the growth of the global SMR business, including the NuScale SMR, will be further accelerated now. After reviewing the manufacturing of NuScale's SMR design, we are now working on the production of prototype, and we are preparing for expansion of the SMR market by carrying out activities, such as improvement of the SMR manufacturing plant, optimization of the manufacturing process, development of manufacturing technology and facility & equipment investments.

Growth of Nuclear Decommissioning and Nuclear Fuel Cask Market

With the number of aged nuclear power plants increasing worldwide, it is forecast that the nuclear decommissioning and spent nuclear fuel dry storage cask market will continue to gradually grow. Since 2015, Doosan Heavy Industries & Construction has been involved in a national project aimed at pursuing phased development of nuclear decommissioning technology, which culminated in the successful development of reactor decommissioning technology in 2020. Furthermore, since completing the development of technology for spent nuclear fuel dry storage casks in 2017, we are now offering a wide range of models suited to the needs of nuclear power plants. In March 2021, we supplied a cask to the Three Mile Island (TMI) Nuclear Power Plant in the U.S., becoming the first Korean company to export a nuclear fuel cask overseas.

Future Direction

Doosan Heavy Industries & Construction plans to focus on SMRs as its future growth engine, along with gas turbines, hydrogen and Renewable Energy. To prepare for the growing SMR market, we seek to diligently pursue technology development in order to improve safety and economic feasibility of our reactor module. Moreover, we will continue with our efforts to become a global leader in this field by leveraging Doosan's nuclear decommissioning technology, which we have been developing since 2015.



Cask manufactured at Doosan's Changwon Plant for the TMI Nuclear Power Plant in the U.S.

Plant EPC

Doosan Heavy Industries & Construction, as a global leader in the power generation sector, possesses EPC capabilities and project references for executing the entire value chain from plant design to equipment supply, construction and commissioning. Based on these capabilities and references, we are carrying out numerous projects at home and abroad, especially in Vietnam. We are further solidifying our position as an EPC player by winning many projects in succession, starting with the Mong Duong 2 Thermal Power Plant in 2010 to Vinh Tan 4 and Nghi Son 2 thermal power plant projects.

In December 2020, we signed a contract to build a 200MW combined cycle power plant (CCPP) in Dededo, Guam, a project in which we were selected as the EPC contractor. Once the plant has been built, it is expected to become the largest baseload power plant accounting for about 40% of the power supply in Guam. We plan to install a 25MW Energy Storage System (ESS) using Doosan Heavy Industries & Construction's proprietary technology to provide a stable power supply. Based on our EPC capabilities, technologies, and references for project execution, we will continue to strengthen the capture of overseas CCPP markets.

Based on our competitiveness in EPC projects, we are actively diversifying our business portfolio to include not only power generation, but also other business areas such as civil engineering, construction (environmental certification), and SOC (social overhead capital). We are expanding our portfolio in the domestic private sector, executing various projects such as the Yangsan Deokgye apartment houses, the Yeosu Woongcheon housing complex and the Hanam Knowledge Industrial Center. In the domestic public sector, we have added the Honam high-speed train and the Gimpo CHP (Combined Heat & Power) plant projects to our references.

Efforts to Strengthen Our Competitiveness

Our company is carrying out various activities to strengthen our plant EPC capabilities. In the design field, we are actively adopting digital design technologies to minimize drawing errors and optimize design delivery time. In the procurement field, we are procuring and supplying optimal products that can best meet the needs of each client through global sourcing and other procurement improvement activities, such as DTC (Design-to-Cost). In the construction field, we are executing projects by assigning personnel with extensive EPC experience to the site, while running various career development programs to discover and nurture key talents in construction and commissioning. As an overseas construction specialist, we are operating a variety of training programs to improve the capabilities of the personnel working at our overseas sites.

We are also preemptively managing risks that may arise during the project delivery. We achieved zero injuries at our numerous overseas sites by reviewing potential risks in the project cycle in advance, setting counteraction plans and continuously carrying out voluntary safety management activities with our partners based on a thorough EHS management system. Recently, the Nghi Son 2 site in Vietnam achieved 10 million injury-free hours, and the Jawaharpur site in India achieved 25 million injury-free hours. We are strengthening our project execution competitiveness by carrying out early risk management activities and introducing various processes to ensure site safety.



Fadhili Combined Cycle Power Plant in Saudi Arabia

WATER EPC

Doosan Heavy Industries & Construction hopes that the global water shortage problem can be resolved, so that clean water can be made readily available to all people around the world. With this hope, we are actively participating in desalination projects based on our world-class technologies and market share, and we have received orders for 31 projects with the combined capacity to produce 77 million tons of fresh water per day. Our water business scope is not limited to merely the supply of water facilities, but has been expanded to cover various business models, including turnkey projects and operation & maintenance services for plants, through which we seek to maximize customer satisfaction.

In January 2021, we came one step closer to our goal of increasing the global water supply by successfully winning the order for the Yanbu 4 Seawater Desalination Plant, worth KRW 780 billion, which is to be built in Ar Rayyis, Saudi Arabia. The Yanbu 4 Seawater Desalination Plant, which will be constructed as an EPC project, is expected to produce 450,000 tons of water that can be used by about 1.5 million people per day in the Ar Rayyis area. We are continuously winning a series of desalination projects in the Middle East, signing the contract for construction of the Yanbu Phase 4 project in Saudi Arabia, following the Doha Phase 1 project in Kuwait in 2016, the Shoaiba project in Saudia Arabia in 2017, and the Sharqiyah project in Oman in 2018.

Efforts to Strengthen Our Competitiveness

As a leading company of desalination technology, we are continuing with our efforts to strengthen our competitiveness based on the development of our own technology and joint research & technology exchanges with Global R&D Centers and subsidiaries. We are building up our competitiveness in winning new orders and executing projects by strengthening thermal performance and improving technologies, such as the SWRO (Sea Water Reverse Osmosis) pretreatment technology, and continuously striving to develop eco-friendly products and discover new business opportunities.

Doosan successfully commercialized the eco-friendly ZLD (Zero Liquid Discharge) water treatment system, which was developed over the course of four years based on our know-how of manufacturing thermal desalination facilities. ZLD is an eco-friendly water treatment method that treats contaminated wastewater and allows it to be reused without being discharged. It is the most up-to-date water treatment technology that is being applied in various industries. The effectiveness of our zero-discharge treatment technology has been proven by being applied to many desulfurization wastewater treatment facilities at home and abroad, including the thermal power plants in Yeongheung, Yeongdong in South Korea, as well as in India and Vietnam. We have recently signed a technology license agreement with a small and medium-sized water treatment company, contributing to achieving shared growth through the sharing of advanced water treatment technologies and securing new business opportunities in the industrial wastewater treatment market.

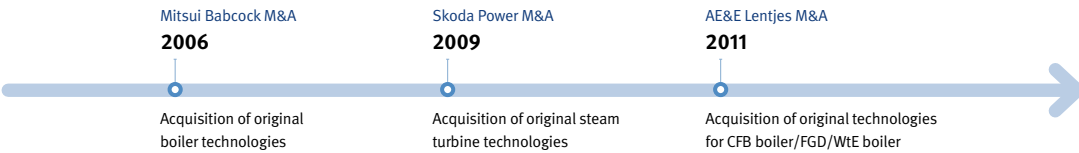
In addition, as a leader of the water industry, we will be leveraging our O&M expertise and be striving to maximize customer value through ceaseless research & development and the application of digital O&M service technologies that enable efficient operation of desalination facilities.



Sharqiyah Seawater Desalination Plant in Oman

Power Plant Equipment

Doosan Heavy Industries & Construction has the capabilities to design, manufacture and install the main components of boilers. In 2006, we secured our own capability to design and produce boilers by acquiring Mitsui Babcock, a U.K company that owned boiler manufacturing technology, and we now own heavy oil-fired boilers and 1000MW USC boilers that have been recognized as world-class products. We also acquired the German company AE&E Lentjes, which helped to further strengthen our capabilities in the equipment manufacturing business at home and abroad, as we came to own the technologies for AQCS, Waste-to-Energy (WtE) plants and CFB boilers. We plan to secure a stable order intake and profit by strengthening the competitiveness of our existing key products, such as steam turbines and generators. At the same time, we are continuously winning new orders in the gas-fired power generation sector by providing comprehensive solutions that can be applied to various gas turbines models, based on our solid track record in the domestic and overseas CCPP (Combined Cycle Power Plant) markets.



Efforts to Strengthen Our Competitiveness

Boiler Business

As the focus of the thermal power plant market has shifted from large products to small and medium-sized products, we are carrying out various activities to strengthen the competitiveness of our small and medium-sized boilers. We successfully won the Indonesia Palu 3(50MWx2) thermal power plant project in 2019 by using the existing Doosan Babcock model to develop a standard model suited to the needs of the Indonesian market, which is centered around 50MW small-scale coal-fired thermal power plants. In addition, we proved our competitiveness of our eco-friendly solutions by winning new orders in 2020 for the Olsztyn WtE EPC project in Poland and the Dinslaken EP project in Germany, targeting the European market by leveraging Doosan Lentjes' WtE technology.

Steam Turbine Generator (STG) Business

We plan to obtain optimization technologies in the field of high-efficiency STGs and BOP (Balance of Plant) systems for domestic combined cycle power plants through successful execution of the scheduled CCPP Power Package Solution projects. Based on the Fujairah F3 project (270MW X1, 540MW X1), a large-scale CCPP project that we won in 2020 jointly with a domestic EPC contractor, we will continue to strengthen our partnerships with domestic EPC companies and increase our order intake for overseas CCPP STG projects. In addition, we successfully won the TCS replacement project from Korea Hydro & Nuclear Power based on our competitive technology and prices, and also won new project orders for the performance improvement of the Busan CCPP #1-4 steam turbines and the replacement of Gunsan CCPP medium-pressure steam turbines, which are to replace the high/medium-pressure steam turbines of the old CCPPs, proving our outstanding technologies and business competitiveness.



Shin Boryeong Power Plant

SERVICES



Boryeong Thermal Power Plant Units 3 & 4

Services Business Leveraging Our Power Generation Competency

As an OEM provider of power plant equipment, Doosan Heavy Industries & Construction is carrying out the services business for various areas like sales, design, procurement, manufacturing, project management and quality assurance, not to mention plant engineering (PE) and construction. Our service capabilities are specialized in power plant diagnoses & assessments, reverse engineering of other OEM main equipment, field engineering, local operation and RMS (Remote Monitoring System). By leveraging these specialties, we were awarded the Morupule A Retrofit project in Botswana, the Yeongdong Unit 1 Fuel Conversion project in Korea and the Barh Super Thermal Power Plant project in India, leading us to enter into the R&M (Renovation & Modernization) business in full swing. Since then, we have continued to win a series of projects, including the Boryeong Thermal Power Plant Unit 3 Performance Improvement project, the Yeongdong Thermal Power Plant Unit 2 Fuel Conversion project, and the Boryeong Unit 4 AQCS Improvement project in 2020. Based on the experience of executing various types of projects at home and abroad, we expect to be able to firmly establish our services business at an early stage and to improve the stability of our business portfolio by expanding our supply of routine/planned maintenance services and related spare parts for the OEM power plants that we have built and supplied main equipment for.

Efforts to Strengthen Our Competitiveness

Strengthening the Capabilities of Service Specialist TAs (Technical Advisors)

The key element of the services business is to secure maintenance service orders for customers' power plants and to stably supply and install the parts designed and manufactured by Doosan Heavy Industries & Construction to ensure proper maintenance. The key success factor in the services business is the competence of the service specialist TAs who work at the point of contact with customers. We are striving to improve the capabilities of our services business by newly forming the Technical Service Center Team, an organization dedicated to nurturing service specialist TAs, developing training curriculum and carrying out activities to improve competitiveness linking with our overseas subsidiaries.

Development of Digital Solutions

The performance of our optimization solution was verified in 2018 at the Sasan Coal-Fired Power Plant Unit 1 in India. The early warning solution was recognized for its commercial value when the shares for joint ownership of the technology license was sold to the Korea East-West Power Co.,Ltd.(EWP). We also received orders for combustion tuning projects in Indonesia and Chile respectively, which established a bridgehead for us to enter various services markets. In 2020, we signed a contract to provide an early warning system and fault diagnosis solution to Narae Energy Service, gaining the first opportunity to supply digital solutions to the domestic private CCPP market.

Expansion of Services Market

Based on our extensive experience and know-how in the power generation services business, we won the maintenance contract for the UAE BNPP (Barakah Nuclear Power Plant) in 2019, securing the basis for further expanding the nuclear power plant services business. As we have identified the need for fuel conversion (coal/petroleum → gas) in the thermal power plants of the Middle East and South America, we are actively targeting these markets by leveraging our fuel conversion technologies.



Morupule A Retrofit Project in Botswana



Eraring Power Station in Australia

Nuclear Power



Hanul Nuclear Power Plant

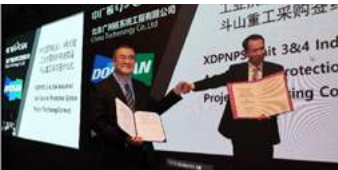
Doosan Heavy Industries & Construction holds the track record for having supplied the most nuclear power plant components across the globe over the past three decades, and we are recognized as being the global leader for our expertise in engineering and manufacturing nuclear power plant components. We are also the only company to have manufactured the main components for both the APR1400 reactor, which is the first commercially operated third-generation+ nuclear reactor, and the U.S. AP1000™ reactor. The Korean-type nuclear components manufactured by Doosan have been verified for its safety as reflected in the full design certification received from the U.S. and Europe, and the competitiveness of our prices, delivery time and product quality were also proven through the successful execution of the UAE Barakah Nuclear Power Plant Project. In addition, by successfully delivering the MMIS (Man-Machine Interface System) and RCP (Reactor Coolant Pump) to the Shin Hanul Nuclear Power Plant Units 1 and 2, we succeeded in achieving the goal of locally manufacturing all the main components for nuclear power plants.

Efforts to Strengthen Our Competitiveness

Backed by our competitiveness in manufacturing nuclear power plant components, we teamed up with the Ministry of Trade, Industry and Energy (MOTIE), Korea Hydro & Nuclear Power (KHNP) and Korea Electric Power Corporation (KEPCO) to form Team Korea, a task force dedicated to nuclear power plant-related biddings. The team is actively seeking to secure new orders for the APR1400 in the global markets, such as the Czech Republic, Poland and Saudi Arabia. To promote the exporting of our nuclear power plant components, we are endeavoring to diversify our target markets by marketing to not only the existing markets like the U.S. and China, but to new markets in the European region as well.

Czech Republic	Our company has been working with Korea Hydro & Nuclear Power (KHNP) on promoting the strengths of Korean nuclear power plants to clients and businesses in the Czech Republic, and we are currently collaborating with our Team Korea partners on the development and certification of a medium-sized 1,000MW APR1000 reactor which we hope to export to the Czech market. We are preparing for the Czech Republic's security review of new nuclear power plants, which is scheduled for 2021, and will continuously work to expand our cooperation with the Czech local companies in order to gain more competitiveness in securing new orders.
Poland	Poland is currently pursuing its plan to have a total of six nuclear power plants built by 2043, with construction for the first one starting in 2033. In the year 2021, Doosan will be working with Korea Hydro & Nuclear Power (KHNP) and other related companies on preparing proposals to submit for new nuclear power plants. We are using our branch in Poland to gather market intelligence and actively carry out marketing activities, so that we can draw up strongly competitive proposals.
Saudi Arabia	In 2019, Doosan participated in the workshop hosted by the K.A. CARE (King Abdullah City for Atomic and Renewable Energy) in our role as a Team Korea member. Now in the year 2021, we are preparing for the Value Chain Workshop, which is to be held together with our Saudi partners in the nuclear power sector, for the purpose of reinforcing our efforts for the successful delivery of nuclear power projects in the region.

In addition, we also won the contract to manufacture the replacement feeder for Canada's Bruce Power Generating Station Unit 6 in 2019 and secured the contract to manufacture a pressurizer for the France-based ITER (International Thermonuclear Experimental Reactor) in 2020. As displayed by our company winning the supplier contract in 2021 for the Xudabao Nuclear Power Plant's I&C system in China, we are continuously strengthening our position in the global market.



I&C system contract signing for China's Xudabao Nuclear Power Plant

Castings & Forgings

Doosan Heavy Industries & Construction's castings & forgings business dates back to 1973. We have been leveraging the technical know-how and manufacturing experience acquired since then to provide our customers with cast and forged products of the highest quality. Our company boasts of having a large steel mill, forging shop, casting shop and machining shop equipped with the latest automated equipment and optimal processing systems linked with digital technology, as well as a strict quality assurance system that received all the necessary authentications. Our steel mill, which has a 100-ton electric furnace installed and an annual steelmaking capacity of 250 thousand tons, can produce up to 650 tons of steel ingot per year. At our forging shop, we have a 17,000-ton forging press, which provides us a with an annual production capacity of 140 thousand tons and the capacity to produce up to 290 tons of large forged products per year.

Efforts to Strengthen Competitiveness

In response to the advancement of industries, we are endeavoring to acquire more competitiveness by making investments in remelting facilities required for production of high purity steel, along with investments in optimal infrastructure for manufacturing highly-functional metal, all of which will help us deliver value to our customers. Furthermore, by developing new products aimed at achieving external growth and profitability, we are stepping up our efforts to improve our business portfolio. We are leveraging our expertise to keep up the steady supply of our company's products to the local Korean market, as well as to the wider global market, including China, Southeast Asia, Europe and the States. We were recognized by the Ministry of Trade, Industry and Energy (MOTIE) for our outstanding product manufacturing technology and exporting competitiveness when eight of our products, including our mold steel, marine crankshaft, work roll and low-pressure turbine rotor shaft, were awarded as World-Class Products.

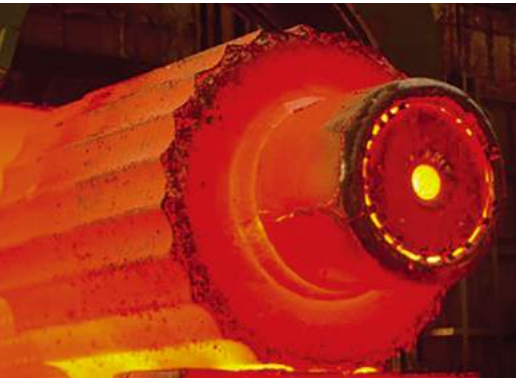
Holder of World-Class Products

Having received recognition from the Ministry of Trade, Industry and Energy (MOTIE) for our outstanding product manufacturing expertise and exporting competitiveness, we hold a total of eight World-Class Products, which include our mold steel, marine crankshaft, work roll and low-pressure turbine rotor shaft.

	World-Class Products	Year
1	Crankshaft for Large Engines	2003
2	Work Roll for Cold Strip Mills	2004
3	Mold Steel	2004
4	Rudder Horn	2007
5	Hydraulic Turbine Casting for Hydro Power Plant	2007
6	Low Pressure Turbine Rotor Shaft for Thermal Power Plants	2010
7	Turbine Generator Rotor Shaft	2011
8	Consolidated Steel End Plate (for Nuclear Power Plants)	2013

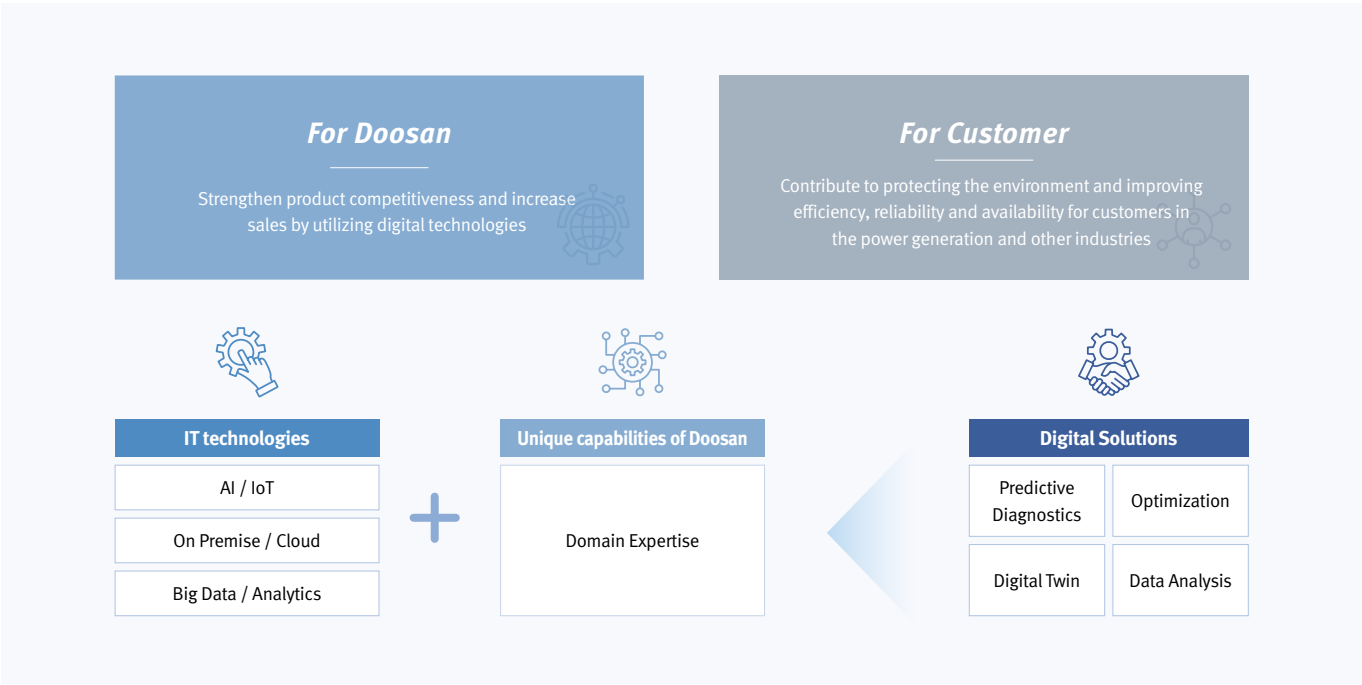


17,000-ton Forging Press



Heat Treatment of Ingots

Digital Transformation



Commercialization of Digital Solutions

The digital solutions that Doosan Heavy Industries & Construction is seeking to commercialize are the solutions developed by integrating the unique capabilities of Doosan with various IT technologies (AI, Cloud, Big Data). They can be classified into 1) Predictive Diagnostics, 2) Optimization, 3) Digital Twin, 4) Data Analysis solutions.

Predictive Diagnostics Solution

The data-based predictive diagnostics solution has the advantage of being applicable to not only specific devices, but for general purposes. Therefore, its utilization is expected to increase even further when a solid track record has been built by applying this solution to different types of plants or devices, in addition to power plants. We are planning to expand business opportunities to private power generation companies, backed by our success in commercializing the predictive diagnostics solution with the Korea East-West Power at the end of 2019. We are also seeking to apply the solution to wind turbines and gas turbines and many other types of plants (Doosan Fuel Cell) and devices (Doosan Robotics) of the Doosan Group. This solution is to be delivered to the Wirye CHP Plant, which is operated by Narae Energy Service, in the first half of 2021, and to be expanded to the Paju/Gwangyang/Hanam Power Plants in the second half of the same year.

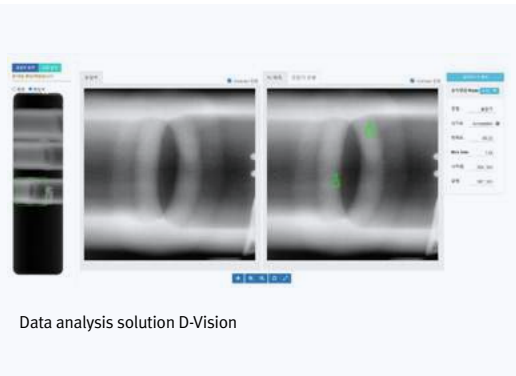
Optimization Solution

We have integrated the three solutions - the combustion optimizer, soot blowing optimizer and coal blending advisor - and are seeking to commercialize the integrated solution for power companies at home and abroad. Among these, the combustion optimizer was recognized as a solution that minimizes the emission of pollutants, such as NOx, through a demonstration project at India's Sasan Power Plant in 2018. It is a solution that also provides various operational methods, such as the fuel saving mode. The combustion optimizer is scheduled to be installed and verified at the Shinboryeong Power Plant in Korea this year, and the soot blowing optimizer is to be delivered to Thailand's Gheco Power Plant in the first half of 2021 for performance verification. In the second half, coal blending advisor and combustion optimizer will be integrated into a package and provided to the Korea Western Power Co., Ltd, with a goal to optimize the boiler efficiency of its Taeon power plant utilizing AI technologies. In the water business sector, we have developed optimization solutions, such as the Energy Management Solution, which minimizes power consumption at water desalination plants, and the DAF Chemical Dosing Optimizer, which optimizes chemical injections, all of which will be applied to the Doha Desalination Plant in Kuwait this year.



Digital Twin & Data Analysis Solution

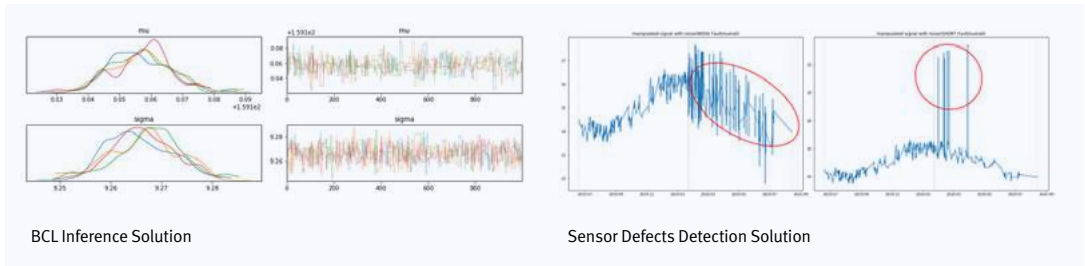
The Digital Twin is a solution that monitors and predicts device performance, and detects and diagnoses abnormalities using IoT and AI technologies. A conformance test has already been completed on wind turbines for the solution. In addition, D-Vision, which is a data analysis solution that digitalizes RT (Radiographic Testing, a type of non-destructive test) images and analyzes them using AI technology, after which the location of defects is identified based on the information, is expected to be utilized not only in power plants but also in many other fields such as shipbuilding, construction sectors. This solution is currently being commercialized in conjunction with various businesses.



Along with the commercialization of digital solutions, we plan to focus our investments on strengthening the competitiveness of the new businesses (gas turbine, wind power, ESS).

Gas Turbine

Doosan Heavy Industries & Construction is developing solutions applicable to gas turbines in order to strengthen our business competitiveness and achieve differentiation of our gas turbines. The solutions consist of the automatic combustion tuning (DCAT: Doosan Combustion Auto Tuning System), which controls combustion oscillation and reduces NOx by optimizing the performance of gas turbines, and the performance diagnostics and predictive diagnostics, which monitor sensor failures and gas turbine performance. These solutions are expected to be continuously improved with application of a data-based ML/AI model. In addition, we are developing a solution that predicts the deterioration level by combining image analysis AI with material technology for efficient management of gas turbine blades exposed to high temperature, high pressure environments.

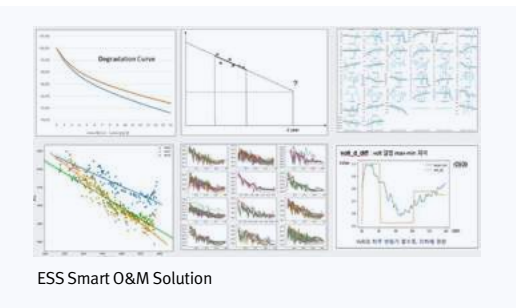


Wind Power

In order to generate additional profit and secure competitiveness of the services business, we are developing Power-Up solutions, Smart Maintenance solutions, and Failure Predictive Diagnostics technologies. Furthermore, in order to secure the quality of wind turbine blades, we are developing a technology that can detect defects quickly and precisely by combining in-house UT (Ultrasonic Testing, a non-destructive testing method commonly used at sites) inspection technology with AI technology. We are also constantly reviewing ways to secure digital solutions that will help strengthen the competitiveness of our solar power and ESS business.

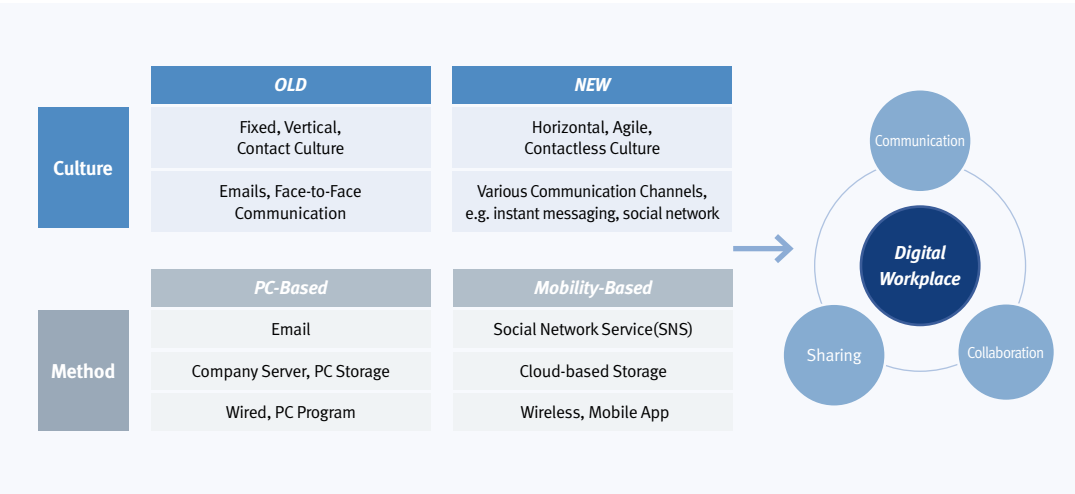
ESS Smart O&M

As the renewable energy business expands, the number of large ESS (Energy Storage System) projects is expected to increase. Under these circumstances, it is necessary to change from the existing monitoring-oriented O&M response method to a prediction-based Smart O&M. In line with this change, Doosan Heavy Industries & Construction is securing data analysis contents and examples of battery life, safety, and profit, based on which it plans to develop ESS Smart O&M solutions.



Work Efficiency
Improvement
through a Cloud-
Based Workplace

We are establishing a digital workplace to create new work culture and way of working through sharing, communication, and collaboration using new digital technologies and tools, which is being used for business in various areas.



Design

We are seeking a paradigm shift to a 3D model-based design environment. We are defining a 3D design methodology, re-establishing the processes and creating the PLM (Product Lifecycle Management) system, so that management of requirements, 3D models, drawings, document, project schedule, BOM(Bill of Materials) and design change and most of the works performed in the design phase can be done through systems. We plan to complete the system construction within the first half of 2021 and apply it to nuclear and hydropower projects. In addition, in order to address the increase in interpretation works driven by an increase in development works and the growing importance of design verification, we are utilizing cloud-based high-performance computing resources beyond the on-premise method. We aim to improve interpretation work efficiency by upgrading our hardware and establishing a hybrid system of on-premise computing and cloud computing resources within 2021.

Business

We are preparing processes and systems suitable for mass production commercialization so that the gas turbine and wind power businesses can be put on the right track and we can become an eco-friendly energy leader as soon as possible.

Manufacturing

Along with the stabilization of the Smart Factory initiatives that had been promoted until last year, we have also carried out digital field visualization initiatives that can bring about changes to actual works. By integrating systems and digital technologies at a factory level, we have identified and performed tasks that could prevent quality or safety problems by recognizing normal and abnormal situations in advance. An example of this is the introduction of prior work management system using the factory MES (Manufacturing Execution System) system and the boiler welding monitoring system. In addition, we identified the optimal factory operation plan for mass production through the virtual factory modeling analysis of the gas turbine hot parts shop, and the design and development for the introduction of Smart Factory are in progress for wind turbines.



Logistics

We are seeking to digitalize the project logistics side in order to lay the foundation for organic cooperation between the local/ global power plant construction sites and our headquarters by achieving digital transformation of our end-to-end business value chain. We are providing the information required at the sites in a two-way 'pull' type digital format, helping the sites and the headquarters prevent project schedule risks and meet delivery lead time through smooth communication and information sharing to maximize customer satisfaction.



Automation of Simple Repetitive Works

Repetitive tasks are automated with software to increase work efficiency and enable employees to focus on high value-added tasks to find a work-and-life balance. In the future, time-consuming manual tasks will be continuously automated by embedding AI in the Power Platform, so that employees can spend more time on strategic high value-added tasks.



Visualization for Preemptive Response

We have visualized company performance measures such as key financial KPIs (Key Performance Indicators), production schedule, delivery standards, and quality indicators for each organization unit using the tool(Power BI) of MS, a global IT company, and applied them to work and continuously promoted its use to enable proactive response to business needs.



Transition of IT Infrastructure to a Cloud Service

Many companies are directly introducing and operating IT infrastructure such as servers on a large scale to store data and business information. We have gone one step further from there and initiated the transition to a world-class large-scale cloud service, expecting to enjoy the following benefits.

- (1) Timely preparation of the infrastructure by shortening the lead time for IT infrastructure introduction to a couple of minutes, which previously took more than several weeks to several months
- (2) Allocation of computing resources according to usage, which allows cost saving without under/overinvestment.
- (3) Strong security of Cloud provider, which allows safe storage of company's important data.

In addition, we are operating construction sites in many overseas locations due to the nature of our business, and therefore, communication with the headquarters is required. After the transition is completed, we plan to expand the application of cloud services so that overseas business sites can communicate smoothly by accessing the headquarters' business information system quickly and safely.



Business Diversification Via Technology Development & Demonstrations

Our company has been constantly pursuing transformation of our R&D business portfolio and development of innovative technologies as part of our efforts to discover new business items in the fields of eco-friendly, renewable energy and other new business areas and are seeking ways to enhance our competitiveness. As such, we are stepping up our new business development efforts in order to acquire competitiveness in the next generation businesses and are working to develop the technology to commercialize environmental solutions like the EME (Electrostatic Mist Eliminator) and CDI (Capacitive Deionization) system.

Strengthening of Innovative 3D Printing-based Manufacturing Expertise

Our company was able to successfully develop 3D printing technology, a key technology in the era of the fourth industrial revolution, which enabled us to obtain innovative manufacturing technology. This 3D printing technology is a technique that uses a laser beam to melt and fuse together metal powder layer by layer to form a three-dimensional object. This technology can be used to implement innovative designs, which would have been otherwise impossible using the conventional machining technology, and it can also dramatically reduce the time required for manufacturing. Through the development of this technology, we have now come to hold the technologies required across the entire 3D printing process, from the design to final assembly and quality inspection. We hold notable strengths in the field of Power Bed Fusion (PBF) 3D printing, as we are the best in Korea in terms of our innovative designs and process development capabilities.

The 3D printing technology was applied in the parts manufacturing of our gas turbines, one of our flagship products, and on which tests were performed to verify the performance. In 2021, we will be performing a demonstration project for the 3D printed parts manufactured for the gas turbines.

Backed by our strongly competitive 3D printing technology, we are widening the application of our technology to a wider target market, including the aerospace and defense industries. We are currently engaged in a government-led civil-military cooperation project that is helping us to pave our way into the defense industry and have successfully obtained the AS9100 quality management certification for aerospace to facilitate our entry into this industry. We also set up a 1,100m²-sized 3D printing-based fabrication space to enable small-scale mass production. Currently, we have a total of three 3D printers, one of which is a large 3D printer, the world's largest to date, and two medium-sized 3D printers. In 2021, we will be setting up two more 3D printers to establish ourselves as South Korea's largest site for offering 3D printing services.

Application of Material Properties Database for Materials Development

Doosan Heavy Industries & Constructions holds material engineering capabilities that cover the entire process from development and manufacturing of materials to evaluation of the material properties for various types of materials used across all the related industries, including the equipment parts manufacturing, shipbuilding, maritime and power plant sectors. We apply the development experience and database that we built up over the years in our material engineering process to produce an assortment of materials that include steel, superalloys and composite materials. As the materials used in the energy sector generally must withstand extreme conditions, such as high temperature, high pressure and deep waters, it is critical that the quality and safety of the materials are guaranteed. This is why the implementation of a material properties database that covers information for all the stages of the material development process is needed, covering data such as material reliability verification in the design & engineering stage, prevention of quality issues in the manufacturing and processing stage and assurance of material soundness.

We completed implementation of the D-MAPS, the platform for our material properties database and we plan to continuously update the database with the latest data and have it maintained properly, so that we may continue to stably offer the materials data required during any stage of the value chain. Furthermore, through the convergence of D-MAPS-based digital materials technology with materials-related AI technology, we plan to expand into more diverse businesses, such as the development of materials for the renewable, clean energy sector (i.e. hydrogen energy), lightweight materials for the aerospace industry and carbon composite materials.

Global Leader of Fine Particles Reduction Technology

Doosan Heavy Industries & Construction has been making continuous R&D investments in the technology for exhaust gas reduction, leading to our successful development of a world-class, high-efficiency EME (Electrostatic Mist Eliminator) in 2019, which is a system that uses static electricity to eliminate fine particles emitted from the stacks of thermal power plants.

Doosan's EME applies the electrostatic method to reduce the concentration level of fine particles and ultra-fine particles released by thermal power plants to 2mg/Nm³ or less. This equates to 17 percent of the official permissible level(12mg/Nm³) and 40 percent of the Seoul metropolitan region's emissions level(5mg/Nm³). The EME's design enables it to be swiftly installed on top of the power plant's flue gas desulfurization (FGD) system, with there being no need for any additional installations of environmental control systems. In December 2020, our company received the "NET (New Excellent Technology)" certification from the Ministry of Trade, Industry and Energy (MOTIE) in recognition of the superiority of our technology.



Pilot EME



New technology certification received by DHIC from Korean Agency for Technology and Standards

We had a real life-size pilot EME, one that is applicable to Korean standard thermal power plants, installed at our Changwon plant and had a performance test successfully carried out. Having completed the design for a 500MW EME that is to be soon commercialized, we now have plans to conduct a demonstration project at a standard coal-fired thermal power plant together with other major power companies. In 2020, we completed the reliability testing and demonstration run of a 10,000CMH pilot EME by having the EME continuously operated for 1,000 hours at Korea Southern Power's Hadong Thermal Power Plant Unit 3, constituting one of our many efforts to effectively promote the EME business.

Eco-Friendly Water Treatment Technology

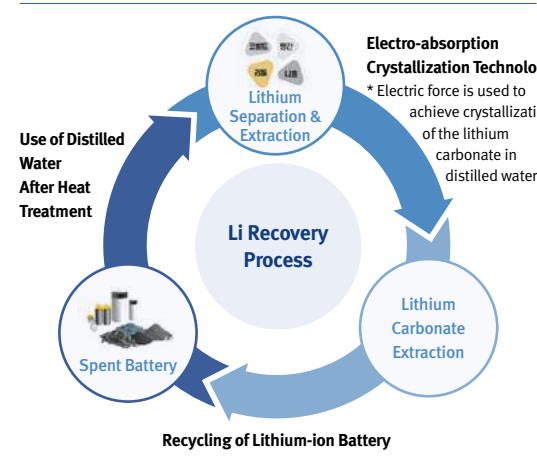
Doosan's CDI (Capacitive Deionization) technology is a new eco-friendly water treatment technology that breaks away from the conventional water processing methods that were based on ion exchangers (IEX) and reverse osmosis. As the use of chemicals is dramatically reduced, while the coolant and circulating water processing efficiency is enhanced, the CDI technology offers the benefit of lessening negative environmental impact. We worked with Korea District Heating Corporation (KDHC) to operate a pilot CDI system for one year (in 2019, processing 100 tons per day), which helped to verify the potential of the system. This led to the implementation of a large-scale CDI demonstration plant at the KDHC's Hwasung branch in December 2019, after which a two-year demonstration project continues to be successfully carried out (To end in Dec. 2021).

Doosan's CDI technology was assessed as being effective in saving on not only the processing costs, but also on the space required for installation (60% savings effect), the costs of chemicals required for the water treatment (savings effect of 90% or more) and operating costs (savings effect of 50+ percent) compared to the conventional ion exchange systems (with capacity of 2,000 tons per day). Based on the results of the demonstration project conducted at KDHC's Hwasung branch, we plan to devise more economical and convenient water treatment methods suited to the various needs of power plant facilities as part of our business expansion efforts. In light of the tightening of governmental regulations, such as the Chemicals Control Act and Process Safety Management (PSM), the CDI technology is viewed as being a practical eco-friendly solution to various issues.

Development of Eco-Friendly Technology for Extracting Lithium from Spent Batteries

The extraction of lithium carbonate from spent batteries is achieved by going through the process of heat treatment, acid leaching (acidic solution used for melting of materials) and crystallization, which usually involves the use of large amounts of chemicals such as sulfuric acid. Doosan's efforts to develop a new chemical-free, lithium extracting method culminated in the successful development of our very own eco-friendly technology of recovering lithium from spent batteries. The lithium carbonate extracted through the heat treatment of spent batteries is dissolved in distilled water, after which our RCC (Rotary Capacitive Crystallizer), another development of ours, is applied to achieve crystallization of lithium carbonate and lithium hydroxide. With this method, production of lithium with a purity of 99+% is possible, and given that it is a more simplified process, it is regarded as being more economical as well.

As we regard this area as one of our future growth engines, we are actively preparing to target the domestic used battery recycling market, which is forecast to rapidly grow to the size of 19,000 tons by 2030. We are currently carrying out a demonstration project and performance test on the process model planned for commercialization in order to get assurance on the reliability of our lithium recovery technology, and in the second half of 2021, we plan to embark on the design and engineering of the lithium carbonate model as part of our commercialization efforts for the lithium recovery business.



Participation by Stakeholders

Stakeholders' Communication Channels

Classification System & Communication Channels

DHIC defines the following major stakeholder groups: Shareholders, customers, employees, partner companies, the local community, government, and competitive companies. DHIC actively communicates with these different stakeholder groups through various communication channels, and considers stakeholder feedback to improve company management.

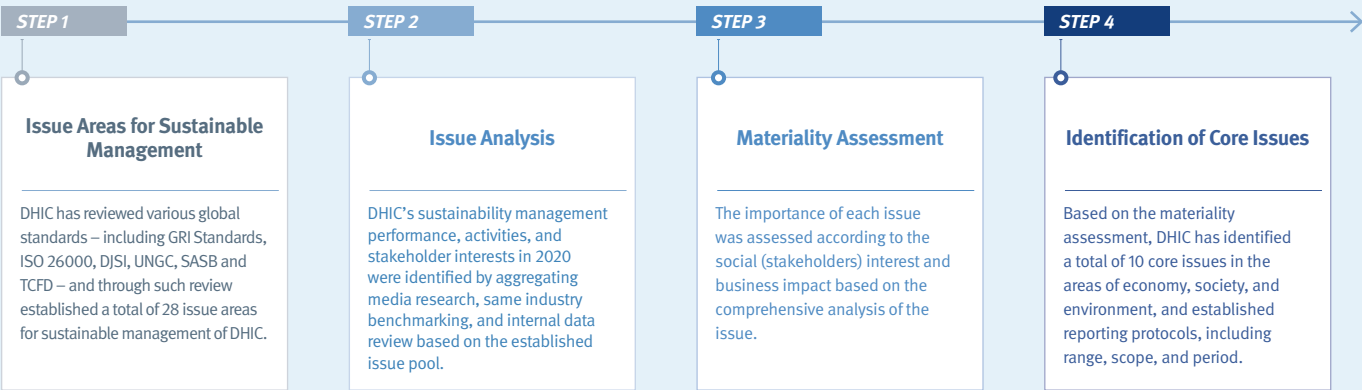
Main Communication Channels

Group	Definition	Communication Channel	Times of Operation
Shareholders	Doosan Inc., Foreign investors, Institutional investors, Minority shareholders	IR	As necessary
		Conference	As necessary
		Overseas NDR (Non-Deal Roadshow)	As necessary
Customers	Domestic public power generation company, Domestic private power generation company, Overseas clients	Road show	As necessary
		Technology presentation	As necessary
		VOC(Voice of Customer)	Frequent
		Safety education for private power generation company	As necessary
		Technology exchange & seminars	Once or twice a year
		Emergency action team & call center for power generation interruptions	As necessary
		Customer Satisfaction Survey	Once per year
		KHNP's Security Council of Partner Company	Semi-annual
Employees	Employees at Headquarters, Employees in overseas branch offices, Employees of overseas subsidiaries	Industry Safety & Health Committee	Every quarter, Frequent
		Labor-Management Consultation	Every quarter
		Education for employee(s) dispatched to overseas field sites	As necessary
		Statutory education for safety & health	Regular
		Management Status Presentation	Every quarter
		CTO Meeting	More than five times a year
		Security Council	Frequent
		Joint programs with social welfare center & local children's welfare center	Monthly
		Doosan Day of Community Service	Once per year
		Consultative groups of DHIC's Social Volunteer Group	Monthly, Frequent
Local Community	Local residents, Schools, Research institutions, NGOs	DHIC Communication Consultation Committee with Local Community (Woongnam-dong)	Semi-annual, Frequent
		Social contribution-related agencies (Gyeongnam Province,Changwon City, beneficiary agency)	Frequent
		Workshop for leaders of social contribution from enterprises in Gyeongnam Province	Once per year
		Consultation Committee for Local Community Contribution	Frequent
		Ocean Plant Design Study Group	Semi-annual
Group	Definition	Communication Channel	Times of Operation
Partner Companies	Primary, Secondary	DHIC Partnership General Meeting	Once per year
		Shared Growth Conference	Once per year
		Partner Company Steering Committee	Semi-annual
		Meeting for the Shared Growth of Primary Partner Companies	Semi-annual
		Meeting for the Shared Growth of Secondary Partner Companies	As necessary
Government	Government, Local government, Related agencies	DHIC Operation Committee	Monthly
		Shared Growth Committee	Frequent
		Fair Trade Committee	Frequent
		FKILSC	As necessary
		SMEs Agriculture & Fishery Cooperation Foundation	As necessary
		KEITI	As necessary
		Safety & Health Innovation Leader Forum	Every quarter
		PSM Consultation	Every quarter
		Fine Dust Reduction Voluntary Agreement	Semi-annual
		Fire Prevention Development Consultation	Monthly
Competitive Companies	Manufacturer of Power Generation Facility, Desalination Company, Water Treatment Plant	Gyeongnam Province & Changwon City	As necessary
		Gyeongnam Environmental Engineers Association	Semi-annual
		Construction Safety Department Heads Consultation	Every quarter
		Construction Safety Hands-on Workers Consultation	Every quarter
		Health Managers Consultation	Every quarter
		Leader's Meeting for Chairs of Construction Companies for Safety & Health	Once per year
		Executives and General Managers' Meeting for Safety & Health	Every quarter
		Technology Exchange Group	As necessary

Materiality Assessment

Identification of Stakeholders' Concerns through Materiality Assessment

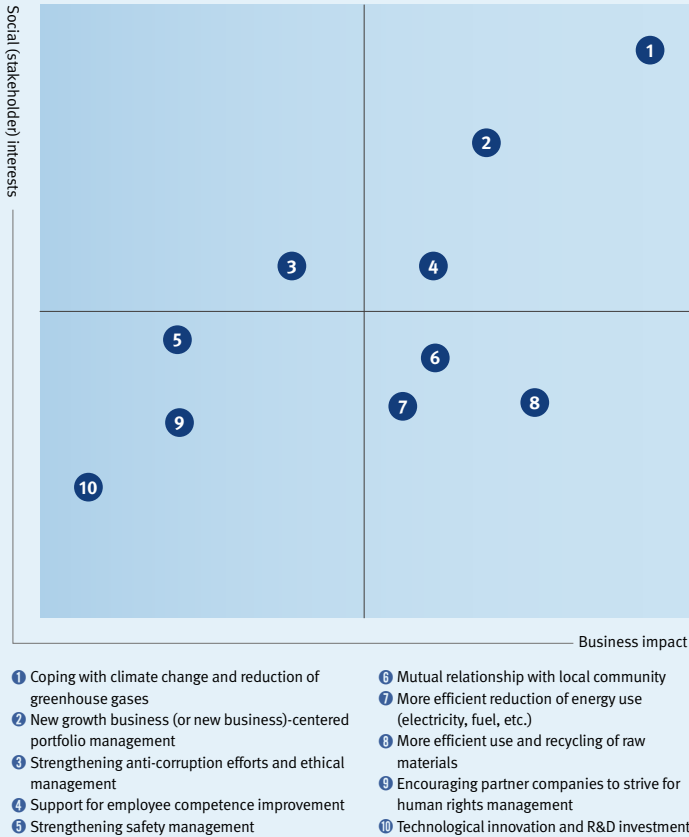
DHIC conducts an annual materiality assessment to identify issues of significant concern to stakeholders, as well as major issues that could have a large impact on business performance. DHIC discloses the results through a general report and considers stakeholder concerns in the decision-making and management process. The issues identified through the materiality assessment have been diligently disclosed in integrated report of DHIC.



Core Issues in 2020

Type	Core Issues (10)	Integrated Report Contents	Page
E	❶ Coping with climate change and reduction of greenhouse gases	Focused areas of ESG • TCFD	40-43
	❷ More efficiency and reduction of energy use (electricity, fuel, etc.)		
	❸ More efficient use and recycling of raw materials	ESG Foundation • Environmental Management	58-61
S	❹ New growth business (or new business)-centered portfolio management	Business Strategy • Eco-friendly Portfolio • Reinforcement of Business Competitiveness	12-29
	❺ Technological innovation and R&D investment		
	❻ Support for employee competence improvement	Focused areas of ESG • Strengthening organizational culture and employee competency development	46-47, 66-69
	❼ Strengthening safety management	ESG Foundation • Human-talent management	
G	❽ Mutual relationship with local community	Focused areas of ESG • Mutual local community	48-49, 62-65
	❾ Strengthening anti-corruption efforts and ethical management	Focused areas of ESG • Strengthening anti-corruption ethical	44-45, 66-73
	❿ Encouraging partner companies to strive for human rights management	ESG Foundation • Human rights management • Ethical management	

Key Issues Matrix





FOCUSED AREAS OF ESG

40.

52.

54.

DHIC systematically manages sustainability issues that are important to our stakeholders. We are also working to strengthen corporate sustainability through various social value creation activities.



TCFD

The international community is pursuing a wide range of initiatives aimed at encouraging companies’ active engagement in responding to climate change. As our company fully recognizes our corporate role and responsibilities, we aim to join in on these global efforts. We aim to identify the actual and potential impact caused by climate change and effectively set greenhouse gas reduction targets by devising a good governance system and strategies for responding to climate change.

TCFD
Recommendations &
DHIC Response

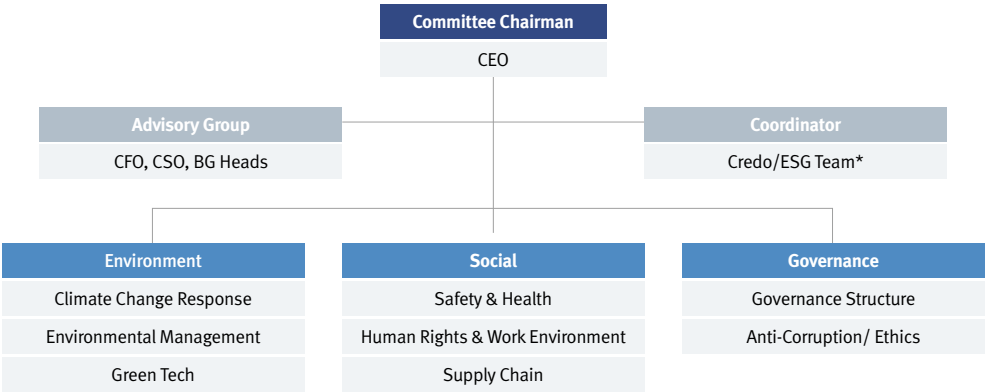
The TCFD (Task Force on Climate-related Financial Disclosures), which is an organization that was launched by the Financial Stability Board (FSB), provides the standards for companies to use when making financial disclosures based on assessments of climate change-related risks and opportunities. Doosan Heavy Industries & Construction has devised climate change response plans in line with the TCFD guidelines. We plan to implement a management system that meets the TCFD recommendations and pursue a phased expansion of the data disclosures.

Category	Description & Forward Plan
Governance	<ul style="list-style-type: none">Improving the governance structure through management of climate change-related risks and opportunitiesStrengthening the role of the BoD, senior management and working-level organization responsible for managing the climate change and ESG issues.
Strategy	<ul style="list-style-type: none">Analyzing the climate change-related risks and opportunitiesDisclosing the impact caused by climate change-incurred risks and opportunities on the business, strategies and financial performance.Devising corporate strategies taking into account climate change scenarios
Risk Management	<ul style="list-style-type: none">Identifying the climate change-related physical and transition risks & opportunities, and devising a management process.Having the climate change-related risks & opportunities consolidated into the company’s risk management system.
Metrics & Targets	<ul style="list-style-type: none">Disclosing the quantitative metrics required for responding to climate change-related risks & opportunitiesSetting emissions reduction targets and monitoring performance to ensure systematic action against climate change

Governance

Doosan Heavy Industries & Construction has an ESG Committee, which is chaired by the CEO, through which we oversee the climate change issues, assess the related risks and opportunities and devise strategies aimed at taking preemptive action. A minimum of three meetings are convened each year, including the meetings held among the managers representing the Environment, Social, Governance pillars and the ESG Champions meeting, to review and reach a decision regarding ESG issues. We plan to continuously upgrade our climate change-related issues management system, led by our senior management and implementation groups, and extend our governance system for climate change response to encompass our board of directors as well.

ESG Committee Organization Chart



* Department exclusively in charge of ESG management

Strategies to Counter Climate Change

In order to devise effective strategies to counter climate change, we have identified the related risks and opportunities and assessed the overall risk factors and business impact to determine ways to reduce the related risks. The transition risk-related viewpoint is particularly noteworthy, as the industrial shift of the energy sector to renewable energy will pose both risks and opportunities to our company.

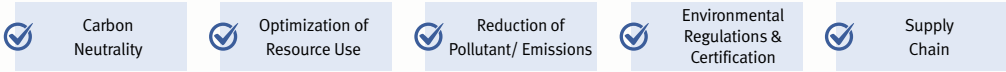
Analysis of Climate Change-Related Risks & Opportunities

Transition Risk	Policy/Law	<ul style="list-style-type: none">Rise in carbon credit purchasing costs owing to the increase in CO₂ emissions and rising carbon credit pricesAdditional costs expected from purchase of renewable energy
	Technology	<ul style="list-style-type: none">Increase in investments owing to rising number of eco-friendly, low-carbon facilitiesBusiness competitiveness will be undermined if company falls behind in the competition for eco-friendly technology development
	Market	<ul style="list-style-type: none">Loss of eco-friendly market and business opportunities
Physical Risk	Sudden Risks	<ul style="list-style-type: none">Costs for recovery when large disasters occur (e.g. earthquakes, heavy rain, thunder storm)
	Constant Risks	<ul style="list-style-type: none">Increase in manufacturing facility operating costs owing to rising temperatures
Opportunities	Products & Services Market	<ul style="list-style-type: none">Growing demand of businesses for high-efficiency, eco-friendly energyDue to promotion of the renewable energy sector, possible to adopt various types of new technology and renewable energy, e.g. blue, green hydrogen.Growing market for DT-based power plant equipment services, such as energy saving solutionsWill acquire more intangible assets, such as greater brand value, by earning a reputation as an eco-friendly company

ESG Checklist

Our company has developed a climate change response-related ESG Checklist, which is applied throughout the various stages of technology development pursued to discover new growth engines, starting from the planning to the researching and final completion, all of which will help us to take preemptive action. Our business characteristics and ESG management guidelines were taken into account when developing our ESG Checklist and we also referred to other sources, such as the “ESG Data Disclosure Guidance” issued by the Korea Exchange in 2021, the “WEF-IBC Guidelines,” the European Federation of Financial Analysis Societies (EFFAS)’ ESG KPIs and the global financial sector’s ESG checklist. We are also applying the ESG Checklist in our new technology development process as a means of performing a preliminary check to see if the business in question is in line with our climate change response and we intend to take into account the climate change factors in our technology development and business strategy planning processes.

Major Evaluation Factors in ESG Checklist

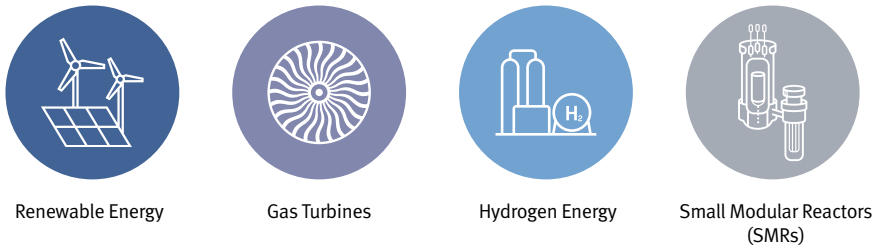


Business Strategies Concerning Transition Risk

We are devising business strategies based on the market opportunity assessments that we performed for the various energy sources. The renewable energy business is expected to grow owing to the improved financial feasibility and increase in governments’ support policies, and detailed governmental policies and roadmaps are being released on hydrogen, which is emerging as a new viable source of energy. Owing to the downsizing of coal-fired power plants, gas-fired power plants is expected to become a popular alternative baseload power plant and will also be used to complement the intermittent renewable energy. We have identified some new business opportunities in the Korean market, which involve converting aged coal-fired power plants into gas-fired combined cycle power plants. We are seeing numerous new business opportunities being developed in the domestic market in response to climate change, such as large-sized offshore wind farms, solar PV energy development projects, Korean-type standard gas-fired combined cycle power plant projects and hydrogen production & supply projects.

In line with the market trends, we have defined the strengthening of our business portfolio, focusing on the businesses defined as our new growth engines, as our key strategic plan. As such, we will be investing in and pursuing growth in namely four areas – renewable energy, gas, hydrogen and SMRs (small modular reactors). In the short term, we will be focusing on completing the development of our clean energy business model in Korea, and by leveraging our successful track record in Korea, we aim to expand into the overseas market to ultimately become the global leader of the clean energy sector.

Four New Growth Engines



Strategy for Addressing Physical Risks

We have defined early risk management, integrated energy & environment management system implementation and expansion of green technology for the generation of business results as our three key strategic initiatives, through which we seek to prevent financial loss from being incurred by the physical risks of climate change. We have plans to set up a Climate Change Response Council in order to establish an effective system for addressing climate change, one that is aligned with the various aspects of our business, such as procurement, shared growth, strategies, technology development and improvement of energy efficiency. The target is to have the council launched in 2021.

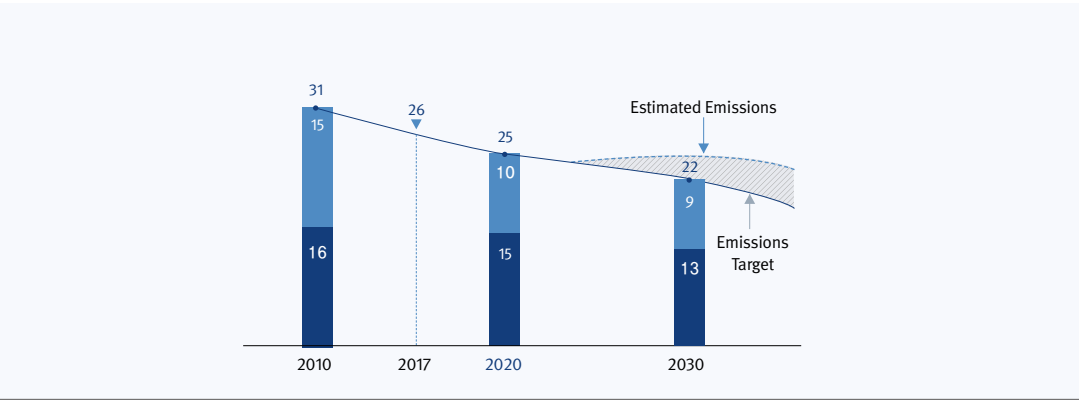
Strategies for Greenhouse Gas Reduction

Doosan devised greenhouse gas reduction targets and implementation strategies as a way to effectively address the risks related to climate change. In 2020, we applied the Science Based Targets initiative(SBTi)’s absolute contraction approach to conduct an analysis on the greenhouse gas emissions reduction trend identified in climate change scenarios showing temperatures well below 2°C and 1.5°C. Along with this, we considered the domestic renewable energy market situation and financial feasibility to set our greenhouse gas reduction targets.

Our company is implementing a two-track plan for greenhouse gas reduction that involves improving energy efficiency, while also seeking to acquire carbon credit. We are carrying out activities aimed at reducing greenhouse gas emissions from our business sites and plant facilities and are performing scenario analyses on climate change risk factors to derive greenhouse gas emission estimates, which are used to assess financial impact. In addition, we are assessing the costs and benefits arising from adoption of the ETS (Emissions Trading Scheme) to be able to define the countermeasures by priority, and this is all incorporated into our business decisions. We also became a registered member of the Climate Exchange Association in 2020 and have been striving to improve our skills in managing carbon emission goals through effective energy management and carbon credit-related training programs.

Plan for Achieving Carbon Neutrality Based on Greenhouse Gas Reduction

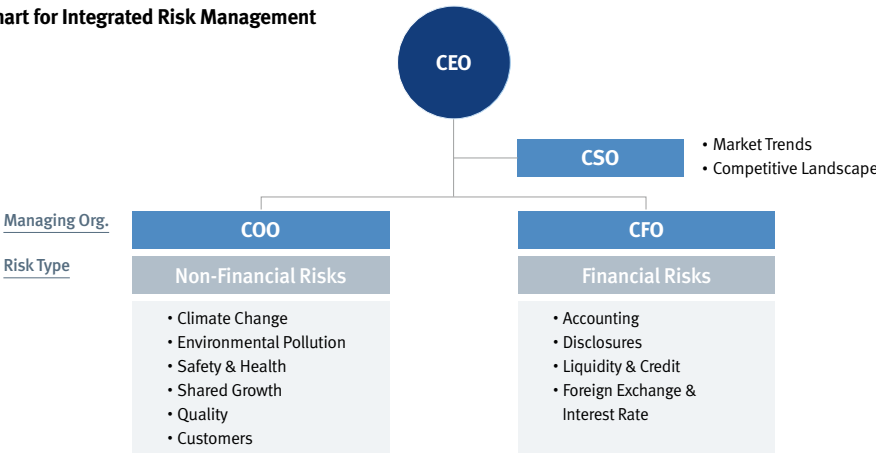
(Unit : 10,000 tons)



Risk Management

Our company has risks classified into financial risks and non-financial risks, and we have a special risk management organization set up for each risk type. The groups handle the overall process from identification of the risks to addressing the risks and devising improvement plans. While each risk type is managed by the managing organization’s own internal council, the integrated risk monitoring results are also reviewed at a corporate-wide level on a regular basis. The risks that have occurred are directly reported to the CEO, and major risks are escalated to the Board of Directors so that the most optimal decision can be reached on how to address them. Climate change is being managed from a corporate-wide, integrated risk management perspective.

Organization Chart for Integrated Risk Management



Metrics & Targets

In line with the South Korean government’s energy policies, our company has set a target of reducing greenhouse gases to a level that is 15% lower than the 2017 emissions by 2030. To achieve this target, we have been implementing new AI-based energy efficiency enhancement technologies and have been actively pursuing basic carbon emissions avoidance activities. We are currently devising a long term initiative for greenhouse gas reduction to help us achieve net zero emissions in the future.

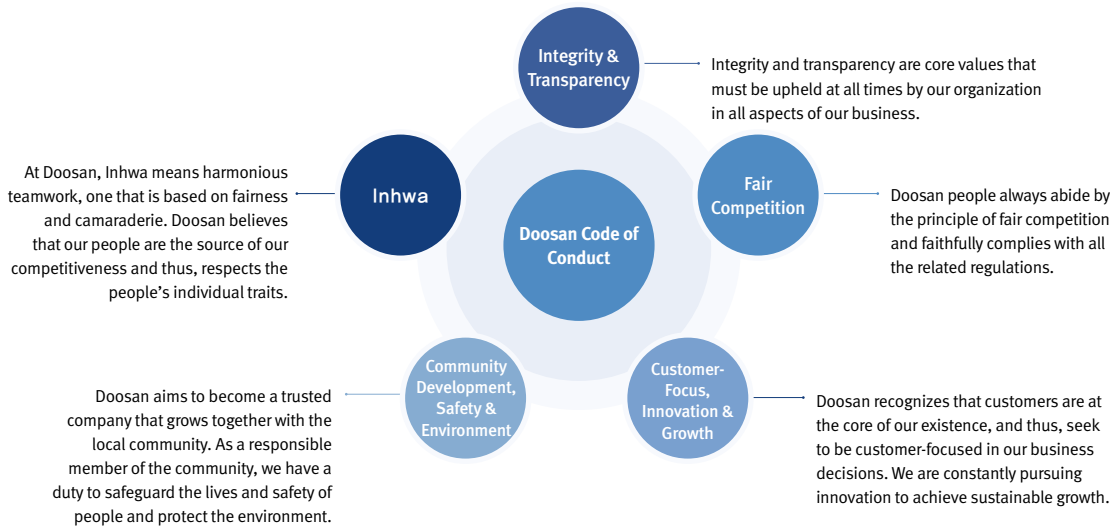
Classification	2017	2020	Target Achievement	2030
Greenhouse Gas Emissions (Scope 1 + Scope 2)	260,000 tons	230,000 tons	96%	220,000 tons



Strengthening of Anti-Corruption & Ethical Management

Our anti-corruption and ethical management activities have been strengthened and widened to cover not only our Doosan subsidiaries and affiliates, but also our partner companies. We are offering business ethics training programs to our partners' employees and actively supporting the prevention of unfair business practices and implementation of ethical management at our partners' business sites. We are also running a cyber reporting center and an Ethics Helpline that can be used by employees to file reports whenever an act of violation occurs, with the service also being provided in the local languages used by our overseas subsidiaries.

Doosan Code of Conduct



Code of Conduct for Supply Chain

Since January 2020, all our partner companies who we work with in bidding processes have been obligated to sign an agreement to comply with our Code of Conduct. The Supply Chain Code of Conduct agreement is received through our 'e-Sourcing' bidding system.

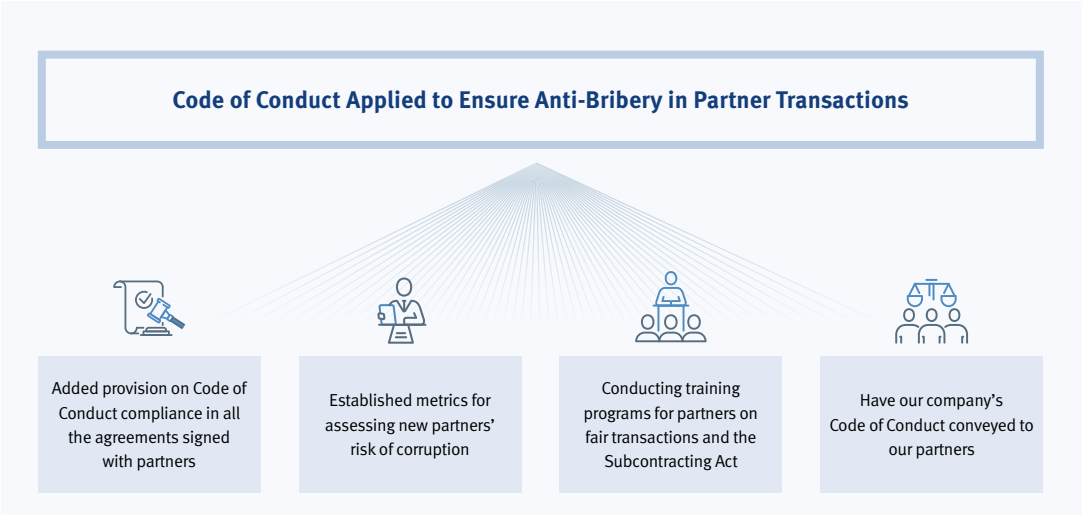
Establishment & Adoption of Supplier ESG Guidelines

A set of anti-corruption guidelines for our partners can also be found within our "Doosan Heavy Industries & Construction's Supplier ESG Guidelines," which were drawn up based on the Ten Principles of the UN Global Compact for corporate sustainability. The guidelines call for compliance with the relevant domestic and international laws, such as the Fair Trade Act, to prevent partners' corrupt business practices, and are made easily accessible to all the employees of our partners. We are endeavoring to strengthen ethical management by checking on the compliance through measures, such as visiting the partners' sites and keeping documentation on compliance verification.

Supporting the Supply Chain's Ethical Management

We offer Code of Conduct training programs to the employees of our partners, through which we introduce our company's Code of Conduct and provide guidance on how to file reports on violations. In addition, we have also established a set of evaluation metrics to use on new partners to assess their risk of corruption.

Ethical Management Activities Performed on Partners



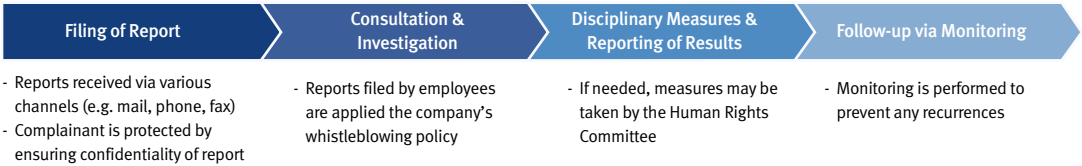
Reporting & Monitoring the Code of Conduct Violations

We run a cyber reporting center and an Ethics Helpline to allow for easier internal or external reporting of Code of Conduct violations. The complainant can choose to disclose his/her identity or remain anonymous when filing the report, and the complainant's identity and the contents of the report will remain confidential to ensure that the complainant is not put at any disadvantage for the report s/he filed in good faith. In case of our overseas subsidiaries, they have implemented a hotline that is run by a third party, with the service being offered in 36 languages to facilitate the reporting of violations.

Cyber Reporting Center Operational Guidelines

- 1 Doosan's Cyber Reporting Center is open to all Doosan employees, as well as outsiders, and is where reports can be filed on any violations of the law or company policies, such as the Doosan Credo or Code of Conduct, as well as any unfair business practices.
- 2 Reports can be made anonymously or with one's name disclosed. However, in case of certain anonymously made reports if they are found to be lacking concrete evidence, the company may decide to forego investigations.
- 3 The company ensures that the identity of the complainant and the contents of the report will remain confidential and that the complainant, who filed the report in good faith, shall not be exposed to any disadvantage due to the report.
- 4 Reports filed by Doosan employees will be applied the company's whistleblowing policy. This policy can be accessed via Doodream or the relevant department.
- 5 In addition to the Cyber Reporting Center, reports to the company can be filed through other various channels, such as post mail, phone, fax, email or visits to the relevant department.

Internal Whistleblowing Process





Strengthening of Corporate Culture & Employees’ Competency Development

Doosan Heavy Industries & Construction is actively supporting the competency development of our employees, who we regard to be essential to our business. A sound corporate culture helps to provide employees with an improved quality of life, promotes a sense of vitality and acts as a motivator for employees to embrace new challenges. Based on the Doosan Credo, which is an embodiment of Doosan’s goals and core values, we have Change Agents assigned to facilitate the cultivation of a healthy corporate culture. We are constantly endeavoring to strengthen our employees’ competency development programs by utilizing channels that help promote more effective communication between the senior management and employees.

Embedding of the Doosan Credo

The Doosan Credo represents Doosan’s business philosophy that was behind the success of Doosan’s business over the past 125 years. We are pursuing a wide range of activities aimed at implementing a corporate culture that is based on the Doosan Credo.

Change Agent Operation

The Change Agents (CAs) are people who use their understanding of the Doosan Credo to thoroughly assess each and every aspect of the organization and who listen attentively to the voices of employees. The CAs are typically high-caliber talents who are recommended by the managing executives. As can be seen by how the CEO makes it a point to attend the training program for the newly appointed CAs and to engage in talks with them, the company actively supports and encourages the CA-related activities. The CAs communicate with the senior management and executives on a regular basis to support the cultivation of a sound organization and are also participating through direct and indirect ways to resolve various issues arising within the organization. We offered the CA Step-up Course to the CAs who have been in the role for more than two years and by encouraging them to share their CA experience and know-how on resolving problems, we are seeking to promote more effective management of issues. The CAs play a crucial role in implementing a corporate culture that is based on the Doosan Credo.



Talks held with newly appointed CAs

Change Agent Best Practices

Since 2017, we have been nominating and sharing the Change Agent best practices at a company-wide level, so that they may be applied by the employees in their actual work. The CA best practices can be categorized into practices related to improvement of business productivity and those related to the corporate culture. A total of 24 CA best practices have been nominated so far.

Strengthening of Employee Competency Development Programs

Functional Training Programs for New Businesses

With our company endeavoring to build up on our eco-friendly business portfolio, we have been offering functional training programs aimed at cultivating business specialists for the businesses defined as our new growth engines, such as wind power and gas turbines. To facilitate the commercialization and expansion of these new growth driver businesses, we have launched basic courses that provide a good understanding of the key technologies and products to employees who require an understanding of the value chain in these new businesses, as well as those who have been newly reassigned to organizations related to these new business fields. The basic course will be followed up by a more advanced course, which will soon be developed. We aim to provide a phased, systematic training program, one that helps the employees acquire the business knowledge that will be required in their new jobs.



Functional training programs on wind power and gas turbines

Promotion of “Untact” Online Training Programs

Owing to the coronavirus outbreak, the era of “untact” (newly coined word in Korea, meaning non- face-to-face) online training programs has been ushered in, replacing more of the classroom training programs and prompting a change in the companies’ overall training environment. In line with this trend, the functional training programs and leadership programs, which were mostly conducted in the form of classroom training before, are now being offered in real time via online platforms. We have also adopted various online learning platforms, such as Welaaa Audio Book and LinkedIn Learning, to support the employees’ year-round learning and self-initiated development. Our aim is to expand our “untact” training programs, so that we may ultimately be able to provide equal learning opportunities to all our employees at home and abroad, even to those who are in remote areas.

Communication & Collaboration and Operation of Leadership Programs

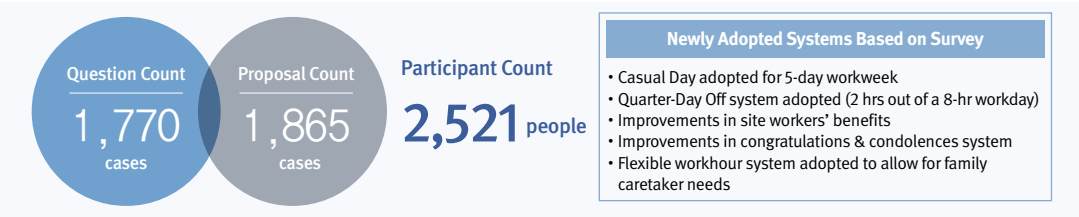
Doosan Heavy Industries & Construction offers leadership programs to team leaders and teams as part of our efforts to promote more effective internal communication and collaboration. By conducting leadership skills enhancement programs for team leaders, we examine the team leaders’ individual leadership skills and communication methods and we also seek to cultivate an environment that supports team cooperation and engagement. In addition, we also offer the Team-up Program, through which we align the goals of the organization with that of the individual employees and use the Birkman Method Personality Test to promote mutual understanding among team members. Such programs are being carried out to help provide a better understanding of the team members’ traits and the team dynamics, so that collaboration may be facilitated.

Open Communication

Open Communication Survey

Since April 2018, we have been conducting the “Open Communication Survey” at our company, which involves the senior management directly hearing out the employees’ questions and suggestions and giving back replies. As of now, there have been a total of 3,600 questions and suggestions registered, showing that this has now been firmly established as a meaningful communication channel between the company’s leadership and staff. It is being used not only as a channel for resolving employees’ questions, but to also share information on the company’s current business status and business strategies. We take particular care to accommodate the employees’ constructive proposals or ideas and to have these reflected into our company policies and systems. Through such efforts, we aim to provide our employees with an improved work environment and also help them acquire a good work & life balance.

Open Communication Survey Performance (Cumulative Results for 2018-2020)





Strengthening of Safety Management

On-site safety management is a business management area that requires special attention, as it is directly connected to the life of our employees. Doosan Heavy Industries & Construction has developed a thorough safety management system focusing on high-risk worksites and processes, embedding a culture where all employees practice safety management at work, and we are continuously strengthening the management system. In addition, we are enhancing the accident prevention system by providing immediate responses based on various advanced technologies.

Strengthening of EHS Activities by the Management Team

The Management Safety Leadership Tour (MSLT) is one of our representative EHS (Environment, Health and Safety) activities, that the management team and site managers have performed for the high-risk works of our manufacturing/construction/services sites. The main objective of MSLT is to improve the effectiveness of safety management activities by having the management team visit worksites, review their safety compliance status and identify difficulties in site safety management activities through close communication with site workers.

MSLT consists of various programs for efficient management, such as review of the EHS system operation status and major disaster prevention activities. In 2020, a total of 1,330 MSLTs were conducted at high-risk construction sites.

Main Programs of MSLT



* TBM (Tool Box Meeting): a meeting where supervisors and workers discuss and confirm work instructions and safety rules prior to commencement of works.
* 9-Theme: nine types of safety management activities to eliminate the risks/causes of major safety accidents



MSLT-based Onsite Safety Management

Efficiency Improvement of System-based Site Management

Development of Mobile Safe Work Instructions

In 2019, we developed 'mSIMS Mobile Safe Work Instructions', to allow the instant sharing of safe work instructions, which had been previously circulated in the form of a printout or a document file at construction sites. It allows on-site workers and managers to access the instructions related to work safety freely, regardless of location, and to perform works safely by being on alert for safety accidents and remedying dangerous situations. In 2020, a total of 19,222 corrective actions were taken at 23 domestic sites, and 23,692 corrective actions were taken at overseas construction sites with the help of mSIMS.

CCTV Installation for Site Management

In domestic construction sites, we have installed CCTVs for on-site management and established a dual monitoring system at the headquarters for risk management. In 2021, we plan to install CCTVs at the Samcheok Thermal Power Plant site.



Site Management Using CCTVs

Installation of Safety Dashboard

In new sites, we are managing site EHS indicators in real time using the Safety Dashboard, a site monitoring system. With the Safety Dashboard, we are reinforcing on-site safety by continuously discovering Smart Safety tasks and identifying areas of improvement for each task.

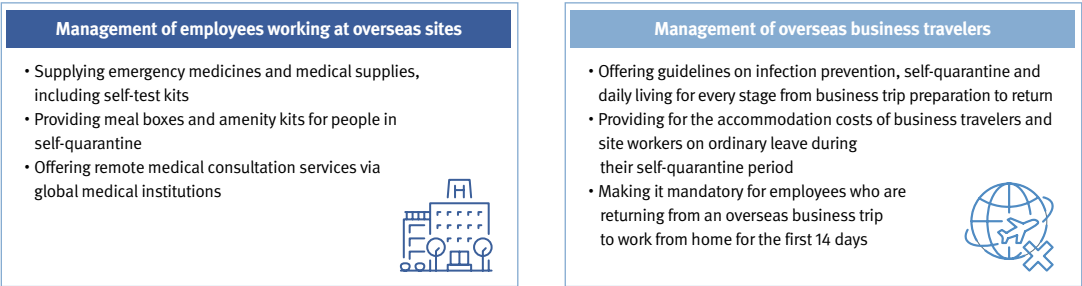


Safety Dashboard for Sites

COVID-19 Response Activities

Doosan Heavy Industries & Construction has established a COVID-19 emergency response system to ensure that our employees remain healthy and safe from COVID-19. We have formed a working-level team to manage the COVID-19 status for each organization, which immediately reports to the Top Team when an issue arises, to enable prompt responses.

In the case of overseas sites in particular, we are striving to manage the safety of our overseas workers by signing agreements with local hospitals for patient transfers to enable immediate actions in case of a confirmed case, and are providing emergency medicines and medical supplies, including test kits.





Shared Growth with Local Community

The local community serves as the foundation for a company’s growth. Doosan Heavy Industries & Construction is carrying out various activities to create social value and grow together with the local community. Despite the COVID-19 pandemic, we have actively conducted social contribution activities to achieve shared growth with the local community.

Social Contribution Activities to Fight COVID-19

Doosan Heavy Industries & Construction is actively joining the efforts to share the pains of our neighbors, who are suffering from the unprecedented global spread and prolongation of COVID-19, and to overcome the difficulties together with them. In particular, we have provided quarantine supplies and daily necessities to the needy and child welfare centers that could not receive quarantine support from the local governments. We have also worked closely with the local community to help with the recovery of the local economy by supporting the revitalization of small merchants, neighborhood stores, and traditional markets affected by the strengthened social distancing rules. Our employees are also actively participating, within the extent permitted by quarantine standards, in voluntary services, such as campaigns to overcome the COVID-19, delivery of daily necessities to the needy and providing a helping hand to farming villages, as part of our efforts to revitalize the local community.

Support for Child Welfare Centers

To prepare against the re-proliferation of the COVID-19, we urgently provided indoor sterilizers, disinfectants, masks, and hand sanitizers to 77 affiliated local childcare centers in Changwon and Seoul, and gave them snacks and sweets as Children’s Day gifts. In addition, we provided meal service subsidies to 39 local childcare centers in Seongnam City, which were struggling with a shortage of meal budget due to the increase in emergency care hours.



Providing quarantine supplies and performing sanitization

Changwon Sangnam Market Revitalization Project

As the “Sharing Kimchi with Love” event, an annual event that has been conducted at the end of every year with the local community, was cancelled this time due to the COVID-19, we embarked on an alternative project aimed at revitalizing the Sangnam traditional market in Changwon as part of our continuous efforts to support the socially vulnerable groups in the region. Through a joint sponsorship with local institutions, such as the Changwon city government and the Changwon Chamber of Commerce and Industry, we were able to re-energize the traditional market by donating traditional market gift certificates to the needy and local childcare centers to encourage consumption in the traditional markets. In addition, we formed a sisterhood relationship with Sangnam market in June 2020 and have since conducted various activities to help ease the suffering of small businesses, such as having our employees shop at the Sangnam market.



Overcoming COVID-19 with Local Community

The Youth Harmful Environment Monitoring Group, an in-house volunteer group, has regularly conducted not only youth protection campaigns, but also COVID-19 prevention campaigns in cooperation with local health care centers, encouraging the local residents to comply with the social distancing rules. Working together with Korean Red Cross, our employees have carried out emergency COVID-19 relief activities, such as packing and delivering daily necessities and quarantine supplies to 300 vulnerable households. We are also helping farmers overcome their difficulties by visiting three farming villages in need to provide a helping hand during the harvest season, as they are suffering from a shortage of foreign workers due to the COVID-19. Our employees helped out with the harvesting of fruits, such as persimmons and kiwi. In addition, our employees are providing various support to help farmers recover from the pandemic, such as delivering 250 watermelons and 4,500 dairy products to the local residents in need.



Activities of Youth Harmful Environment Monitoring Group

Helping out farming communities

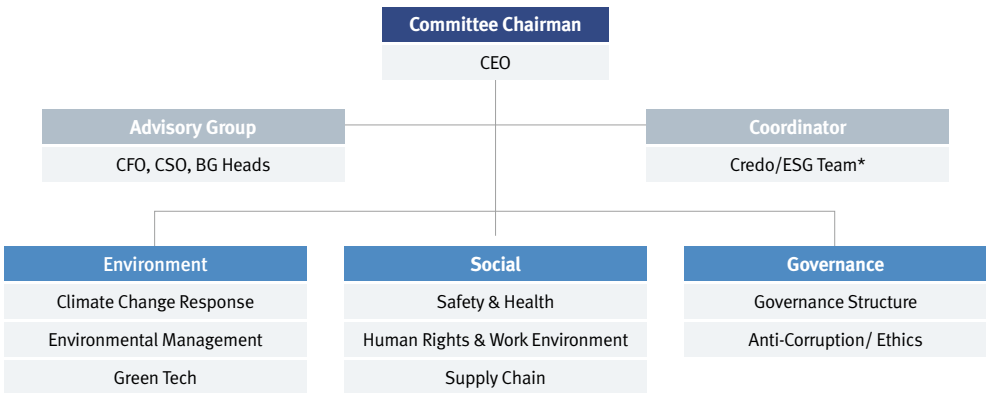


Creation of Social Value

Strengthening
Social Value
Creation

DHIC has constantly been contemplating its social roles and responsibilities as a company. A company's business activities should contribute to society through environmental protection and shared growth with local communities and further enhance the company's sustainability. Accordingly, DHIC plans to carry out stronger social value creation activities by restructuring the organization in part of ESG Subcommittee managed by the Credo/ESG Team which is in charge of ESG management in the company. The ESG Committee consists of three subcommittees: Environment, Social, and Governance. It is forming working-level subcommittees for each managed index that encompass the entire ESG, including Climate Change Response as well as Environmental Management, Green Tech, and Safety & Health, Human Rights/Work Environment, Supply Chain, Governance Structure, and Anti-corruption/Biz Ethics. It also establishes annual tasks linked to the mid- to long-term roadmap for each subcommittee to upgrade performance. DHIC is committed to strengthening socially responsible management by establishing the ESG management system led by the ESG Committee directly under the CEO and focusing on environmental, social, and governance subcommittees.

ESG Committee Organization Chart



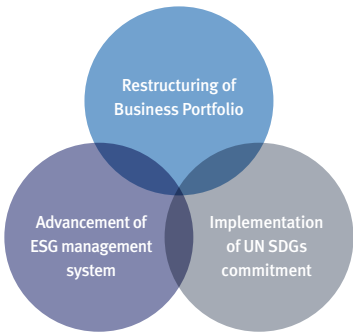
* Department exclusively in charge of ESG management

Major Strategies
Aimed at Creating
Social Value

Shift in Business Portfolio

We have established a mid/long-term roadmap to increase the share of corresponding business to 62% of the entire operation by 2025; identified eco-friendly gas, renewable, hydrogen, and SMR(small modular reactors) as our core business and made it a priority to be environmentally friendly. Such an innovative shift in our business portfolio shows our strong commitment to carrying out social value creation activities. We will do our part to keep the planet clean through the continued development of technologies for the highly efficient use of energy and reduction of the environmental impact of energy based on our environmentally-friendly business portfolio.

Main Strategies for Social Value Creation



Sophistication of ESG Management System

We strive to upgrade our ESG management system to handle social issues caused by business operations more effectively and maximize social value. We have identified major ESG issues through internal analysis and subcommittees of the ESG Committee are managing them in a concentrated manner. We strive to carry out these activities more systematically, with the ESG Committee reporting the status and results of its management activities annually.

Execution of UN SDGs Commitment




In a bid for substantial implementation of corporate social responsibilities, we have decided to focus on five main areas such as energy, coping with climate change, water, health, and education among the 17 areas set by UN SDGs in 2017 and have been carrying out the related activities.

Measurement Results
of Social Value

DHIC aims to understand its contribution to social value not only in terms of the financial value of projects but also with regard to the social and environmental impacts of business activities. For this purpose, DHIC has been upgrading the system for converting social and environmental impacts to financial value. The resulting values computed through the measurement of social value is defined as the social value created by DHIC. DHIC will expand those business activities with positive effect continuously and seek to reduce the negative effects caused by other business activities.

Measurement Results of Social Value

(Unit : KRW 100 million)

	 E	 S	 G
Value Measured Items	Impact on greenhouse gas emissions —	Impact on employees +	Dividend to shareholders +
	Impact to water —	Impact on safety accidents —	Interests to investors +
	Impact to wastes —	Impact to suppliers +	Government tax +
	Impact on atmospheric environment —	Investment in communities +	
Results of Social Value Measurement	161	2,843	4,052
Total of Social Value	6,734		



UN SDGs-Based Sustainable Business

CSR Aligned with
UN SDGs

We have set targets to be attained by 2030 in putting social responsibilities into practice, focusing on energy, coping with climate change, water, health, and education among the 17 areas set by UN SDGs. Energy and desalination are the areas we engage in among those set by UN SDGs. We strive to carry out activities designed to contribute to society by providing means of access to sustainable energy and water resources where required.






Status of Activities for Targets to be attained by 2030

Since the establishment of the SDGs Commitment in 2017, we have steadily carried out activities for the goal. Each year, we check the status of execution for each detailed target, revise our plans, and review the adequacy of the targets, considering industrial trends and status. In 2020, we partially revised our commitment, having attained part of the target in a bid to fulfill our social responsibilities. We will continue carrying out activities to make sustainable energy more accessible through the expansion of markets for gas turbines, renewable energy, hydrogen, and Small Modular Reactors (SMR) in tandem with our shift to an environmentally-friendly business portfolio.

Creation of Social Value through the Promotion of SDGs

We have categorized the social impact of each commitment implementation activity into energy supply, clean water production, greenhouse gas reduction, health improvement through medical support, and contribution to local community development through quality education. The result of the interim inspection shows that the social value created by activities carried out by DHIC for SDGs commitment over the past 4 years (2017-2020) is worth approximately KRW 1.581 trillion. We will continue creating social value through the fulfillment of our commitment by linking it more closely to our business portfolio.



Link to SDGs			Commitments	Performance Outcomes (Cumulative)	Social Effect (Outcome)
Commitment 1 Increased & Reserved Quantity of Water Resources		SDG 6. Clean Water & Sanitation Guarantee usability of water and sanitary facility and sustainable management for all people 6.1/6.3	By 2030, through the Water Project, increase the reserved quantity of water resources in the region of Arabian Peninsula by more than 10% from BAU level (2 billion tons), and expand the supply of water resources continuously to regions of the world in shortage of water.	Water resources supplied by seawater desalination technology in the Arabian Peninsula 1,275,204,431 tons 64% of BAU in 2030	- Increased reserved quantity of water resources to Arabian Peninsula through the production of water - Supplied sustainable living water to local residents in the Arabian Peninsula
Commitment 2 Guaranteed Access to Sustainable Energy		SDG 7. Sustainable Energy Guarantee the access to reliable, sustainable and modern energy with optimum price for everyone 7.1/7.2/7.3	By 2030, increase the supply of eco-friendly power generation to the world with highly efficient eco-friendly power generation technology comprising more than 6% (40 GW) of BAU level; and contribute to the diversification of energy mix through the enhancement of energy technology such as high-efficient gas turbine, wind power generation, ESS, etc.	Energy supplied by sustainable energy generation technology 9.7 GW 224% of target for 2030	- Contribution to reducing environmental impact through sustainable energy supply - Strengthened the access guarantee to energy through the provision of highly efficient power generation technology
Commitment 3 Reduction in Greenhouse Gas Emissions		SDG 13. Climate Change & Action Implement emergency action in response to climate change and its effects 13.1	By 2030, reduce greenhouse gas emissions generated during business operations in Korea by 15% (40,000 tons*) from BAU level and develop greenhouse gas reduction technology to respond to climate change continuously. * Revised target from 20% reduction (250,000 tons) compared to BAU to 15% reduction (220,000 tons) compared to 2017 emissions	Greenhouse gas reduction in 2020 20,686 tons 96% of target for 2030 * GHG emission target 250,000 tons in 2020	- Reduced environmental impact through the reduction in greenhouse gas emissions - Prevention of global warming
Commitment 4 Expanded Prevention & Treatment of Diseases		SDG 3. Health & Welfare Guarantee healthy life and enhance welfare for all ages 3.4	By 2030, supply basic medicines to 80 thousand residents of alienated social class in Vietnam, India and etc.; support local medical services to contribute to improvement of the world health level.	Medical assistance 9,368 people 12% of target for 2030 * Due to the COVID-19 pandemic in 2020, DHIC replaced free medical checkups with a donation of medical equipment in Vietnam.	- Improved the level of health in underdeveloped areas and developing countries - Provided basic medicines for alienated social classes
Commitment 5 Regional Human Resource Cultivation		SDG 4. High Quality Education Guarantee comprehensive high-quality education with equal opportunity and enhance the opportunity of lifetime learning for all 4.4	By 2030, provide for each growth stage an opportunity of customized education and career experience for 50 thousand underprivileged children and youth through the representative social contribution program, “Young Adult Energy Project”	Providing educational support and career experience opportunities 11,562 people 23% of target for 2030	- Contribute to nurturing local talent through quality education - Establishment of basic conditions for ensuring equal education - Provided information and experiences for youth in career selection

ESG FOUNDATION

DHIC strives to embed ESG into its overall corporate management activities. DHIC aims to enhance sustainable growth based on ESG systems with systematic operation and management.

Environment	Environmental Management	58.
Social	Safety & Health	62.
	Talent Management	66.
	Human Rights Management	70.
	Shared Growth for Supply Chain	74.
	Quality Management	78.
	Customer Satisfaction	80.
Governance	Social Contribution	82.
	Governance Structure	86.
	Ethical Management	88.
	Information Security	90.



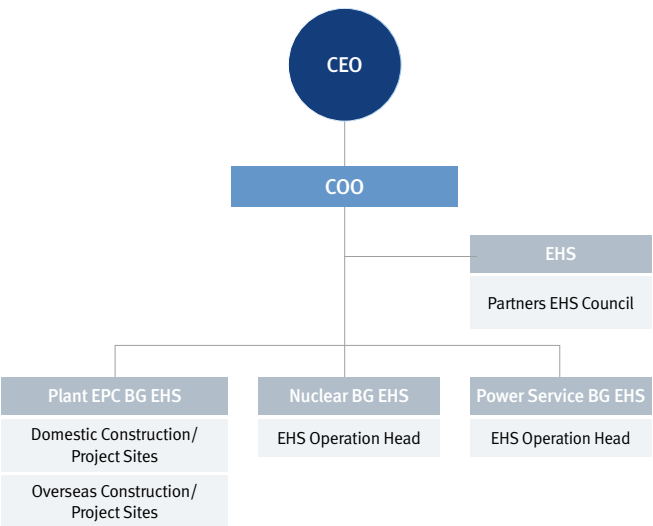


Environmental Management

DHIC makes every effort to reduce the environmental impact of its management activities based on the philosophy of harmonizing our work with nature. We are building an integrated control system for environmental risks, expanding the distribution of green technology, and focusing on energy conservation as our main strategic goals.

Policy & Strategy

Implementation Organization



ESTABLISHMENT OF INTEGRATED ENERGY SYSTEM

- Establishment of mid to long-term plans for the improvement of energy efficiency and carbon emissions to reach Net-Zero emissions by 2050.
- Phased implementation of an integrated energy control system based on big data for efficient energy use.
 - 2019 : Development of a prediction model by linking energy consumption structure with ICT (Information and Communication Technology).
 - 2020 : Efficient data-based control plan will be developed by reviewing distribution and supply for factory energy. GEMS constructed to collect and monitor energy consumption in domestic construction sites in connection with ERP. Expansion up to Scope 3 by strengthening quarterly internal verification.
- As the result of energy efficiency activities, KRW 2.75 billion of energy costs was saved, greenhouse gas emissions were reduced by 9,000 tons, and KRW 1 billion of emission trading profit was generated in 2020.

Vision

VISION

Global Top-tier Player in Energy & Environment

MISSION

Creating additional synergy in energy and environment by supporting sustainable growth through the establishment of a human and nature-oriented advanced environmental management system as a leading solutions provider

STRATEGIC GOALS



Proactive risk management

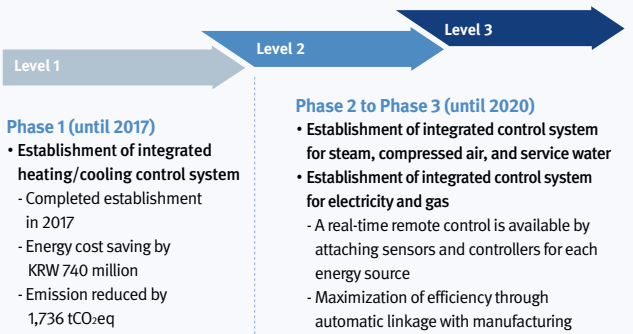


Expanding the use of green technology



Establishment of environment-friendly integrated systems and process

Integrated Energy Control System Implementation Plan



HAZARDOUS CHEMICAL MANAGEMENT SYSTEM

- DHIC has established a digitized management system for the entire cycle of chemicals from the purchase to their use.
- DHIC has constructed chemicals safety information database on DCIS(Doosan Chemical Information System) which was developed in accordance with related laws (Toxic Chemicals Control Act, Industrial Safety and Health Act, and Safety Control of Dangerous Substances Act). By entering DCIS, users can achieve the latest information on chemicals and environment for the safe use of chemicals.
- In accordance with the Act on the Registration and Evaluation of Chemicals, a total of 21 types of chemicals, for which a quantity of more than 1 ton was imported, were reported in advance in 2019, and these are to be registered in order by 2030 (42 types of chemicals in total).
- Toxic chemicals (toxic materials, materials requiring caution, restricted materials, prohibited materials) which are to be moved to the sites are to be automatically categorized using the SIMS (Site Information Management System). Notifications regarding toxic chemicals and warehousing restrictions are made via SMS text messaging.

- A warehousing license is issued for each chemical based on a chemical warehousing approval system that was implemented in 2020, and efforts are being made to prevent the omission of dangerous chemicals and to minimize the risk to laborers through danger warning labels and safety instructions.

INVESTMENT IN ENVIRONMENTAL FACILITIES AND SETTING OF KPIs

- Investment in eco-friendly facilities that can reduce environmental pollution.
- Setting KPIs for four areas the company is focusing, one of which is the environment sector.
- Efforts to reduce environmental impact through promotion and management of activities aimed at achieving KPI targets.

KPI and Performance in Environmental Sector in 2020

Sector	Investment in environmental sectors	Air	Water quality	Wastes	Chemicals
Goal	KRW 590 million	Less than allocated emissions quota (220.4 tons)	Controlled to be less than 40% of allowed release level of processed water	Waste recycling rates of 90%+ Seeking for recycling companies of iron containers of waste paint and organic solvent	Use of toxic chemicals to be less than the approved quantity (403.6 tons)
Performance	KRW 620 million	113.7 tons (51.6% of goal)	After measuring the final treated water 48 times a year (4 times a month), it is being controlled to be less than 20% of the allowed emission standard	Recycling rate : 91% Contract with professional recycling companies (performance from 2021)	Handling of toxic chemicals : 131 tons (32.5% of target)

Activity & Performance

MANAGEMENT ACTIVITIES OF AIR POLLUTANTS

- Contamination levels are regularly inspected to check on the generation of contaminants in the production processes and the environmental impact on areas near workplaces.
- Measurements of air pollutants emitted by the company's facilities are disclosed on the K-eco website.
- Environmental control facilities are installed and operated for the release of air and water, and environmental liability insurance (up to KRW 30 billion) has been taken out to compensate third parties for physical and property damage.

Air pollutant emissions in 2020 amounted to **113.7 tons**
(51.6% of 220.4-ton goal)



ACTIVITIES TO REDUCE FINE DUST AT BUSINESS SITES

- A voluntary agreement was made with Gyeongnam Province Office in December 2019 to reduce fine dust, and a yearly reduction plan is being executed until 2024 in accordance with the fine dust reduction plan.
- Domestic construction sites reduced work hours for activities that generate fine dust, and the fine dust levels are closely monitored by the head office.
- In response to the Special Act on the Reduction and Management of Fine Dust, starting in January 2020, the use of the following 5 types of equipment (dump trucks, concrete pump trucks, concrete mixer trucks, forklifts and excavators) which were manufactured before 31 December 2004, are to be prohibited.
- Applying environment-friendly contract terms & conditions when replacing aged equipment.
- Operation of cleaning vehicles to remove fine dust from main roads of workplaces and outdoor workplaces.



WATER POLLUTANT MANAGEMENT ACTIVITIES

- Wastewater generated at workplaces is processed safely using the facilities of internal wastewater disposal plants, and water is not directly released, but is transferred to the water recycling center of the local government for additional purification in order to minimize the risk of river contamination.
- In order to confirm the effectiveness of wastewater processing and satisfaction of the release allowance level, processed water is internally inspected once a week and the level is maintained under 20% of the allowed release level.

Measurement of processed water 48 times a year
(4 times a month)

Strict control to stay under 20% of legally allowed level
(Strengthened control from 30% in 2019 to 20% in 2020)

Business Sites of Overseas Subsidiaries with a Certified Management System	
United Kingdom (Doosan Babcock)	ISO 14001, ISO 14064
Czech Republic (Doosan Skoda Power)	ISO 14001
Vietnam (Doosan VINA)	ISO 14001

*As of the end of 2020

MANAGEMENT ACTIVITIES FOR WASTES

- Simple incineration or burying of waste released by the company is avoided and the expansion of recycling and basic reduction of released waste has been set as the standard control strategy.
- Contributions are being made to the reduction of waste processing costs and increasing of recycling by having the paint and solvent containers generated by the company processed through professional recycling companies.
- In 2020, used a total of 15,604 tons of scrap metal, which is recognized as a recycled resource (Approximately 21.8% of target).

TRAINING PROGRAM FOR ENVIRONMENTAL MANAGERS

- Training programs offered on a regular basis to construction site environmental managers.
- Training programs offered to new environmental managers of construction sites, based on practical case examples of other sites' of environmental management and environmental laws and regulations.
- Training programs offered to the staff, based on best practices, with the establishment of yearly environment management plans, and goals of establishing an environmental management system.



Training programs for construction site environmental managers

ASSESMENT OF OBSERVANCE FOR ENVIRONMENT LAWS AND REGULATIONS

- DHIC conducts assessments on all the domestic and overseas workplaces' observation of the environmental laws and regulations in order to minimize the human and environmental impact from projects.
- DHIC strives to satisfy the requirements of community stakeholders and minimize environmental impact by observing environmental laws and regulations related to environmental impact on air and water, waste products, and harmful substances.
- We plan to continuously implement environmental policies based on our observations of related environmental laws and regulations.

STRENGTHENING MANAGEMENT OF LOCAL ENVIRONMENTAL IMPACT

Purification Activities for the Environment of Masan Bay

- Submarine and seashore environment purification activities have been continuously carried out for the past 14 years, with the annual Sea Day used to make water quality improvements and marine environment preservation efforts in Masan Bay.
- More than 150 attendees from Changwon Seongsan-Gu Office and private groups, as well as the employee clubs and scuba diver groups, gather to collect more than 30 tons of marine waste including waste nets, buoys, and waste ropes.
- In 2020, participation was limited due to COVID-19. The participants collected waste along the docks and boardwalks of seaside villages using equipment (dump trucks and excavators) supplied by Doosan Heavy Industries & Construction.

Biodiversity Management

- Living objects that have to be protected are reviewed, after which the relevant protection plans are carried out.
- Before executing projects, DHIC disclose the details of living objects that have to be protected through environmental impact assessment and fulfill the duty of protecting local ecosystem.
- Surveys are conducted in local communities before executing projects, helping to identify specific plant and animal groups for protective action.
- Air, water, soil, noise, and vibration pollution are regularly monitored, and the results are shared with clients. This information is systematically managed in order to protect and preserve ecosystems and minimize environmental impact at all stages of construction.
- A total of 158 kinds of living objects have been identified as being under management at twelve of our DHIC project sites in 2020.

PARTICIPATION IN PILOT PROJECT FOR RENEWABLE ENERGY SYSTEMS

- DHIC participated in a pilot project for renewable energy acceptance which was conducted by Korea Electric Power Corporation (KEPCO) and Korea Energy Agency in 2019. This was part of our participation in the adoption of renewable energy purchase systems initiative which encourages companies to voluntarily switch to renewable energy and comply with government-led greenhouse gas reduction policies.
- The Renewable Energy Usage Certification program is a scheme that allows consumers who use renewable energy to apply for usage recognition and then obtain recognition for the use of renewable energy through the issuance of a certificate (REGO: Renewable Energy Guarantees of Origin) to be used for various purposes, such as participating in the RE100 campaign.
- DHIC participated in the pilot project for receiving recognition on using renewable energy facilities and obtained a virtual certificate renewable energy consumption. By contributing in the government-led pilot simulation project, the company demonstrated its steadfast commitment to renewable energy.

Biodiversity Management

Region	Project List	Management Area in Priority	No. of Species in Management	Details of Species in Management	Remarks
Oman	Sharqiyah	Water	9	94 kinds, including turtle, whale, dolphin, fox, lizard (35), gazelle, camel, goat, and bird (94 kinds including eagle and seagull)	
Domestic	Changwondongueup-Gimhaehallim National Road Construction Office		5	Korean buzzard, kestrel, sparrow hawk, grey frog hawk, and mandarin duck	
	Samcheok Green Power Units 1 & 2 Construction Office	Swamp	4	Otter, kestrel, mandarin duck, and whooper swan	
	Changnyeong-Milyang Highway Construction Office	Soil and sky	6	Wildcat, mandarin duck, sparrow hawk, eagle, and kestrel, etc.	
	Shinkori Nuclear Power Plant Unis 5 & 6 Construction Office	Water	55	Conger, saurel, Korean rockfish, and thomback ray, etc.	
	Jeokseong-Duil Road Construction Office	Soil and water	8	Environmental effect evaluation states about management of land fauna, land flora, land-water biota, and legal protective species; Wild cat (13), eagle, kestrel, etc. (42), salamander (13), yellow dragonfly (24), common Korean bitterling, Cyprinid Fish, and Gobiobotia macrocephala, etc. (9)	
	Bongdam-Songsan Highway Construction Office	Soil and water	12	Environmental effect evaluation states about management of land fauna, land flora, land-water biota, and legal protective species; Wild cat, mandarin duck, goshawk, sparrow hawk, grey frog hawk, kestrel, eagle-owl, black-capped kingfisher, salamander, narrow-mouthed toad, Korean brown frog, yellow-spotted serpent, and Hemicultur leucisculus	
	Building Office of Hamyang-Changnyeong Expressway	Soil and water	11	Legal protective species under environmental effect evaluation: Otter, wild cat, whooper swan, mandarin duck, eagle, Korean buzzard, kestrel, scops owl, long-billed ringed plover, Gobiobotia nakdongensis, and Microphysogobio koreensis	Added in 2020
	Samcheok Thermal Power Plant Construction Office	Water : Shore of East Sea Project Territory	4	Animal : Small birds and mammals such as chipmunk, squirrel, titmouse, and woodpecker, etc.	Added in 2020
	Ulsan Down 2 Lot Construction Office	Soil and water	5	Otter (natural protected species, endangered species I), wild cat (endangered species II), little dragonfly (endangered species II), kestrel (natural protected species), and white-throated plover (endangered species II)	Added in 2020
	Gilcheongasu Road Expansion Work	Soil and water	22	Environmental effect states about management of land fauna, land flora, land-water biota, and legal protective species. 1) Local survey (7 kinds): Wild cat (endangered species II), mandarin duck (natural protected species), bean goos (endangered species II), white-tailed sea eagle (natural protected species, endangered species I), hen harrier (natural protected species, endangered species II), grey frog hawk (natural protected species, endangered species II), sparrow hawk (natural protected species), kestrel (natural protected species), falcon (endangered species II), white-naped crane (natural protected species, endangered species II), long-billed ringed plover (endangered species II), cuckoo (natural protected species), and scops owl (natural protected species) 2) Literature survey (15 kinds) : Wild cat (endangered species II), bean goose (endangered species II), mandarin duck (natural protected species), fish hawk (endangered species II), Hen Harrier (natural protected species, endangered species II), grey frog hawk (natural protected species, endangered species II), sparrow hawk (natural protected species), kestrel (natural protected species), falcon (endangered species II), white-naped crane (natural protected species, endangered species II), long-billed ringed plover (endangered species II), cuckoo (natural protected species), scops owl (natural protected species), and narrow-mouthed toad (endangered species II)	Added in 2020
	Sejong-Anseong Highway Construction Office	Soil and water	17	Legal protective species under environmental effect evaluation: Copper-winged bat, otter, flying squirrel, wild cat, eagle, goshawk, falcon, eagle-owl, long-billed ringed plover, Chinese goose, Seoul pond frog, narrow-mouthed toad, diving beetle, mandarin duck, kestrel, brown hawk-owl, and scops owl	Added in 2020



Safety & Health

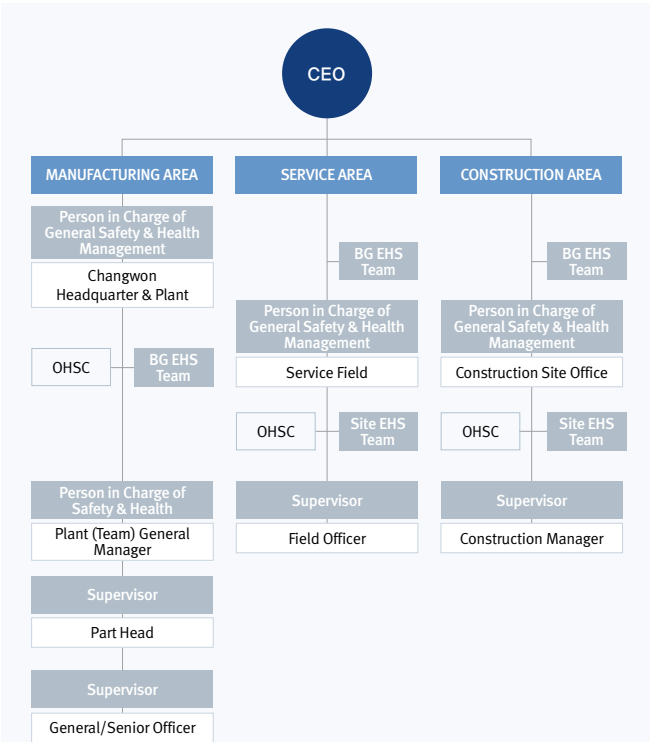
The Safety and Health area is a very important area requiring management because it is directly related to the life of our employees and stakeholders. DHIC has set the prevention of serious disasters, high-risk workplace and process management, and improvement of safety management competency of partners as major management goals and conducted systematic management to achieve the goals.

Policy & Strategy

IMPLEMENTATION SYSTEM

- At DHIC, the COO is in charge of General Safety & Health Management and oversees the Industrial Safety & Health Committee which deliberates and decides on the major issues related to occupational health and safety.
- The Occupational Health and Safety Committee consists of an equal number of people from the employer and employee sides and plays the role in planning and inspecting various activities related to employee health and safety.
- DHIC implements an ISO 45001 health and safety management system which dictates all health and safety protocols, and is fully equipped to protect partner company's employees through the Partner Health and Safety Council to prevent occupational accidents.

Implementation Organization



IMPLEMENTATION STRATEGY

- Based on a scientific safety & health management system, DHIC continuously identifies root causes of hazardous risks in the field and focuses on the prevention of critical disasters.
- DHIC strives to improve its safety & health management competencies and raise the level of safety consciousness throughout the value chain spanning our headquarters, work sites, and partner companies.
- DHIC identifies safety & health risks for each of our business areas by each country and implements effective management practices from the initial stages of the project.

Implementation Strategy



Activity & Performance

REINFORCEMENT OF SITE SAFETY MANAGEMENT

Intensive Inspections of Unsafe Conditions with high-risk

- DHIC conducts thorough inspections by selecting 5 points of risk deemed as high-risk to reduce accidents at the Changwon Plant.
- As a result of these inspections, the number of potential problems in 2020 was 357, a 76% decrease from last year (628).

5-Theme Inspection

- 1 Facilities requiring working at height e.g. MEWP (Mobile Elevated Work Platform)
- 2 Compliance with heavy object handling process
- 3 Collision with vehicles such as forklifts
- 4 Tools and lifting jigs
- 5 Slings (wire ropes, chain slings, round slings and etc.)

Eliminating Unsafe Behaviors

- An accident analysis of the Changwon Plant revealed that over 80% of all accidents stem from unsafe behaviors.
- By filming the high-risk work process, we detect risk factors during the work thus making it easier to identify unsafe behaviors unconsciously carried out by workers.

Equipment Operation Qualification System

- Operate an internal operator certification system for cranes or forklifts used to move or load/ unload heavy objects with a high risk of serious accidents occurring.
- The heavy machinery operator certification system consists of lectures on theory and hands-on/ practical training. The certification is awarded upon passing a functional competency exam on the functional/ technical aspects of machinery operation and mastery of the company's safety regulations.
- Only workers who have completed the operator certification program (and passed the exam) are authorized to operate the machinery involved.

Overseas Subsidiaries with Certified Safety and Health Management System

United Kingdom (Doosan Babcock)	ISO 45001
Czech Republic (Doosan Skoda Power)	ISO 45001
Vietnam (Doosan VINA)	ISO 45001
Germany (Doosan Lentjes)	ISO 45001

*As of the end of 2020

Improvement of Partner Safety and Health Management

- DHIC has established a Safety and Health Cooperation Program with partner companies that lack the funds or information needed to invest in safety & health management. Through this, we provide safety and health technologies and financial support for our partner companies.
- The 43 internal and external partner companies received risk assessments and were recognized as being acceptable workplaces, leading to reductions or exemptions on their industrial accident compensation insurance. 10 partner companies have established their own safety and health management systems after receiving certification on their safety and health management system.
- DHIC supports partner companies to establish autonomous safety management system with training programs on safety & health management competency.
- In 2020, DHIC carried out projects to identify and improve safety and health risk factors of 50 suppliers (47 internal and 3 external) through the Safety and Health Mutual Cooperation Program.

Evaluation Results of Mutual Growth-Pursuing Cooperation

Acquired an “S” grade in 2020 (top 10% nationwide)



Elimination of Onsite Risk Factors through 9-Theme Inspections

- Safety management issues based on the accident case study of all Doosan Heavy Industries & Construction's (DHIC's) construction sites were selected and nine identified points were chosen as targets for risk mitigation to prevent the main causes of major accidents.
- Inspections are carried out for onsite safety management led by the managers of DHIC and partners centered on the 9 identified points and risk factors to be mitigated in stages.
- 41,914 risk factors were found through inspection, and we took actions to eliminate risk.

9 Themes of Safety Accidents

Install lifeline to prevent falls and inspect cross slings	Inspect the installation state of the work plate	Check the mobile worktable and ladder
Check the status of protective devices of construction equipment	Check the work plan implementation status	Inspect slings (wire ropes, chain slings)
Inspect hoist-up instruments (shackles, clamps)	Review the structure and prepare the assembly drawing before starting work	Review the safety of temporary facilities

Current Status of Zero-Accident Achievement in Overseas Workplaces

Category	Unit	2019	2020
India Jawaharpur	Hours	15 million	25 million
Vietnam Nghi Son 2	Hours	5 million	10 million
Vietnam Van Phong 1	Hours	N/A	1 million

CREATING A CULTURE THAT PROMOTES SAFETY & HEALTH

Evaluation on EHS Performances

- Continue to make efforts to improve the safety and health culture level through the evaluation and compensation for EHS activities.
- Endeavor to have EHS activities—wherein all field employees and partner companies’ managers and workers participate—take root through EHS diagnosis-based performance evaluation.
- DHIC head office conducted 45 EHS assessments at the domestic construction sites in 2020 (Overseas construction sites were conducted via video conference).
- 62 EHS field inspections at domestic and overseas constructions sites are conducted in 2020 (45% YOY).
- EHS Awards awarding excellent construction sites and men of merit by comprehensively evaluating the EHS activity performance of domestic and overseas construction sites each year.

EHS Performance Evaluation System

Evaluation target	Plant (Changwon)	Construction sites	Partner sites
Evaluation system	EHS Internal Audit	<ul style="list-style-type: none">• MSLT (each quarter)• EHS site inspection (at any time)• EHS diagnosis (every six months)	Management evaluation

Results of the 2020 EHS Awards



Centralized EHS Education and Training

- Leadership training for executives and factory managers.
- Coaching programs conducted for supervisors at the Changwon Plant to promote safety mindset.
- Education and hands-on training on good safety habits and procedures made mandatory for all domestic and overseas construction sites and efforts made to cultivate instructors in order to roll out training programs at wider scale (Since 2016 onwards).
- At large-scale plant sites, safety education for workers by setting up safety training sites that apply advanced information technology and offer diverse learning contents.
- In 2020, EHS managers training was conducted for 194 DHIC managers, with 213 people attending from partner companies.

Reinforcement of Safety & Health Inspections During Vulnerable Periods

- Internal special inspections based on checklists focused on peak-period processes and high-risk worksites during the health and safety high-risk periods, such as New Year’s Day, Korean Thanksgiving (Chuseok), and summer and winter holidays.

PREPARATION OF EMERGENCY RESPONSE SYSTEM & EXPANSION OF TRAINING

Implementation of Emergency Response Training

- DHIC has put into effect detailed response measures/ procedures for a range of emergency scenarios.
- Videos on proper evacuation from each building and instructions in case of natural disasters, such as an earthquake, as well as firefighting guides and equipment are provided.
- Emergency training was conducted with the head supervisors for worksites and office buildings. In 2020, this training was done online due to COVID-19.

Expansion of Fire Response & Rescue Facilities

- DHIC has installed emergency wet towels to use for fire evacuations evacuation in office buildings and dormitories and devised the optimal escape plan in case of fire breakouts.
- In case of fire at the Changwon Plant, automatic fire detection system connected to the internal disaster prevention center was upgraded to a real-time auto detection/ monitoring system.

Monitoring Employees Dispatched Overseas

- DHIC has established a real-time monitoring system for centrally monitoring issues at overseas sites.
- There is an overseas construction site crisis management process by which employees can be protected in case of a crisis outbreak, such as war and pandemic, for the employees and their families at overseas construction sites.
- Satellite phones are placed at all construction sites in the Middle East to establish an emergency contact system to protect field employees in case of an emergency.

REINFORCEMENT OF HEALTH MANAGEMENT FOR EMPLOYEES

Healthcare Program for Each Employment Period

- DHIC provides a lifetime healthcare program to employees and beneficiaries according to their age from employment to retirement.
- We have an agreement with 5 large hospitals located in Seoul and Busan, as well as 14 orthopedic and dental clinics near the construction sites with special payment terms for all our employees.
- Reimbursement of up to KRW 20 million in medical costs per person in case of accident or disease for our employees, their spouses, and children is provided.

Medical Treatment Program through Psychology Consultation

- “Misodam,” an internal counseling center, is operated to treat employee stress and grievances through counseling with professional counselors.
- There were a total of 722 counseling cases (193 internal counseling and 529 external counseling) and a total of 259 visitors in 2020.
- The same counseling benefits are offered concurrently to employees’ families through an external counseling center.



Management of Patients with Musculoskeletal Disorders

- Musculoskeletal disorders among employees are treated and minimized through a musculoskeletal disorder prevention program.
- DHIC does a full check of contributing factors to musculoskeletal disorders every 3 years, and each department develops annual improvement plans based on these findings. Also, the Musculoskeletal Executive Committee conducts regular audits every two months to ensure these plans are being implemented.
- In the case the workers show musculoskeletal disorder symptoms through medical surveys, rehabilitation treatment is carried out involving both physical therapy and exercise physiology supervised by affiliated medical clinic doctors.
- For departments where musculoskeletal disorders are frequent, an internal physical therapist provides customized stretching routines.

Operation of Internal Clinics

- DHIC has been operating internal clinics with doctors, nurses, physical therapists, and physical trainers to provide a one-stop medical treatment facility.
- DHIC provides influenza vaccination each year for our employees, their families, and partner employees, with about 6,500 vaccinations having been provided in 2020.
- Vaccinations for endemic diseases prevalent in each region/country (malaria, typhoid, and yellow fever) are provided to prevent diseases that may be contracted abroad. Doctors in affiliated clinics check the health of workers before they depart for foreign countries. EHS education and OTC medicines are also provided.
- Medical personnel conduct regular overseas visits to workplaces with poor medical infrastructure to ensure an adequate level of healthcare is available.

Health Care Program from Joining the Company to Retirement



Talent Management

DHIC holds genuine interest and respect for each and every one of our employees. DHIC is systematically carrying out leadership programs, functional competency enhancement programs and technical competency development programs to help develop a pool of talented employees who are equipped with leadership skills and functional expertise. We are doing our best to create a happy corporate culture.

Policy & Strategy

IMPLEMENTATION SYSTEM

- DHIC defines the development of talented personnel who practice the Doosan Credo and hold competitive expertise as being our company’s goal for Talent Management.
- We use our HRIS (Human Resource Information System) to conduct competency evaluations on our 5,600 employees who are based in Korea and our 6,000 employees abroad, and have implemented the One Global System, which connects all the various features, such as performance evaluations, HR development, employee training and recruiting.
- DHIC has strengthened its collection and analysis of human resources data to support strategic decision making in response to the needs of the company.

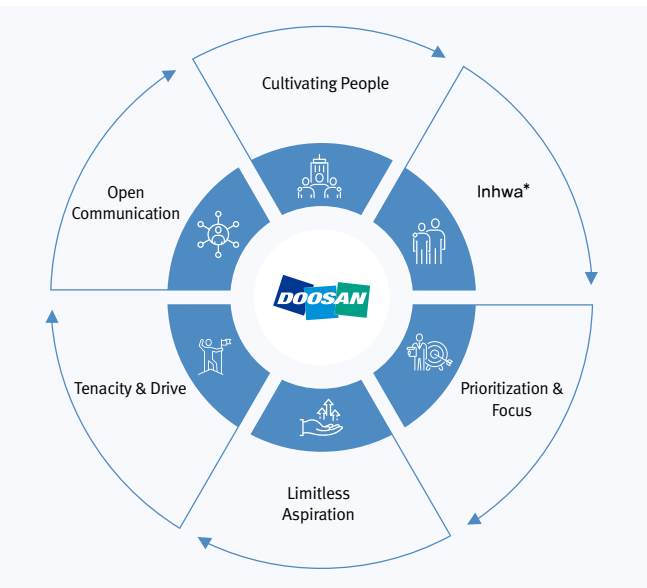
IMPLEMENTATION STRATEGY

- Employees are our most valuable asset and are essential for the growth and development of the company. DHIC has developed a well-balanced strategy to help the development of talented personnel on an equal-opportunity basis.
- DHIC encourages professional development within the workplace.

TRAITS REQUIRED OF “DOOSAN PEOPLE”

- As representatives of our company, Doosan People are competent and committed to contributing to the company. They put this attitude into practice and are always striving for self-improvement.
- Doosan People place ultimate importance in our values and work to constantly put them into practice.

DOOSAN PEOPLE



*Inhwa : Korean word for harmonious teamwork

PRINCIPLES TO SELECT TALENTED PERSONNEL

- We implement a fair and transparent recruiting process to hire people equipped with the traits required in our Doosan people.
- DHIC works to prevent discrimination based on an individual’s personal characteristics by utilizing an open hiring process and we strengthened our system for evaluating the job-related functional competencies of candidates.
- Recruitment is pursued in various ways, such as through internship programs, industry-academic scholarship programs and the conventional method of recruiting new and experienced hires.

PRINCIPLES FOR EMPLOYEE EVALUATION

- We operate an employee evaluation system that focuses on the long-term growth and development of our employees and link the evaluation results with the employee’s compensation.
- Evaluations are performed based on fact gatherings that reflect the employees’ strengths and development needs, which are identified by looking at the traits required in Doosan people. The results are used for the establishment of a concrete HR development plan.
- DHIC’s HR management system “MyHR” is used for the employee evaluations, management and operation.

HR Development Strategy



Activity & Performance

STRENGTHENING OF FUNCTIONAL COMPETENCY & LEADERSHIP SKILLS

Upgrading the Functional Competency Program

- To help improve the functional competency of all the employees, DHIC has been operating functional competency learning academy that cover the competencies required across the entire value chain.
- Each academy consists of a three-stage learning framework, which consists of the Basics ▶ Advanced ▶ Experts courses, all of which are designed to cover the required skills for each employee level.
- Employees can select the training program that is most suitable for them in terms of their competency level and development needs.
- Promote practical learning by having employees who are currently performing the jobs invited as the instructor, leading to the sharing of one’s experience, expertise and know-how.
- To help cultivate high-quality in-house instructors and instill a sense of pride, DHIC provides lecturers with the opportunity to improve upon their delivery skills and also compensates them with a small lecturer fee.

Leadership Program for Team Leaders

- The aim of the program is to help the team leaders effectively communicate with their team members and to have them recognize the importance of team leaders’ role in establishing a sound corporate culture and upholding human rights at the company.
- Checking on one’s leadership style and identifying the areas requiring improvement.
- Providing a guide on the people and corporate culture, DHIC’s overall human rights concept and human rights management policy.
- Offering training programs that teach about systems used for preemptive management and other various productivity enhancement programs.
- Encouraging the use of advanced business systems to facilitate the establishment of a corporate culture that practices open communication, cooperation and sharing among employees.



Leadership Strengthening Program for Team Leaders

REINFORCEMENT OF TECHNICAL COMPETENCY DEVELOPMENT PROGRAMS

Consortium Education

- To improve the technical skills of our clients, partner companies, and employees, DHIC offers training programs hosted by the National Human Resources Development Consortium.
- By pursuing shared growth with clients and partners and helping to strengthen the employees’ technical competency, DHIC was able to achieve an overall improvement in productivity.
- We have been offering online training programs using Skype due to the spread of COVID-19 in 2020. The National Human Resources Development Consortium training program was conducted for 101 people, and 19 of our employees participated in the program.

Meister System

- DHIC has developed an internal “Technical Meister” program, which involves selecting skilled technical personnel with long years of manufacturing experience as technical meisters to share their knowledge with others and support the development of a skilled technical workforce.
- Since 2014, a total of 19 people have been designated as technical meisters and they have been assisting with productivity improvements through technology transfers and standardization.
- DHIC has been operating a systematic training programs for technical competency enhancement to help employees grow to become technical meisters.



Internal Technical Meister Program

Technology Management School

- DHIC operates a Technology Management School, which aims at improving the management skills of technical employees.
- Communication and management skills are improved upon through leadership programs, and training programs teaching about the company's business cycle and accounting are also offered.
- The Technology Management School has been offered 58 times to 1,575 of our technical staff over the years since 2014.

CREATION OF A HAPPY WORKPLACE FOR EMPLOYEES

Retirement Support Program

- A career design program is offered to employees who are expected to soon retire to assist them with planning their career options, provide them with reemployment information and offer job placement consulting services.
- DHIC operates a customized retirement program for employees whose statutory retirement age is approaching to help them design possible career options after retirement, and offer information and consulting on areas of personal interest.

Employee Club Activities

- DHIC provides support on internal club activities to help employees maintain a work-life balance.
- About 1,510 employees have joined as members in 50 clubs in Changwon and the Seoul metropolitan region and are engaged in diverse club activities covering areas that are aligned with their personal hobbies or self-improvement.

Inhouse College Program

- For the self-development and growth of our technical staff, DHIC has been operating an Energy Convergence Engineering Course in cooperation with Changwon National University.
- Employees of DHIC who wish to enroll can apply to the courses as freshman or transfer students and can choose to take the classes either on the weekend or weekday and upon completing the course, will be awarded with an undergraduate degree in Engineering.
- A total of 106 employees have taken the course and graduated until now and 18 employees are currently enrolled in the freshman course.

ESTABLISHMENT OF A SOUND LABOR-MANAGEMENT CULTURE

- Based on mutual trust between labor and management, DHIC has established a stable labor-management relationship.
- DHIC has maintained a dispute-free collective bargaining agreement for 15 consecutive years (2016-2020).
- Through meetings convened between labor and management, such as the Collective Bargaining Agreement meetings, Labor-Management Council meetings and Policy Improvement Committee meetings, DHIC provides employees with the opportunity to participate freely in the decision making process.
- DHIC has set up employee communication channels, such as the cyber reporting center at each Business Group, and are using this to actively reflect the employees' opinions in the operation of the company.



2020 DHIC Collective Bargaining Agreement Signing Ceremony

Labor-Management agreements reached without
any disputes for **15** consecutive years
(As of 2020)



Human Rights Management

DHIC is preemptively responding to society’s demands for human rights management by emphasizing the value of human rights in all our business activities.

All of DHIC’s employees and stakeholders respect and care about each other by practicing the Code of Conduct and their dignity and values as human beings are protected.

DHIC has set up a human rights due diligence process to ensure that a proper human rights management system can be firmly established at the company, and we are also striving to promote a corporate culture that respects human rights and embraces diversity.

Policy & Strategy

HUMAN RIGHTS POLICY

DHIC respects the human rights of all our employees and all our stakeholders with whom we have business, and we recommend the same level of human rights management from that of third parties, such as our suppliers and business partners. DHIC's human rights policy stipulates that basic human rights have to be guaranteed, regardless of a person's origin, religion, gender, race or any other conditions.

As a signatory of the UN Global Compact, DHIC abides by the 10 Principles of the UN Global Compact relating to human rights, labor, the environment and anti-corruption. Based on internationally recognized human rights principles, such as

the UN Guiding Principles on Business and Human Rights: Ruggie Framework, we have established and are operating a human rights due diligence framework to assess the human rights management practices and inspection system. DHIC aims to be a business that operates their human rights management system as follows to prevent any human rights infringements from occurring over the course of business, and to do our best to adopt effective remedial steps in the event of a human rights infringement, and to continue to grow together with the local community through engagement in activities designed for the improvement of the human rights situation.

• No Discrimination in Employment, Guarantee of Freedom of Association and Collective Bargaining

DHIC does not engage in any employment-related discrimination based on gender, religion, disability, age, social status or region of origin. In addition, DHIC fully recognizes employees' freedom of association and collective bargaining. DHIC does not punish employees in any way for participation in labor union activities.

• Prohibition of Forced and Child Labor

DHIC does not accept any type of forced labor. DHIC observes minimum age requirements for employment stipulated by the countries in which we operate. DHIC will take immediate remedial action upon detection of any wrongdoing, such as the employment of minors, and shall seek to prevent improper labor practices that undermine human dignity from happening.

• Guarantee of Industrial Safety; Responsible Supply Chain Management

DHIC is constantly striving to improve environmental safety, and observe environment, health, and safety-related laws/criteria at our workplace. DHIC takes special safety and health measures for employees who are pregnant, disabled, or underprivileged. DHIC has established and seeks to constantly monitor the supply chain's ESG risk management policies and guidelines and will support all our business partners' efforts to practice human rights management. DHIC will stop engaging in business transactions with suppliers who fail to take corrective steps regarding human rights infringements that were identified.

• Protection of Local Residents Human Rights and Environmental Rights

DHIC respects the local residents' right to life in all the countries that we operate, and also respect their freedom of residence and right to move, their right to individual safety and their property rights. In regard to environmental issues, DHIC follows the principle of preventive approach and has developed plans for preventing or reducing environmental degradation and disasters.

• Protection of Customer Human Rights

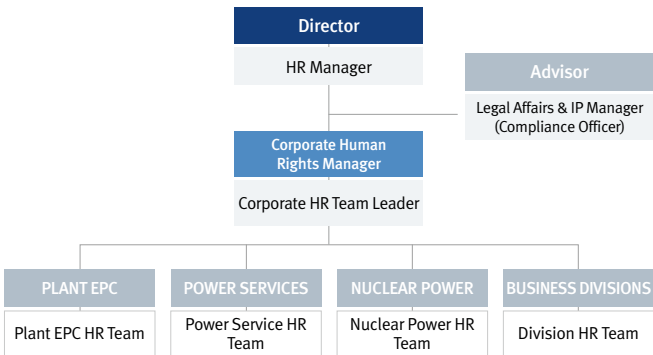
DHIC will take precautionary measures as specified by law in the design, manufacturing, and marking of products to prevent any harm from being inflicted on customers in their life, health and safety due to product defects. In the event of any damage, DHIC will inform customers of the danger and take the necessary steps, such as immediately recalling the products in question. As DHIC respects our customers' privacy, we will take the necessary steps to ensure the security of their personal information.

DHIC operates a cyber reporting center on the company website (<https://ethicshelpline.doosan.com/>) to help with the prevention of human rights infringements. DHIC abides by the confidentiality policy to protect the identity of informants and seeks to handle matters raised in a swift and fair manner. DHIC endeavors to take the lead in supporting and complying with the basic human rights principles as we aim to become a proud Global Doosan.

ORGANIZATION IN CHARGE

- DHIC's human rights management system is operated through the company's Human Rights Committee and the Human Rights Steering Committee, which both play a key role in supervising this area.
- The Human Rights Committee is composed of Corporate HR and Business Group(BG) HR people with a compliance officer assuming a consulting role. The committee plans for and operates company-wide human rights management activities.
- In the event of a human rights issue, the Human Rights Committee addresses it promptly in accordance with the process for handling complaints under the

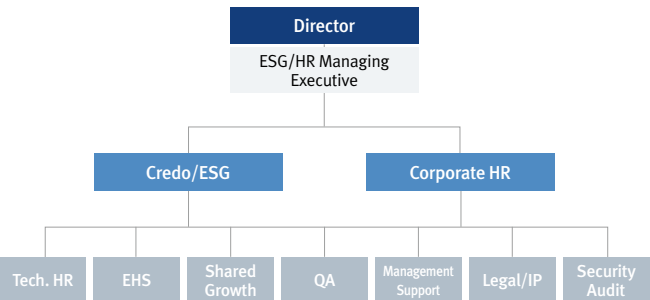
Human Rights Committee



principle of ensuring confidentiality and protecting whistleblowers.

- The Human Rights Steering Committee is composed of managers from the related departments, such as HR and ESG, and is responsible for ensuring that the human rights-related due diligence is properly carried out.
- The Steering Committee is responsible for the overall process of Human Rights Impact Assessment (HRIA), which includes assessment of the status of the company's human rights management, establishment of a human rights risk management plan, execution of the plan, and monitoring of the results.

Composition of Human Rights Steering Committee



Activity & Performance

HUMAN RIGHTS TRAINING PROGRAMS

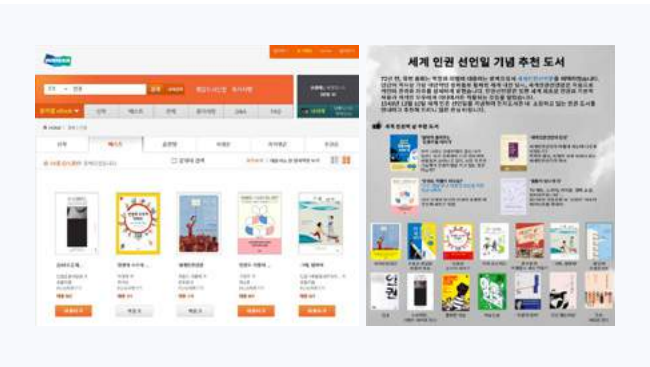
- Human rights programs are carried out at least once a year for all employees at home and abroad to prevent human rights violations.
- Global human rights training programs reflecting the local characteristics of other foreign countries are developed and offered to overseas assignees to minimize human rights violations caused by a lack of understanding of the local culture.
- Training programs are offered to help the human rights managers improve their complaint-handling capability and sessions are held on a quarterly basis to share issues experienced at the business divisions and how they were handled to help with the prevention and handling of such incidents.

EFFORT TO PROMOTE A CULTURE OF RESPECT FOR HUMAN RIGHTS

- The company's human rights-related educational materials are distributed to our partner companies and our DHIC human rights policy declaration is posted on the app used with the partners association to encourage their participation in our human rights related efforts.
- We are fostering an environment that provides maternity protection to help employees achieve a work-life balance.

- We are working to promote employees' human rights-related awareness by creating a new section for human rights in our e-Library and continuously building up the book collection.
- In 2021, we are planning to offer additional training programs, aside from the common curriculum, to the group leaders and Change Agents (CAs), to help raise human rights awareness and promote a culture of respect for human rights.

Human Rights-Related Books Available in e-Library



REPORTING SYSTEM FOR HUMAN RIGHTS VIOLATION

- A cyber reporting center can be accessed on our company website by our employees and all our stakeholders.
- Reports can be filed anonymously, confidentiality is guaranteed and the reports that are filed are handled according to our internal process in a prompt and fair manner.

Online Reporting System Ethics Helpline

- <https://ethicshelpline.doosan.com/>

Whistle Blowing Center

Language

Operational Policy

The Doosan Infratech Whistle Blowing Center is open to all Doosan employees and to the public, and enables anyone to report possible violations of good faith and code of conduct policies, including the Doosan Code and the Doosan Code of Conduct.

Whistleblowing reports may be submitted anonymously or not anonymously. However, the Company may not investigate anonymous reports which are not supported by concrete evidence.

The identity of the whistleblower and the contents of the report will be kept confidential. The Company prohibits any retaliation against employees for submitting reports in good faith.

The Doosan Operational Rules of the Whistleblowing system apply to the whistleblowing reports submitted by employees of Doosan. These rules are available on the Company's intranet or can be obtained from the Company's designated whistleblowing department.

In addition to this online whistleblowing system, the Company accepts whistleblowing reports via various channels, including hot line, fax, email and messenger with the designated whistleblowing department.

Name of Doosan entity subject to reporting

Select Doosan entity subject to reporting and confirm party who will be receiving the information.

Select Doosan entity

Click to report online

Mail Telephone/Fax E-mail

Whistle Blowing Center(Doosan Heavy Industries & Construction)

Language

Please provide specific and fact based information regarding the incident being reported, and please refrain from slandering, speculative reporting or other malicious/fake reporting.

Reporting Method

Do you wish to remain **ANONYMOUS** for this report? ☐ Yes ☒ No

Reports may be submitted anonymously. However, the Company may not investigate anonymous reports which are not supported by concrete evidence.

Consent to all

☐ Yes ☒ No

Consent to Collection and Use of Personal Information

Your personal information will be collected and used only for the purpose of investigation. If you do not want to consent to the collection and use of your personal information, you may reject your report anonymously.

1. Purpose of Collecting and Using Personal Information

For confirmation & investigation of your report and communicating the results of investigation

2. Personal Information Subject to Collection

Name of the information is mandatory.

*You may voluntarily provide your name, email address, telephone number/cellphone number in relationship to Doosan.

3. Personal Information Services and Use Period

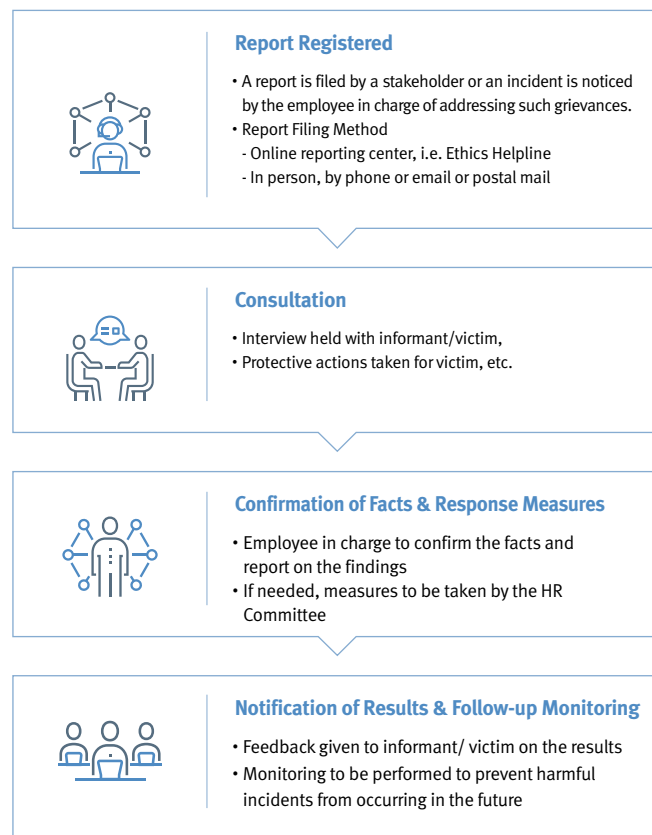
... Once used from the above date of acquisition, Personal information that allows identification of the information donor will be destroyed (personal information other than name and ...)

I have read and understand all the information above and consent to the collection and use of my personal information.

☐ Yes ☒ No

PROCESS OF ADDRESSING HUMAN RIGHTS GRIEVANCES

- DHIC has a system for handling human rights-related complaints and providing remedies, one that is based on the three basic principles of ensuring anonymity, preventing any disadvantage from being given to the informant and providing feedback.
- In 2021, DHIC plans to operate the system more effectively by holding sessions where the relevant managers can share the cases they handled and how they were dealt with.




Number of Human Rights-Related Complaints Filed

Classification	Unit	2018	2019	2020
Official complaints Filed	case	14	10	2
Cases settled	case	14	10	2
Case Closing Ratio	%	100	100	100

HUMAN RIGHTS DUE DILIGENCE

Human Rights Impact Assessment

- The human rights impact assessment is an activity carried out to identify negative impacts caused on human rights, and is designed to minimize human rights violations and prevent/mitigate potential human rights-related risks.
- In December 2019, a pilot human rights impact assessment was conducted on domestic and the overseas subsidiary companies (Vietnam and India) to check on the company's human rights management situation.
- DHIC will be conducting the human rights impact assessment and due diligence in the mid to long term by expanding the scope of the assessment to include all subsidiary companies and our partner companies.

Human Rights Impact Assessment Items		
Establishment of a human rights management system	Non-discrimination in employment	Guaranteed freedom of association and collective bargaining
Prohibition of forced labor	Prohibition of child labor	Guaranteed occupational safety
Responsible supply chain management	Protection of human rights of local residents	Guaranteed environmental rights
Consumer rights protection		

Results of Human Rights Impact Assessment

- Although no serious human rights infringement cases were found, there were some areas identified as requiring improvement. We noted that the establishment of a human rights management system and defining of items that fall under responsible supply chain management as being the priority areas requiring improvement.
- DHIC has developed mid to long-term solutions in cooperation with relevant departments to include improve the overall human rights situation.

Status Review of Assessed Areas*	
Non-Discrimination in Employment	<ul style="list-style-type: none"> DHIC's Code of Conduct stipulates that unreasonable discrimination is strictly prohibited. DHIC selects, appoints, evaluates, and supports the development of employees based on reasonable standards and guidelines.
Guaranteed Freedom of Association and Collective Bargaining	<ul style="list-style-type: none"> DHIC has an active labor unions, and the employees are guaranteed the freedom to join and participate as union members.
Prohibition of Forced Labor	<ul style="list-style-type: none"> DHIC does not force workers to work against their will. DHIC complies with the 52-hour week system by applying the PC-Off system and late hour work time is negotiated. DHIC implements various systems aimed at enhancing work efficiency and endeavors to help employees achieve a work-life balance.
Prohibition of Child Labor	<ul style="list-style-type: none"> DHIC prevents the use of child labor through the screening of candidates based on identity checks during the initial recruiting stage. Currently, we do not employ anyone under the age of 18.

* Cases of domestic business sites

Results of Improvement of Assessment Items*

Items	Areas Identified as Requiring Improvement	Improvement Results
Establishment of a Human Rights Management System	<ul style="list-style-type: none"> • We have established a human rights policy, along with relevant implementation plans, but failed to disclose such information to external stakeholders. 	<ul style="list-style-type: none"> • We included our human rights policy in our 2019 Integrated Report so that it may be viewed by all our stakeholders.
Assurance of Industrial Safety	<ul style="list-style-type: none"> • Separate safety and sanitation measures are needed for vulnerable workers at some of our workplaces such as certain manufacturing shops and sites. 	<ul style="list-style-type: none"> • Given the special work conditions of our manufacturing shops and work sites, constant monitoring is performed to ensure that no disabled employees are made to work at such sites. • We are making arrangements for pregnant employees and those with underlying medical conditions to work from home during the COVID-19 situation.
Responsible Supply Chain Management	<ul style="list-style-type: none"> • Failure to monitor whether partner companies are observing the human rights-related requirements. 	<ul style="list-style-type: none"> • We are currently building a system for assessment of partner companies' situation concerning human rights, labor, environment and safety based on our Supply Chain ESG Action Plan.

* Cases of domestic business sites

Development of Human Rights Management Checklist

- DHIC has developed a human rights management checklist, taking into consideration the characteristics specific to our business, and using the National Human Rights Commission of the Republic of Korea (NHRCK)'s guidelines and checklist.
- DHIC's Human Rights Management Checklist consists of 150 metrics related to 40 sub-categories and 10 categories, which include the areas such as workers' human rights and non-discrimination, assurance of industrial safety and environmental rights, supply chain management and consumer rights protection. It is expected that the reliability of the evaluation results will be greatly improved through the adoption of such clearly defined evaluation standards.
- In 2021, DHIC plans to carry out the human rights impact assessment at the sites in Korea and Vietnam, which were identified as high priority regions, to see how adoption of the checklist impacted the assessment results.

Shared Growth for Supply Chain

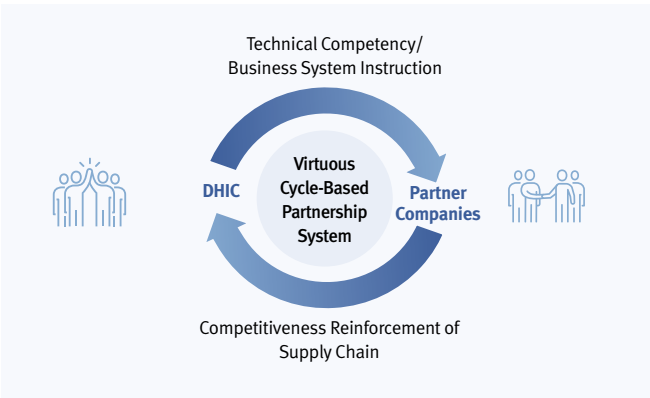
Through a virtuous cycle of partnership with partner companies, DHIC is strengthening our competitiveness. DHIC operates advanced supplier development programs to strengthen suppliers' capabilities by supporting their overseas business expansion and managing a supplier academy. In addition, DHIC is establishing a supply-chain ESG management system through the full-scale evaluation of suppliers with ESG as the main criteria.

Policy & Strategy

PROMOTIONAL STRATEGY FOR SHARED GROWTH

- DHIC has established a virtuous cycle-based partnership system whereby all partner companies can benefit from DHIC technology and business systems to improve their management competency.
- Through this virtuous cycle-based partnership system, DHIC aims to contribute to the shared growth of DHIC and partner companies, as well as to growth of the local and national economy.

Establishment of Virtuous Cycle-Based Partnership System



DEFINITION AND SELECTION OF PARTNER COMPANIES

- DHIC defines a partner company as a business entity that has maintained a long-term supply relationship and has consistently delivered on price, quality, and delivery date for strategic and collaborative undertakings.
- In compliance with supplier selection standards set forth in the Supplier ESG Guidelines, DHIC evaluates the financial and governance structure of the new partner companies through a credit assessment process.
- A system for partners to ensure observance of ethical norms in January 2020 has been in effect, requiring all partner companies to submit their pledges.

- As a rule, a clause entailing the observance of our CoC(Code of Conduct) is included in all our agreements with our partner companies.
- DHIC selects partner companies fairly and transparently as per our Purchasing Regulations and prohibits businesses with a record of violations from registering as subcontractors.

FAIR TRADE SELF-COMPLIANCE PROGRAM

- DHIC has established a dedicated unit to manage the operation of fair trade compliance programs and had a central manager and BG managers set up, along with a dedicated department for managing the fair trade compliance.
- DHIC emphasizes the education that instills the mindset of shared growth among employees working closely with partner companies.
- DHIC regularly inspects all subcontractor agreements in order to identify violations of subcontractor laws and implement self-corrective measures. To prevent recurrence, DHIC disciplines and educates employees who have violated fair trade practices/ principles.

RISK MANAGEMENT OF SUPPLY CHAIN

- DHIC carries out periodic assessments of supplier full-scale capabilities/ competencies based on factors, such as quality, cost, delivery, collaboration, ESG, environment/safety, financial status, etc. Those with negative results are taken off the list of partner companies eligible for doing business for shared growth.
- The assessments is carried out by stakeholders, such as employees, contracted agents or an independent auditor by making unannounced visits to partner companies' workplaces.
- DHIC minimizes supplier-related risks by encouraging them to carry out ESG management voluntarily and by taking into account the level of their compliance with our ESG guidelines.



SUPPLY CHAIN MANAGEMENT SYSTEM

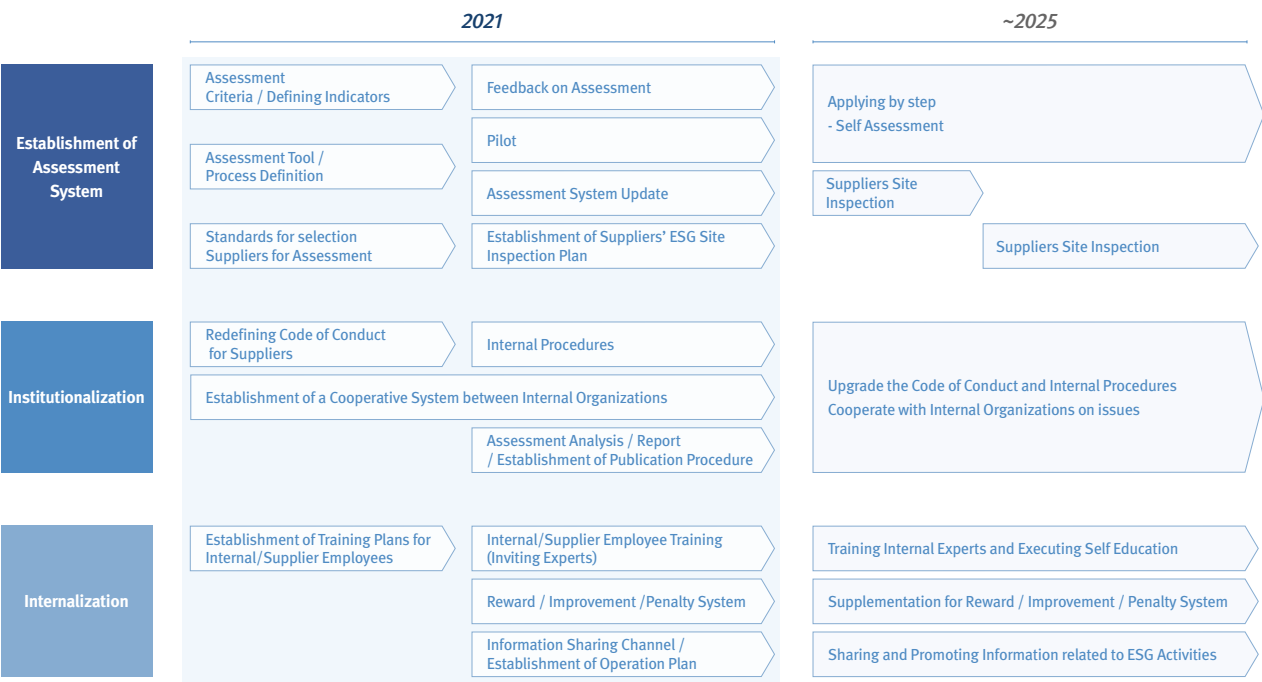
- DHIC has established the “Supplier ESG Guidelines” based on the Ten Principles of the UN Global Compact (UNGC) relating to human rights, labor, environment and anti-corruption, which are mandatory for all suppliers.
- Compliance with these guidelines is reflected in the supplier evaluation, and the prepared guideline is disclosed on the website.
(<http://www.doosanheavy.com/en/csr/guideline/>)

Major Contents of ESG Guideline for Suppliers	
Human Rights	Health & safety, labor conditions & wages, etc.
Labor	Freedom of association, child labor, forced labor, etc.
Environment	Environmental protection & pollution control
Anti-corruption	Corruption prevention, law compliance. etc.
Conflict Minerals	Position on regulations over disputed minerals; status of our dealing with them, etc.

IMPLEMENTATION OF SUPPLY CHAIN EVALUATION SYSTEM

- DHIC established a supply-chain ESG evaluation system and is improving the program to achieve its vision of an 80% rate of excellence among suppliers by 2025.
- With respect to global supply chain ESG evaluation criteria and government policies, the evaluation model reflects indicators, such as labor/ human rights, safety and health, environment, and fair competition.
- After establishing the evaluation system in 2021, DHIC plans to upgrade the system through a pilot program prior to roll out.
- The supply-chain evaluation system is implemented concurrently with a plan to continuously promote related system enhancements and a shift in perception among employees and suppliers.
- The goal is to embed ESG management into all phases of the supply chain through a virtuous evaluation cycle of measurement, evaluation, and improvement of the supply-chain evaluation system.

Schedule for establishing a supply chain ESG management system





Activity & Performance

Major Promotional Activities in the Area of Shared Growth

Improving the Fundamental Competitiveness of Partner Companies

- Operation of a support program to improve competitiveness
- Project on improving EHS Safety & Health through Mutual Cooperation
- Consortium of National Human Resources Project
- Benefit-Sharing System

Financial Support to Partner Companies

- Direct Support Fund without Interest for Partner Companies
- Operation of Shared Growth Fund (Combined Support)
- Loans & Network Loans for Partner Companies
- Mutual Partner Loan

Support for Overseas Expansion by Partner Companies

- Joint Expansion to Overseas Construction Sites
- Support process of obtaining PQ (Pre-Qualification) Approval of Overseas Clients
- Support Participation in Overseas Exhibitions

Reinforcement of Communications

- Establishment and Regular Meetings of DHIC Cooperation Committee
- Increased CEO and executives visits to Partner Companies
- Operation of shared growth Call Center
- Support Participation in Job Fair for Partner Companies

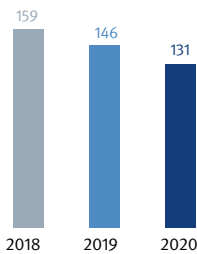
Invitation to DHIC Cultural Events and Providing Congratulations and Condolences

PARTNER COMPANY SUPPORT OUTCOMES

- We provide support for approval work concerning the Pre-Qualification (PQ) of partner companies applying to participate in our overseas projects.
- DHIC helps its partner companies improve their quality management competency by carrying out quality inspections, in line with the importance of items traded, using our subcontractor quality assurance system and education/ training for their employees (In 2020, 33 suppliers acquired and renewed certifications, such as ASME, KEPIC, and ISO, from accredited international organizations. In 2019, 83 suppliers were certified.)
- Production facilities are offered for use to partner companies when needed.
- We operate mutually beneficial programs of health/safety in cooperation with partner companies, totaling six instances in 2020.
- We supplied medical articles (i.e. masks, hand sanitizers, body thermometers, etc.) worth KRW 60 million to partner companies struggling amid COVID-19 in 2020.
- DHIC is fulfilling its role as a partner to the Gyeongnam Creative Economy & Innovation Center which aims at supporting the local startup ecosystem and identifying startups to assist their development. It supports businesses through mentoring, and providing help on commercialization local/overseas marketing, and prototype production and testing, especially for the companies in the materials, parts and equipment manufacturing business.

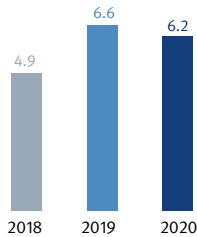
Support of Supplier PQ Approval

(Unit : Cases)



Free Support for Partner Company Production Facilities

(Unit : KRW 100 million)



Agreement on local manufacturing of high-temperature gas turbine parts for Korean-type gas-fired combined cycle power plants

On June 3 2020, an agreement was signed with three small-sized domestic businesses (i.e. STX Heavy Industries, Korea Lost Wax, and Sungil Turbine) that specialize in investment casting. Working with more than 20 domestic businesses such as Seah CSS Corporation, universities, and research institutes until 2024, we will step up support for the plan to raise the percentage of locally-produced high-temperature casting materials and heat-resistant forged materials for gas turbines. We plan to apply our technology to install these materials in the gas turbines used in Korean-type combined cycle power plants.

NEW HIRES AND ON-THE-JOB TRAINING

- DHIC implemented employment orientation/ training for newly hired workers through a national consortium for the development of human resources.
- DHIC pays for the partner company's training cost in full, in addition to an incentive payment for employees to encourage their participation in training/ education.

Status of job-related education for partner company employees in 2020

Classification	Unit	2020
Number of partner companies applying for educational sessions	Sessions	20
Number of partner company employees applying for educational sessions	Applicants	101

2020 educational sessions held on quality management for partner companies

Classification	Unit	2020
Number of partner companies applying for guidance/educational sessions	Partner companies	101
Number of their employees applying for guidance/educational sessions	Applicants	411

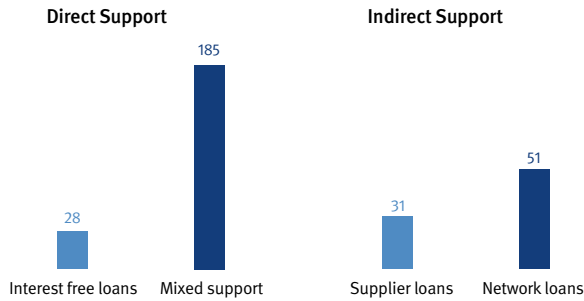
Manpower dispatched in 2020 to provide coaching on quality management

Classification	Unit	2020
Number of partner companies that received support	Partner companies	10
Dispatched employees	MD(Man-Day)	1,677

FINANCIAL SUPPORT FOR BUSINESS PARTNERS

- DHIC provides financial assistance for business partners in the form of in-house interest-free loans and co-sponsored loans using funds provided by DHIC and banks.
- Indirect assistance includes supplier loans and network loans.

Financial support for business partners in 2020 (Unit : KRW 100 million)



ACTIVITES TO STRENGTHEN COMMUNICATION WITH PARTNERS

- DHIC operates an annual business academy for partner companies seeking to engage in shared growth with us in an effort to leverage cooperative network.
- The session is designed to improve their product quality through sharing relevant information, such as benchmark cases of leading companies.
- DHIC launched the DHIC Cooperation Body for shared growth and shared communication.
- Complaints and grievances from its partners are informed via a Call Center for Shared Growth. Issues are addressed for resolution by direct communication with the partner company's department exclusively managing shared growth or with another relevant department.
- DHIC makes it mandatory to hold an informal meeting between the partner company and our senior managers on a periodic basis.
- In 2020, DHIC twice held informal meetings with partner companies due to the challenges of COVID-19 (in June and July).

SHARED GROWTH INDEX

- Based on industry-wide evaluations, The Fair-Trade Commission and the Korea Commission for Corporate Partnership rated DHIC as “Excellent” in the 2019 Shared Growth Index (released in September 2020).

Results of accompanied growth index assessment



SUPPLY CHAIN PURCHASE STATUS (Number of Companies / Purchase Amount)

Classification	Unit	2018	2019	2020
Republic of Korea	Business	10,995	11,305	11,560
	KRW 100 million	16,839	20,084	17,045
Japan	Business	164	165	166
	KRW 100 million	1,704	459	859
China	Business	148	154	159
	KRW 100 million	313	279	157
Saudi Arabia	Business	119	121	121
	KRW 100 million	1,704	459	859
United States	Business	353	354	358
	KRW 100 million	1,328	313	148
Italy	Business	90	92	94
	KRW 100 million	519	323	235
Czech Republic	Business	12	13	13
	KRW 100 million	142	207	238
Germany	Business	294	300	307
	KRW 100 million	571	452	498
Romania	Business	10	10	10
	KRW 100 million	360	225	0
Others	Business	1,069	1,089	1,116
	KRW 100 million	815	955	1,842
Total	Business	13,255	13,603	13,904
	KRW 100 million	22,592	23,459	21,208



Quality Management

DHIC makes it a primary goal to contribute to achieving customer satisfaction and creating values for them by ensuring top level quality competitiveness in power generation and desalination project.

We have acquired world-class engineering competencies and manufacturing capabilities through constant quality and supply chain innovation.

DHIC has achieved maximum customer satisfaction through a quality assurance system which ensures the best quality from material warehousing to product shipping.

Policy & Strategy

QUALITY POLICY

- DHIC has developed a quality management system based on a foundation of Global Standards, as well as the commitment of DHIC's CEO to quality management.

DHIC's Quality Policy

DHIC strives to acquire world-class power plant design, manufacturing, installation, and commissioning in order to fulfill the management vision of being a "Global Leader in Power & Water". Based on the highest quality competitiveness, DHIC has been leading the markets for nuclear power, thermal power, desalination and industrial plants. DHIC prioritizes management to contribute to achieving overall customer satisfaction and creating value for customers.

DHIC maintains a well-structured and systematic quality assurance system that meets Global Standards. This ensures that DHIC can provide quality products and services without defects – the quality that customers desire and deserve. All DHIC units and employees of the company adhere to the provisions of the Quality Policy.

IMPLEMENTATION SYSTEM

- DHIC's quality management system covers the entire project process – from the review of project contract to project warranty - based on a quality assurance manual which reflects international best practice and provides the detailed procedures and instructions necessary for project implementation by employees.
- DHIC has established the DQMS (Doosan Quality Management System) which digitally manages quality information and documents. DHIC has digitized all quality information, from inspection plan to assessment results. DQMS has raised the visibility of and fulfillment capability of the quality management process.

Quality Assurance Program



Major Activities of Quality Management

DHIC strives to systematize our preventive quality management activities in the entire process, ranging from warehousing of materials required for production to their shipment. Our process requires warehoused materials to go through an array of tests at a lab equipped with analytical equipment and devices first. We allow only fully verified materials to be put to production.

STATUS OF QUALITY CERTIFICATIONS

- DHIC has world-class engineering and manufacturing capabilities through continued quality innovation activities. We operate a quality assurance system and environmental and safety management system corresponding to global standards for sophistication of quality management activities.
- DHIC has acquired a total of 52 certifications from international agencies specializing in nuclear, thermal, and wind power generation and desalinated water-related industrial sectors in an effort to prove our technical prowess and win customer trust.

AS9100 Certificate for Aerospace Quality Management



- The certifications DHIC has acquired ASME (The American Society of Mechanical Engineers), KEPIC (Korea Electric Power Industry Code), ISO 9001/14001 and ISO 45001 and others.
- In 2020, DHIC acquired the AS9100 certification in aerospace quality management, which enables us to apply our 3D printing technology to production of parts used in power generation and aerospace industry.

International Quality Standards Certifications DHIC Acquired

Relevant areas	Types of certifications	Number of certifications
ASME (in nuclear/non-nuclear sectors)	N/NPT, U/S, etc.	17
KEPIC (in nuclear sector)	MN, SN, etc.	8
ISO	9001, 14001, etc.	4
Other	PED H, Shipping Register, etc.	23

Activity & Performance

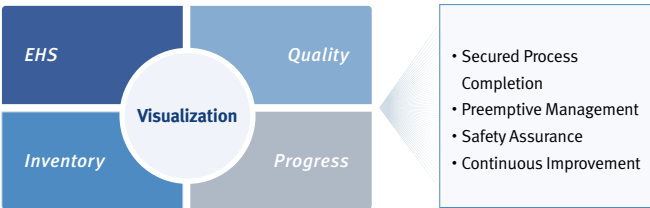
QUALITY INNOVATION

- QMPI (Quality Monitoring for Prevention & Improvement) activities to prevent quality issues in design/manufacturing and prevent a recurrence.
 - Concentrated management of failures in important quality issues by determining potent quality vulnerabilities from manufacturing-centered quality failures and all functions and blocking recurrence of similar quality failure through RCA*.
- * RCA : Root Cause Analysis

PREEMPTIVE QUALITY MANAGEMENT

- Continued exploration and application of Quality Visualization activities that are visualization designed to enable everyone to see whether CTQ (Critical to Quality) is satisfied.
- Exploration and application of 47 cases including prevention of mixed input of welding materials with different characteristics and securing of uniform welding quality, etc.
- Application of our Best Practice to partner companies for enhancement of partner companies' quality management and productivity.

Visualization



- Carrying out job site-centered preventive quality activities through preventive quality monitoring of the production process and pre-shipment joint inspections by the production department and the quality department.
- Reestablishment of CTQ for 32 major items and revision of each unit's management process to ensure procurement quality.
- Establishment of a system of real-time remote monitoring and simultaneous assessment in both Seoul and Changwon, using a computer or smart phone, through the adoption of IP cameras and operation programs using automatic UT inspection, which used to be carried out at the business manufacturing wind power blade's Spar-Cap in Gunsan.

CULTIVATION OF QUALITY MASTER

- The Human Resources Development Service of Korea (HRDK) and the Korean Standards Association (KSA) are implementing systematic management of domestic artisans, who are those with first-rate skills. We have produced 28 National Quality Masters and 14 Korean Master Hands in 2020.
- DHIC has top-class technicians specializing in pipe welding, processing, non-destruction testing, steel manufacturing, and casting molding.
- The members of DHIC Master Craftsmen Council engage in activities to promote shared growth with partner companies such as developing key talents through technology transfer and providing supports to strengthen partner company competitiveness.

Top Class Technicians Specializing in Pipe Welding, Processing, Non-Destructive Testing, Steel Manufacturing, and Casting Molding

28 National Quality Masters

14 Korean Master Hands

*Accumulated record as of the end of 2020



Customer Satisfaction

DHIC ensures customer satisfaction not just by responding to complaints, but through proactive efforts to respect and listen to the opinions of customers, meet customer expectations, and provide exceptional value to customers.

To continuously improve our products, DHIC has improved communication with customers based on the “CRM” (Customer Response Management) system, as well as through VOC response.

Policy & Strategy

IMPLEMENTATION STRATEGY

- DHIC management prioritizes customer service and strives to create value for customers.
- DHIC’s customer service system includes activities such as regular surveys of customer satisfaction; lifetime customer support for DHIC-supplied facilities, materials, and equipment; and operation of a technical support center for client companies.

Activities to Improve Customer Satisfaction



Survey on Customer Satisfaction

- Regular (Annual) survey of the annual (periodical) customer satisfaction (online + interview)
- Survey of overseas customer satisfaction
- Ongoing collection of VOC & implementation of feedback and identification of improvement areas



Lifetime Management of Supplied Facilities

- Prompt provision of support teams when power generation halts
- Lifetime management of supplied facilities
- Remote monitoring service for power plants



Technical Support Center for Power Generation Group Company

- Online technical support
- Operation of call center
- Trend analysis and feedback of technical support requested by each client company



Technical Cooperation with Client Companies

- Visiting technology exchange
- Technical cooperation agreements with power generation companies
- Factory field trips through the invitation of client companies



Establishment of Customer Management Procedure

- Customer Management Procedures
- Customer Inquiry & Complaint Handling Procedures
- Customer Satisfaction Survey Procedures

CUSTOMER RELATIONSHIP MANAGEMENT (CRM)

- The customer management process is classified into 4 stages: (i) sales & marketing; (ii) manufacturing, installation & commissioning; (iii) after-sales service; and (iv) improvement & after-marketing.
- Complaints that arise at each stage of CRM are managed systematically according to the Customer Management Procedures.

CRM (Customer Relationship Management)

Classification	Activity Details
Step 1. Sales & Marketing	<ul style="list-style-type: none">• Various customer support• Constant VOC management · Establishment of CS standard work criteria• PAM (Pro-Active Marketing) activities• Technology exchanges & seminars• Survey of customer satisfaction (annual, regular)
Step 2. Manufacturing, Installation & Commissioning	<ul style="list-style-type: none">• Manufacturing (Design & Engineering)• Installation (Quality & Delivery)• Commissioning (Performance & SPEC)
Step 3. After-Sales Service	<ul style="list-style-type: none">• Operation of strategic warranty system• Establishment of overseas warranty work system• Creation of new business opportunities through lifetime management of facilities• Operation of technical support center for power generation group companies• Prompt response to power generation interruptions
Step 4. After Marketing	<ul style="list-style-type: none">• Reflection of feedback• Discovery of business opportunities through business support for client companies• Management of database for each region and customer• Creation of new business opportunities through lifetime management of facilities• Implementation technical cooperation agreements with power generation companies

ESTABLISHMENT OF CUSTOMER MANAGEMENT PROCEDURES

- DHIC has prepared and implements the “Customer Management Procedures” to reflect and respond to customer requirements.
- DHIC has established sub-procedures, such as the “Customer Inquiry & Complaints Handling Procedures” for efficient and customer-focused handling of inquiries and complaints in order to improve customer satisfaction.

Activity & Performance

LIFETIME MANAGEMENT OF SUPPLIED FACILITIES

Remote Monitoring Service for Power Plants

- Based on ICT (Information and Communication Technology), DHIC has established a remote surveillance system which can monitor the operation data of power plants in real-time.
- Provision of support for accident prevention by monitoring information in real-time through the Remote Monitoring Service Center (RMSC) and provision of information to customers.

Lifetime Management of Supplied Facilities of Materials and Equipment

- DHIC has improved customer management and generated additional profit through ongoing technical support targeting not only DHIC-supplied facilities but also facilities supplied by overseas business companies after the end of warranty periods.
- DHIC leverages performance diagnosis technology to support rational, efficient operation of aged power generation facilities.

Material & Equipment Supply through Technical Support

Classification	Unit	2018	2019	2020
Field Technical Support	case	22	11	11
Profit Creation	case/price	3 / about KRW 25 billion	8 / about KRW 12 billion	5 /about KRW 9.8 billion

IMPROVEMENT OF COMMUNICATION WITH CUSTOMERS

Customer Communication via Visits and Technology Exchange

- DHIC visits client companies directly and provides information about new technology developments and facility improvements. Additionally, DHIC operates the “Technology Exchange for Communication” to solicit opinions of client companies and share data about power plant operations.

Current Status of Technology Exchange Sessions

Classification	Unit	2018	2019	2020
Current Status of Technology Exchange	case	12	22	Not implemented

* As a response to the spread of COVID-19, all education and events were banned, and no technology exchange meeting was held in 2020.

Reply to Technical Support Requests

Classification	Unit	2018	2019	2020
Number of Cases Received Annually	case	330	274	194
Average Response Time	day	3.3	3.6	4.7

Field Trip Program for Stakeholders

- DHIC invites new and experienced employees of client companies to participate in field trips to visit DHIC technology development and manufacturing facilities.
- Two field trips took place in 2019 with 99 participants, and a system was established to respond to VOC.
- No field trips in 2020 due to COVID-19.

Establishment of VOC Response System

- It was made possible to provide prompt response and reliable data by allowing customers to select the employee who will respond to their request for technical support on our homepage (Evaluation of satisfaction with service : 9.6/10 in 2020).
- Call Centers were operated that client companies could contact for support in case of emergency.

Customer Satisfaction Survey

- DHIC carried out customer satisfaction surveys at home and abroad with the help of external experts in a bid to improve the quality of our products and services.
- DHIC also carried out online questionnaires and interviews and came up with improvements concerning products and services based on feedback.
- Domestic customer satisfaction has continued to improve since 2018, when the first survey was done.

Survey Results of Customer Satisfaction

Classification	Unit	2018	2019	2020
Results of Domestic Customer Satisfaction Surveys	point	82.1	83.3	87.1
Results of Overseas Customer Satisfaction Surveys	point	-	94.1	Not implemented

* No overseas customer satisfaction survey was done in 2020 due to COVID-19.

Social Contribution

DHIC is making an effort to be a respected company in the local community by presenting a blueprint that improves the future competitiveness of the community and strives to uphold Doosan’s social contribution identity so we can be proud as Doosan people.

DHIC plans to focus on more effective social contribution programs as well as to revitalize the social service group.

Moreover, we will continue to contribute to local communities and maintain a cooperative network by identifying and implementing social contribution programs that meet the social needs and policies of the local communities, such as career education and urban regeneration.

Policy & Strategy

Social Contribution Implementation Strategy



IMPLEMENTATION SYSTEM

- To achieve the goal of promoting local community development and increasing company value, DHIC adheres to three principles: Business Orientation; Community Focus; and Employee Engagement. Specifically, DHIC implements three key streams of activity: fostering talented personnel, supporting vulnerable social groups, and working closely with local communities on activities to meet their needs.

Operation of Volunteer Service Group

- Our Voluntary Service Corps, in which 3,300 employees participate (60% of all employees), engage in periodic social contribution activities mainly in Changwon and Seongnam, to put the idea of “love-thy-neighbor” into practice.
- DHIC volunteer service groups utilize the professional skills and talent of employees to contribute to the local community. There are social volunteer groups for technical skill development, promoting safety, career education, and youth harmful environment monitoring.

Policy to Support Social Contribution Activities

- To promote social contribution, DHIC introduced matching grants, weekday volunteer activities, a social contribution activity performance management system and rewards outstanding volunteers to support and encourage employees to participate in social contribution activities.
- DHIC has an agreement in place with company Saemaeul Credit Cooperatives to award excellent volunteers. For example, the Community Credit Cooperatives offers gift voucher to the volunteers based on their annual voluntary service performance.

Social Contribution Activities Committee

- DHIC operates a Social Contribution Committee which oversees the effectiveness of social contribution programs and activities, as well as the transparency of donations.
- The Social Contribution Committee, in which executive officers of relevant departments including the Chair of the ESG Committee take part as members, discusses the public good and adequacy of support funds provided to the local community.
- The Social Contribution Committee judges whether the purpose and contents of support funds correspond with the Company's direction of social contribution, in addition to verifying the transparency and adequacy of support funds and beneficiaries.

Organization Chart of Social Contribution Committee



*CEO



Activity & Performance

PROGRAM TO FOSTER TALENTS

- A particular focus area for DHIC is to foster future talent in accordance with Doosan Group’s management philosophy for fostering talented personnel.
- As the engineering industry hires many engineering graduates, DHIC focuses on fostering talented personnel in the fields of natural science & engineering. Thus, this social contribution program is directly connected to DHIC’s core business.

Key Achievements in 2020 of the Talent Development Program

- Establishing sisterhood relationships with **four** childcare centers in Seongnam, Gyeonggi-do
- Provision of **95,000** study reference books to welfare facilities for children for 10 years (for about 2,000 children)



Youth Energy Project

- The Young Adult Energy Project is a social contribution program of DHIC that supports promising young adults to become balanced, talented and independent professionals with a diverse range of skills.
- The Youth Energy Project provides customized activities for each growth stage of talented personnel.

Major Programs of Youth Energy Project

Elementary Students	<ul style="list-style-type: none">Local Childcare Center ProgramCovering Private Academy Expenses for Low Income Vulnerable StudentsProviding Reference Books through Love Sharing CampaignSupporting KkumKkumTa Orchestra
Middle School Students	<ul style="list-style-type: none">MY Dream Youths Career/Engineer Experience ClassProviding School Uniforms through Love Sharing CampaignCovering Private Academy Expenses for Low Income Vulnerable StudentsProviding Study Books through Love Sharing Campaign
High School Students	<ul style="list-style-type: none">Operation of Doosan Meister(Specialized) High School (Doosan Class)
College Students	<ul style="list-style-type: none">Scholarships for college students from Child Foster Care Center

Establishing sisterhood relationships with childcare centers in Seongnam

- We newly formed sisterhood relationships with four childcare centers in Seongnam, where our new Seoul Office was relocated in December 2020; implementing programs to provide educational support for children from underprivileged families.
- Prior to forming this relationship, we had proactively carried out social contribution activities for all childcare centers in Seongnam to fight COVID-19, including provision of school meal subsidy and school supplies.
- Starting from donating study books to local childcare centers, we are planning to provide periodic financial support, employees’ voluntary activities, and theme programs from 2021.



Ceremony of sponsorship with Seongnam Regional Childcare Center

Themed Program for Local Childcare Center

- Targeting 76 affiliated local children centers in the Seoul and Changwon, DHIC has been organizing educational activities: history field trip, ecological experience, wooden craft, handicraft, cooking class, and social/science/ history education.

M.Y. Dream (Make Your Dream) – a session for young people to have hands-on experience of their future career

- A program that encourages young people to take an interest in jobs and supports them to make early decisions about their career path.

Sharing of School Uniform for Love

- This is a program that collects old school uniforms, launders them, and resells them. It then returns the proceeds from the sales to youth from underprivileged families.
- DHIC signed an education donation contract with the Changwon Office of Education from 2014 and conducted the donation, which was terminated after the seventh iteration in 2020 due to the expansion of school uniform support policy by local governments.
- Over 7 years, it has collected 37,000 uniforms from 155 schools (cumulative) and sold 18,000. Approximately KRW 80 million in scholarships were given to 450 young students.

Donation of Reference Books to Children’s Welfare Centers

- DHIC provides reference books to 82 children’s welfare centers for the purpose of improving the practical learning skills of underprivileged children.
- We have provided a total of 95,000 study books since 2011. In 2020, 11,773 books were provided to 2,213 beneficiary children over two semesters.



Youth DreamUP Project

- For youth with talent and aptitude who are not able to pursue their dreams due to economic circumstances, DHIC runs the “Youth DreamUP Project” under the supervision of Green Umbrella Child Fund Korea.
- Under this project, DHIC support 5 students to help them develop their talent in the following sports: archery (1), shooting (2), taekwondo (1), and softball (1).

PROGRAM TO SUPPORT UNDERPRIVILEGED GROUPS

- DHIC runs social contribution activities to improve quality of life for underprivileged people in the local community, including children, youth, elderly, and the disabled.
- DHIC has broadened the range of beneficiaries in order to support a more diverse range of underprivileged people who have been left behind by welfare policy.

Key Achievements in 2020 of the Underprivileged Groups Support Program

- Provision of daily necessities, particularly during COVID-19, to 300 underprivileged families
- Supply of items such as sanitizers to 77 child welfare centers in Changwon and Seoul
- Provision of meal subsidy for children at 39 welfare centers in Seongnam

Programs in Connection with Social Welfare Centers

- DHIC has operated programs for developing emotional health and social skills for youth, seniors, the disabled, and those from multicultural families jointly with six social welfare centers in Changwon.

Clean House

- DHIC has composed the Technical Staff Volunteer Group through which employees can share their knowledge and skills. DHIC has implemented activities to improve living conditions for vulnerable groups, farming villages, and children’s welfare centers. E.g., electric facility inspection, wall papering, painting.



DASARANG DREAM

- DHIC, together with the Korean Red Cross and the Governor of South Gyeongsang Province, has run the DASARANG Dream program to support vulnerable since 2011.
- DHIC purchases daily necessities from social enterprises and delivers them to the underprivileged of the local community.
- In 2020, DHIC delivered daily necessities and quarantine supplies to the underprivileged in the local community suffering COVID-19.

LOCAL COMMUNITY ENGAGEMENT

- DHIC runs social contribution programs in close cooperation with local stakeholders in order to thrive together with the local community.
- DHIC has expanded its local community cooperation network to include stakeholders from local government, NGOs, social welfare agencies, and farming villages.

Key Achievements in 2020 for the Local Community Engagement Program

- Provision of gift certificates that can be used at traditional markets to 84 children’s welfare facilities and 250 underprivileged families
- Helping out 10 households in 3 farming villages during the harvest season and coming up with programs that can help farming households raise their income

Love Sharing Campaign : Kimchi Making

- We normally hold a kimchi-making event with the local community every year, but carried out an activity for revitalization of traditional markets instead in 2020 due to COVID-19.

Helping Hands: One Company, Seven Farming Villages

- DHIC has established relationships with 7 farming villages, including Changwon Guisan, Gosung Janggi, and Haman Misan, etc. DHIC annually provides helping hands to these villages during the farming and harvest seasons.
- Employees of DHIC volunteered to help out farming households during the harvest season in 2020.



Wall Painting for Environmental Improvement

- To foster a safe living environments for women, children, and youth, and to prevent crimes, DHIC – together with Changwon City and Changwon Police Department - runs a wall painting program in underdeveloped residential areas and areas vulnerable to crime.

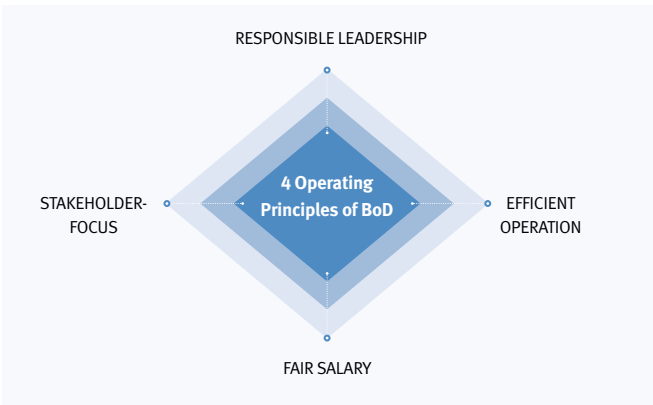
Governance Structure

DHIC has taken various steps to improve its governance structure. In order to improve the governance structure based on external directors, DHIC continues to have the majority of its Board of Directors made up of outside directors, DHIC has strengthened institutional fairness and laid the foundation for transparent management.

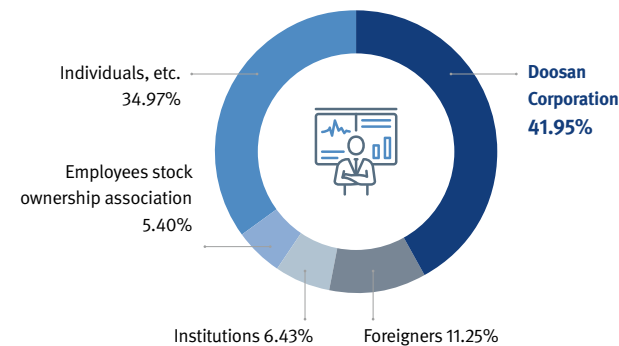
Policy & Strategy

GOVERNANCE OF BOARD OF DIRECTORS

- The Board of Directors operates based on the four operating principles : responsible leadership, efficient operation, fair salary, and stakeholder-focus.
- To ensure fairness in the operation of the Board of Directors, directors with special interest in the matter put up for vote are restricted from exercising their voting rights. In principle, in order for a vote to be passed, the majority of the directors must be present at the meeting and the majority of those present must have voted in favor of the motion.
- It is possible to convene a meeting when more than one third of registered directors jointly call for a meeting while specifying the purpose of the meeting and the desired date.



Shareholder Structure as of the end of 2020



COMPOSITION OF THE BOARD OF DIRECTORS

- As of March 2021, our BoD is composed of seven directors (3 inside directors, 4 outside directors).
- The position of the BoD Chair is assumed by the Representative Director in a bid to enhance the efficiency of management judgments and realize the goal of responsible management. DHIC strives to ensure the transparent operation of the BoD and uphold its function of providing balance through election of outside directors.
- At the time of appointing the directors, DHIC strives to form a board of directors in consideration of various perspectives, including gender, industrial experience, religion, academic discipline, race, disability, and political orientation, along with the BoD's independence and expertise.

Composition of Board of Directors

Position	Name	Major Career
Inside Director	Park Geewon	(Currently) Chairman & CEO of DHIC (Currently) CEO(Chairman of Board of Directors)
	Jung Yeonin	(Currently) Head of Management in DHIC / President & CEO (Former) Head of Doosan Vina
	Park Sanghyeon	(Currently) Head of Financial Management Division; Representative Director; (Former) VP of Doosan Bobcat
Outside Director	Nam Ickhyun*	(Currently) Professor of Graduate School of Management in Seoul National University (Former) Director of Graduate School of Management in Seoul National University
	Kim Daeki	(Former) Director of Policy in the Executive Office of the President (Former) Secretary to Economic Policy in the Executive Office of the President
	Lee Junho	(Currently) Lawyer in Kim & Jang Law Firm (Former) Judge at Seoul District Court
	Bae Jinhan	(Currently) Professor at Korea University, Business School (Currently) Vice President of the Korean Association of Fair Economy/Korean Association of Business Education ; a KCPA

* Lead independent director

Committees			
Committee Type	Outside Director Candidates Nomination Committee	Audit Committee	Internal Transaction Committee
Role	Recommends candidates to be nominated as outside director at general shareholders meeting	Carries out audits on the company's accounting and overall business	Carries out assessments & approvals of internal transactions with persons of special relation
Purpose	To strengthen the BoD's independency	To strengthen BoD's check and balance function based on expertise in accounting and financial matters	To enhance transparency

OPERATION OF THE BOARD OF DIRECTORS

- When an important management issue arises regarding economic, environmental and social issues, the Board of Directors shares the corresponding matter and seeks to find a solution.
- According to the Articles of Association, for the sake of fast and efficient decision-making, a committee is established to operate under the Board of Directors.
- To protect the right of shareholders and stakeholders, information on the composition and operation status of the Board of Directors is disclosed through the company's website, the company's business reports and governance report.

STRENGTHENING INDEPENDENCE AND EXPERTISE

- For the sake of ensuring check and balance between the company's top management and the outside directors, 4 outside directors are appointed, which accounts for 57% of the entire Board of Directors.
- Fairness and transparency are improved as outside directors are appointed at the general shareholders meeting through the recommendation of the Outside Director Candidates Nomination Committee.
- In June 2020, held a training program for the outside directors to provide an overview of the company's response to the energy transition trend and the company's business performance.

Activity & Performance

COMPENSATION FOR BOD MEMBERS

- DHIC pays remuneration to the board members within the limit set by the general shareholders meeting.

RELATIONSHIP WITH SHAREHOLDERS

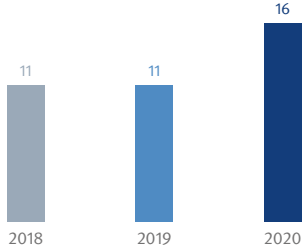
- To protect the right of minority shareholders, the rights of independent and minority shareholders are recognized as stipulated in related laws such as Commercial Act.
- The general shareholders meetings are held annually to review the reports on the business status and to hear the opinions of minority shareholders.
- An electronic voting system was introduced in 2017 to protect the voting rights of minority shareholders.
- Key information regarding business management is disclosed transparently through various communication channels such as the Repository of Korea's Corporate Filings (DART) and the company's website.

UTILIZATION OF ELECTRONIC VOTING SYSTEM & WRITTEN BALLOT

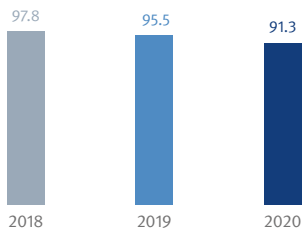
- The electronic voting system enables shareholders to exercise their voting rights online (e.g., via computer or smartphone) without having to attend the general shareholders meetings in person.
- To expand shareholder's rights, DHIC introduced the Proxy Solicitation system and the Electronic Voting & Electronic Power of Attorney System in 2017 and also had the written ballot system implemented together.

Environment
Social
Governance

BoD Meetings Convened (Unit : Meetings)



Attendance Report of Outside Directors (Attendance Rate) (Unit : %)



Result from the Implementation of Electronic Voting System

Number of Shareholders who Participated in Electronic Voting (Unit : Shareholder)



Percent of Voting Population (Unit : %)



IMPROVING SUSTAINABLE MANAGEMENT VIA SOUND GOVERNANCE STRUCTURE

- DHIC has managed to receive the “A” grade in Korea Corporate Governance Service(KCGS)-led ESG evaluations for nine years in a row by operating a transparent and sound governance structure.

KCGS-led ESG Evaluation Received in 2020

A grade in nine years in a row





Ethical Management

DHIC has been creating a corporate culture based on ethical responsibility such as honesty, transparency, and fairness throughout management activities. While working towards the goal of ethical management, DHIC has been establishing a strong corporate-wide system to prevent ethical violations and has been doing its best to prevent unethical behavior and corruption in our supply chain by adopting a systematic ethical management system.

Policy & Strategy

IMPLEMENTATION SYSTEM

- DHIC defines the company's Code of Conduct as being our basic guiding principle for carrying our business. We apply it to all our employees, those at home and abroad alike, in an effort to realize the goal of ethical management.
- DHIC strives to carry out efficient and ethical management activities under the vision of being a leading ethical business by observing the relevant laws and principles and practicing fairness in our business operation.

COMPOSITION OF RESEARCH SECURITY & ETHICS REVIEW COMMITTEE

- The technical competitiveness of DHIC has increased in value, and so has the significance of research security to prevent misconduct and technology leaks.
- The Research Security & Ethics Review Committee has been established with the CTO (Chief Technology Officer) serving as the chair, as part of our efforts to secure research ethics and reinforce research security.
- Reviews and decides upon the enactment/amendment of regulations, major policies, and other matters.

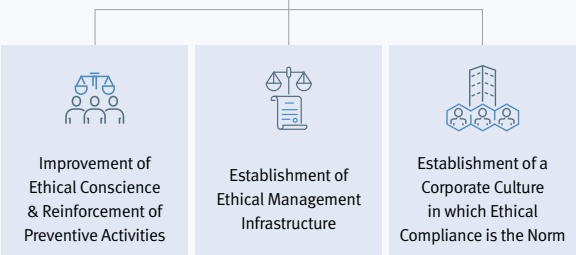
Strategy for Achieving Ethical Management

VISION

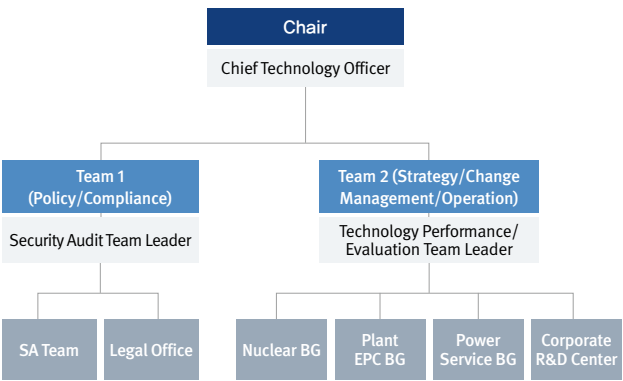
Become a leading and well-respected, proud ethical enterprise to ensure compliance with relevant laws and fair business operations.

IMPLEMENTATION STRATEGY

Establishing the right path to follow to raise DHIC's corporate value, while also implementing technology that will help raise the value of Earth



Organizational Chart of Security & Ethics Review Committee



Activity & Performance

INTERNALIZATION OF ETHICAL MANAGEMENT

Internal Employees

- Business ethics-related training programs have been offered to all employees, including new and experienced hires.
- Additional ethics training programs have been offered to each job group.
- In order to strengthen the observation of the Anti-Graft Law that prohibits illegal solicitation and bribery, a checklist was developed and distributed to employees.
- In order to respond preemptively to unfair transactions, training is provided to marketing employees to prevent any acts of collusion.

Global Business Sites

- Business ethics-related training programs have been offered to all employees at our overseas subsidiaries, such as our entities in Vietnam, U.K, Germany and the States.
- To effectively manage ethics risk at global business sites, we collaborate with the compliance organizations at our overseas subsidiaries and share knowledge with them to help strengthen their compliance monitoring competency.
- To prohibit illegal acts and manipulation of laws when pursuing global projects, a compliance provision is inserted in the contracts signed with local agencies that perform services for us overseas.

Status of Ethics Training Programs

Classification	Unit	2018	2019	2020
Education Target	Person	6,611	5,624	2,978
Education Completed	Person	6,404	5,318	2,910
Completion Rate	%	97	95	98

* In 2020, the session was held only for office workers. (The offline education for the technical workers could not be carried out due to COVID-19)

Status of Unfair Transactions Training Program

Classification	Unit	2018	2019	2020
Number of Employees Participating in Program	Person	2,730	1,956	3,006

* In 2020, materials explaining the training program content were distributed to the employees and the teams held their own sessions. (The offline education could not be carried out due to COVID-19)

AUTONOMOUS EXPORT MANAGEMENT OF STRATEGIC MATERIALS

- DHIC has been recognized by the Ministry of Trade, Industry and Energy (MOTIE) for its excellent fulfillment and observance of the autonomous export management of strategic items, and has maintained the highest rating of 'AAA' since receiving it for the first time in April 2014.
- DHIC has received various benefits as a result, such as being exempted from the export permit assessment required of countries under the international export control system (including the U.K. and the U.S.).
- The acquisition of the highest rating for the Compliance Program(CP) was an accomplishment achieved through company-wide efforts. DHIC aims to continuously fulfill and comply with the autonomous export control policies.

'AAA' Certificate in Compliance Programs (CP)



* Subject to CP rating renewal in April 2022



Information Security

As companies are increasingly targeted by cyberattacks, cyber terror, and system-hacking, DHIC is paying greater attention to information protection. DHIC has been testing the application of AI and machine-learning technology to enhance information security management. DHIC is preemptively responding to growing cybersecurity-related risks by automating comprehensive work processes for information security management.

Policy & Strategy

ORGANIZATION

- To protect company assets from internal and external cybersecurity threats, DHIC’s Security Audit Team (supervised by the Chief Information Security Officer, CISO) implements a company-wide information security plan and an information security audit.

INFORMATION SECURITY MANAGEMENT SYSTEM

- DHIC operates a standardized Information Protection and Management System that meets our business requirements and security-related laws.
- The system also applies to our subsidiaries abroad. We have them develop additional security policies specific to the local situation.
- Based on the information security management systems adopted by DHIC and the Doosan Group, DHIC conducts 24-hour monitoring to detect cyberattacks and applies information security solutions based on incident analysis.

INFORMATION SECURITY MANAGEMENT STRATEGY

Prevention of Information Security Incidents

- To prevent the damage from cyberattacks, such as the paralysis of work systems, leakage of confidential business information, or financial losses, DHIC has introduced an upgraded, professional information security protection system, designed to both prevent and respond effectively and efficiently to security incidents.
- DHIC is strengthening information security management through measures such as upgrading the security of vulnerable work systems and applying the SCAM (transaction impersonation)* verification program.

* SCAM: A criminal technique that hacks a company’s email information and disguising it as a business partner to hijack the transaction payment

Protection of Confidential/Core Business Technology

- In order to protect the company’s confidential and core technology, DHIC has been reinforcing management procedures. In particular, DHIC is cooperating with the national government to protect DHIC technologies which are designated as “national core technology” and/or “national defense industry technology”.

Internal Information System Audits & Security Incident Investigations

- DHIC makes a rule of carrying out auditing of the information system annually to protect our property and to determine whether adequate controls are adopted in system development in connection with the need to ensure more efficient use of zero-defect data and information resources, and whether the controls applied to the current system remain efficient and safe.

Security Accident Prevention

- We strive to keep security incidents to a minimum by identifying channels of information disclosure that may bypass our security system in advance.

Reinforcement of Security Awareness

- DHIC delivers online & offline security education to reinforce awareness of information security, targeting all employees at domestic and overseas business sites.
- DHIC provides specialized, professional security education to designated staff in charge of security for each department (e.g., human resources, finance, IT, etc.).

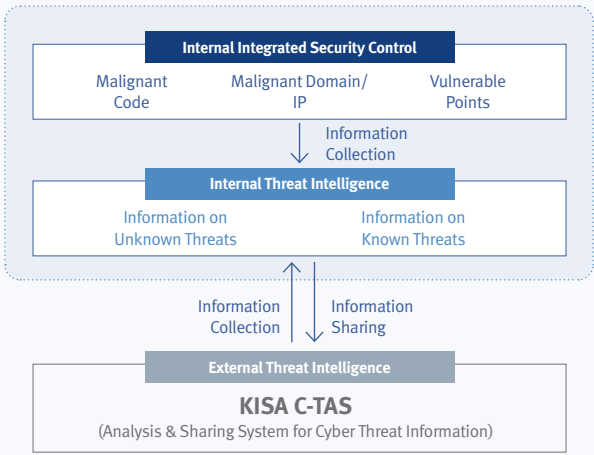
Activity & Performance

UPGRADED RESPONSE TO CYBERATTACKS

Establishment of Information Security Management System

- DHIC engages in security control activities based on Big Data-based Threat Intelligence (TI) technology.
- DHIC has established and implements the Korea threat intelligence system of C-TAS (Cyber Threat Analysis and Sharing) in cooperation with Doosan Group and KISA (Korea Internet Service Association).
- Using these systems, DHIC systematically collects cyber threat information. The collected data is analyzed comprehensively, and the resulting information is shared between agencies to prevent and strengthen responses to external infiltration threats to DHIC’s IT network.

Cyber Threat Intelligence Architecture



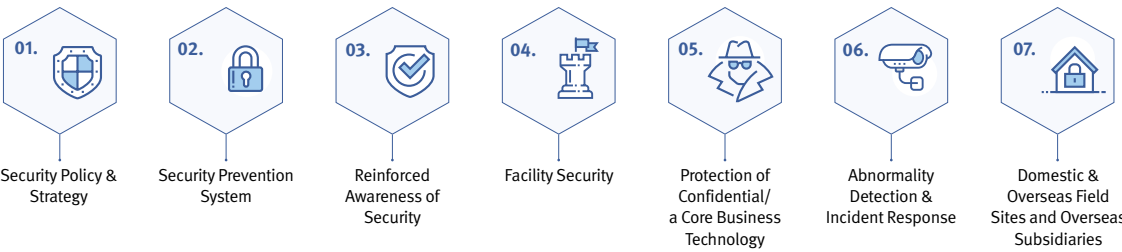
- DHIC has completely automated the information security management system, from the detection of security threats to active steps to deter threats. Through these efforts, DHIC has enhanced the efficiency of information security management through minimal manpower.

Core Information Security Management Activities

Classification	Major Work Areas
Hacking Detection Monitoring	<ul style="list-style-type: none">• 24 hours, 365 days monitoring of security events• Reporting on symptoms of system invasion (through email, etc.)
Invasion Incident Action Support	<ul style="list-style-type: none">• Analysis of cause and damage from hacking incidents• Support the recovery from invasions & adopt measures to prevent recurrence• Cooperative actions with external agencies (KISA, KCSC)
Report	<ul style="list-style-type: none">• Daily inspection report of the operation status of information security management system• Emergency reports, such as report of invasion incidents
Help Desk	<ul style="list-style-type: none">• 24 hours, 365 days response to information security inquiries• Response to inquiries of various security issues



DHIC’s Information Security Management System



STRENGTHENING SECURITY AMID COVID-19

Strengthening Internal Security System

- Due to widespread remote working and telecommuting amid COVID-19, the security boundary has widened to the home and other off-worksite locations, demanding the highest level of security for VPN*, VDI*, and in-house system access solutions. DHIC prevents unauthorized access through account hijacking by applying double authentication (MFA, Multi Factor Authentication) and sending an SMS text message to users accessing the in-house system.
- * VPN (Virtual Private Network) : A method employing encryption to provide secure access to a remote computer over the Internet.
- * VDI (Virtual Desktop Infrastructure) : The process of running a user desktop inside a virtual machine that lives on a server in the data center.

- We use MFA even in cloud connections to prevent information leakage that may occur with the adoption of a cloud business environment.
- We only arrange a remote work environment when connected through a device authorized by the company. Otherwise, only limited access in the cloud is allowed.
- We strengthened our internal security system even further by arranging for security updates to be done timely through the establishment of the operating system and security solution patch management server (PMS, Patch Management Server) in our off-site network section.

Strengthening Security for Business PC

- We have adopted an EDR* solution due to the need to detect unknown threats and cope with them on a real-time basis, considering the recent series of cases of sophisticated security threats concentrated on workstation PCs.
 - We strengthened our functional competency to respond to business PC security threats through the introduction of EDR solutions.
- * EDR (Endpoint Detection & Response) : A cyber technology that continually monitors and responds to mitigate cyber threats, using technologies like analysis of actions, machine learning, and detection of infringement indices based on collected data and end-point events/acts recorded.

INTERNALIZATION OF INFORMATION SECURITY CULTURE

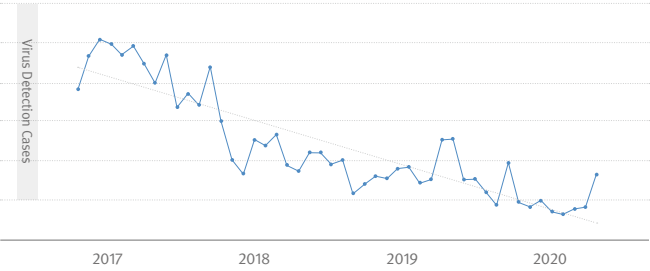
Internal Employees

- DHIC conducts annual online training for all employees, as well as specialized offline security training/ education for persons-in-charge of security across all departments (i.e. human resources, finance, IT).
- In the event of information security policy changes or internal or external security incidents, DHIC provides updates via the internal portal site or e-mail.
- Improving employee responsiveness and raising awareness through simulated training on hacking attacks such as implanting ransomware via e-mail, soliciting fraudulent remittance, and stealing information.

Domestic/Overseas Fields

- To help partner companies deter the rapidly-increasing number of phishing emails targeting global employees in domestic/overseas fields, DHIC provides training materials for rank-and-file security training to the management of partner companies.

Progress of Virus Detection Case in DHIC



Effects of establishment of risk intelligence system

- **15** % decrease in the number of computer infections
- **48** -fold improvement in speed of blocking computer viruses

Prevention of Imposter Scam-Related Damage for Clients

- DHIC proactively prevents security incidents through security training on imposter scams for partner companies. DHIC targets persons and departments in charge of purchasing to facilitate adopting customized alert programs for impostor scam emails, such as the SCAM filters.

Alert Program for Impostor Scam Email (SCAM)

- The program detects the telltale signs of scam emails, which are emails in which criminals partially change user email addresses and use that to send email addresses previously sent by the original users. When detected, a SCAM-warning windows pop-up so that the user can cancel sending the scam emails.
- SCAM programs can also block emails received from fake senders.

1. Main function – Detection of impersonated emails



2. Main function – Alert and report



APPENDIX



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PERFORMANCE SUMMARY

ECONOMIC PERFORMANCE DATA

58th Report as of December 31, 202
57th Report as of December 31, 201

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

DOOSAN HEAVY INDUSTRIES & CONSTRUCTIONS AND SUBSIDIARIES

(Unit : KRW)

Subject	End of 58th Report		End of 57th Report	
Assets				
I. Current Assets		9,946,795,870,391		9,351,607,736,629
1. Cash & Cashable Assets	2,336,795,020,568		1,441,280,687,215	
2. Short-Term Finances	316,762,603,159		268,320,160,761	
3. Short-Term Investment Securities	268,262,018,463		79,279,692,390	
4. Accounts Receivable	2,036,954,321,016		2,092,822,360,607	
5. Unclaimed Construction	1,764,133,275,013		1,761,026,139,486	
6. Outstanding Balance	236,838,070,204		470,874,496,975	
7. Prepayment	452,091,457,840		466,574,020,089	
8. Prepaid Expenses	94,593,137,930		121,764,332,600	
9. Short-Term Loans	149,986,369,488		85,498,883,370	
10. Derivatives Evaluation Assets	58,352,499,895		35,066,050,494	
11. Binding Contract Asset	5,900,766,998		25,785,207,028	
12. Inventory Assets	1,958,721,611,748		2,201,708,429,106	
13. Non-current assets held for sale	11,495,049,364		-	
14. Other Current Assets	255,909,668,705		301,607,276,508	
II. Non-Current Assets		15,620,378,420,713		15,457,641,444,550
1. Long-Term Finances	23,367,497,135		2,548,786,446	
2. Long-Term Investment Securities	926,508,778,964		201,487,575,568	
3. Investments by Related Enterprises and Joint Enterprises	162,973,738,141		155,757,265,633	
4. Unclaimed Construction	102,739,503,644		102,739,503,644	
5. Long-Term Loans	230,048,605,914		706,816,256,036	
6. Tangible Assets	6,157,806,963,024		5,921,531,734,148	
7. Intangible Assets	6,900,287,804,408		7,031,885,767,946	
8. Real Estate Investments	81,937,006,635		498,211,016,067	
9. Derivatives Evaluation Assets	37,748,633,632		17,011,219,245	
10. Binding Contract Assets	9,818,569,590		18,149,165,186	
11. Security Deposits	488,311,023,811		348,345,632,651	
12. Deferred Tax Assets	442,532,656,942		401,285,168,759	
13. Other Non-Current Assets	56,297,638,873		51,872,353,221	
Total Assets		25,567,174,291,104		24,809,249,181,179
Liabilities				
I. Current Liabilities		13,070,548,146,216		13,773,221,961,020
1. Purchase Liabilities	2,194,328,819,387		2,532,417,863,903	
2. Short-Term Loans	5,368,579,020,551		3,767,270,248,235	
3. Securitized Liabilities	59,550,657,597		381,573,986,887	

(Unit : KRW)

Subject	End of 58th Report		End of 57th Report	
4. Accounts Payable	492,438,703,598		537,794,374,950	
5. Advances Received	96,754,115,588		87,362,541,801	
6. Excessively Charged Constructio	1,666,079,090,537		1,461,856,470,698	
7. Deposits	32,641,867,115		40,505,367,389	
8. Accrued Expenses	645,041,631,439		664,011,536,281	
9. Net Corporate Tax Liabilities	38,710,823,579		30,974,465,576	
10. Current Maturities of Long-Term Liabilities	1,590,801,459,636		3,265,484,739,353	
11. Derivatives Evaluation Liabilities	61,603,742,869		73,076,096,327	
12. Confirmed Contract Liabilities	17,401,805,083		11,024,583,351	
13. Estimated Liabilities	508,536,449,621		390,543,375,151	
14. Current Lease Liabilities	66,465,579,213		80,788,294,005	
15. Other Current Liabilities	231,614,380,403		448,538,017,113	
II. Non-Current Liabilities		5,390,129,463,903		4,834,034,235,336
1. Private Loans	1,800,160,199,498		846,834,779,773	
2. Long-Term Loans Payable	1,183,035,254,754		1,697,982,898,672	
3. Long-Term Securitized Liabilities	49,102,652,561		292,290,321,272	
4. Long-Term Accounts Payable	14,928,812,333		14,995,488,666	
5. Net Defined Benefit Liabilities	721,424,677,702		674,264,222,128	
6. Deposit Securities	309,091,438,251		270,661,690,028	
7. Derivatives Evaluation Liabilities	70,772,172,508		57,061,984,079	
8. Confirmed Contract Liabilities	24,633,647,381		13,228,719,317	
9. Deferred Corporate Tax Liabilities	334,221,214,442		331,502,786,410	
10. Estimated Liabilities	370,469,192,358		322,995,953,618	
11. Non-Current Lease Liabilities	171,864,529,234		175,749,643,381	
12. Other Non-Current Liabilities	340,425,672,881		136,465,747,992	
Total Liabilities		18,460,677,610,119		18,607,256,196,356
Capital				
I. Controlling Company Proprietor's Equity		3,188,385,999,809		2,562,136,568,811
1. Capital	1,937,707,325,000		1,075,255,425,000	
2. Capital Surplus	2,662,214,482,750		1,762,628,456,797	
3. Other Capital	47,907,323,727		48,935,313,897	
4. Accumulated Other Comprehensive Income	587,157,416,427		649,530,462,196	
5. Deficit	(2,046,600,548,095)		(974,213,089,079)	
II. Non-Controlling Interest		3,918,110,681,176		3,639,856,416,012
Total Capital		7,106,496,680,985		6,201,992,984,823
Total Liabilities & Capital		25,567,174,291,104		24,809,249,181,179

PERFORMANCE SUMMARY

ECONOMIC PERFORMANCE DATA

R&D INVESTMENT

Classification	Unit	2018	2019	2020
R&D Investment cost	KRW 100 million	2,338	2,391	1,674
R&D cost ratio to sales amount ¹	%	5.7	6.5	4.9

1.Calculation based on the Headquarters of DHIC

BASE SALARY FOR FEMALE TO MALE & COMPENSATION RATIO¹

Classification	Unit	2018	2019	2020
Base salary for female to male & compensation ratio	%	100	100	100

1.Based on workplaces in Korea

SUPPLY CHAIN STATUS & PURCHASED AMOUNT¹

Classification	Unit		2018	2019	2020
Number of Partner Companies	Domestic	Company	10,996	11,305	11,560
	Overseas	Company	2,259	2,298	2,344
	Total	Company	13,255	13,603	13,904
Purchased Amount by Partner Companies	Domestic	KRW 100 million	16,839	20,084	17,045
	Overseas	KRW 100 million	5,753	3,375	4,163
	Total	KRW 100 million	22,592	23,459	21,208
Purchase Ratio by Domestic Suppliers	%		74.5	85.6	80.4

1.Calculation based on the Headquarters of DHIC

STATUS OF EXPENSES BY INDUSTRIAL ASSOCIATIONS¹

Classification	Unit	2018	2019	2020
Donated by	-	Gyeongnam Center for Social Economy and Entrepreneurs & others	Gyeongnam Center for Social Economy and Entrepreneurs & others	Gyeongnam Center for Social Economy and Entrepreneurs & others
Amount	KRW one million	652	512	262

1.No donation record for political organizations and lobbyists

PERFORMANCE SUMMARY

SOCIAL PERFORMANCE DATA

STATUS OF EMPLOYEES

Classification			Unit	2018	2019	2020
Total number of employees ¹			person	7,294	6,721	5,587
Number of employees by gender according to the employment contract ²	Permanent worker	Male	person	6,344	5,711	4,509
		Female	person	229	197	167
	Contract worke	Male	person	641	697	788
		Female	person	80	116	123
By country	Domestic		person	6,781	6,249	5,152
	Overseas		person	513	472	435
Diversity of Employment	Disabled	People	person	141	130	79
		Ratio	%	1.9	1.9	1.4
	National Merit	People	person	167	153	113
		Ratio	%	2.3	2.3	2.0

1.It includes the BG contract and on-site recruitment positions based on the employees as of the end of 2020 but excludes consultant/adviser, external directors and CEO, and dispatched positions (based on the employees in the Business Report)

2.Number of employees in 2018 modified (correction due to simple typo)

GENDER CLASSIFICATION

Classification		Unit	2018	2019	2020
Ratio of female employees	All employees	%	4.2	4.7	5.2
	All managerial positions ¹	%	3.5	3.3	5.3
	Junior managers	%	7.5	7.6	11.8
	Executive managers ²	%	0	0	0
	Positions related to STEM ³	%	2.3	2.2	2.5

1.Low/middle/executive-level management positions targeting full-time office jobs

2.Higher than executive officers

3.Science, Technology, Engineering, Mathematics

PERFORMANCE SUMMARY

SOCIAL PERFORMANCE DATA

NEW HIRING & TRANSFERS¹

Classification			Unit	2018	2019	2020
Number of New Hires ¹	Total		person	364	350	532
	By Gender	Male	person	330	278	375
		Female	person	34	72	157
	By Age	Younger than 30 years old	person	68	78	154
		30 to 50 years old	person	214	215	249
		Over 50 years old	person	82	57	129
	Public positions filled by internal candidates (internal employment)		%	83.9	91.7	74.4
	Average employment cost per person ²		KRW 1,000	1,946	2,024	1,331
	Hiring youth interns		person	0	0	0
Employee Turnover	Total		person	1,047	737	1,432
	By Gender	Male	person	949	683	1,357
		Female	person	98	54	75
	By Age	Younger than 30 years old	person	150	46	43
		30 to 50 years old	person	578	384	540
		Over 50 years old	person	319	307	849
	Transfer Rate (Permanent workers)		%	15.9	12.5	30.6
	Voluntary Transfer Rate		%	3.4	3.1	2.5

1.It includes the BG contract and on-site recruitment positions based on the employees as of the end of 2020 but excludes consultant/adviser, outside directors and chief executive officer, and dispatched positions (based on the employees in the Business Report)

2.Average employment cost per person = Employment cost/Number of newly recruited persons

RATIO OF WORKERS COVERED BY COLLECTIVE AGREEMENT

Classification			Unit	2018	2019	2020
Number of Workers for Membership			person	3,550	2,902	2,143
Labor Union, Labor-Management Committee	Number of Memberships		person	2,055	1,893	1,549
	Ratio of Membership		%	57.9	65.2	72.3

EDUCATION FOR EMPLOYEES

Classification			Unit	2018	2019	2020
Average Education Hours per Person	By Gender	Male	hours	11.7	11.4	4.4
		Female	hours	22.7	4.3	3.9
	By Job Group	Office Work	hours	15.5	11.7	4.8
		Technical Work	hours	5.4	7.6	3.7
	By Education Type	Internal Education	hours	6.8	4.3	1.2
		Online Education	hours	4.4	6.3	3.2
	By Positions	Administrative Position	hours	16.2	13.8	5.2
		General Position	hours	22.1	13.8	3.5
		Support Position	hours	1.8	1.4	2.7

RATIO OF EMPLOYEES WHO RECEIVE PERFORMANCE EVALUATION

Classification	Unit	2018	2019	2020
Office Work	%	100	100	100
Technical Work	%	100	100	100

STATUS OF MATERNITY LEAVE¹

Classification			Unit	2018	2019	2020
Number of employees who have the right to receive parental leave ²	Male	person		2,174	2,092	1,931
	Female	person		81	79	84
Number of employees who have used parental leave	Male	person		26	52	42
	Female	person		17	23	24
Ratio of usage of parental leave	Male	%		1.2	2.5	2.2
	Female	%		21.0	29.1	28.6
Number of employees who have returned to work after parental leave	Male	person		19	38	39
	Female	person		22	9	23
Number of employees for 12 months continuous work after they have returned to work from parental leave	Male	person		7	16	30
	Female	person		15	14	6
Ratio of employees for 12 months continuous work after they have returned to work from parental leave ³	Male	%		88	84	79
	Female	%		88	64	67

1.Three-year data modification based on the No. of personnel in the disclosure data including technical and contractual positions

2.Number of employees with children under nine years old

3.(Number of employees who retain their position for 12 months or longer after returning to work in the base year/Number of employees who return to work in the previous reporting period) X 100

PERFORMANCE SUMMARY

SOCIAL PERFORMANCE DATA

CONFIRMED CORRUPTION CASES & COUNTERMEASURES¹

Classification	Unit	2018	2019	2020
Number of confirmed corruption cases	case	2	5	2
Number of disciplinary actions (Layoff, suspension, etc.)	case	3	5	1
Number of contracts that are either terminated or not renewed with business partner due to corruption	case	1	0	0

1.Exclude duplicated cases of workers and partnership companies with the data which include the corruption cases of partner companies

STATUS OF INTERNAL REPORT OF ETHICAL MANAGEMENT

Classification	Unit	2018	2019	2020
Domestic	case	21	24	23
Overseas	case	11	9	0
Total	case	32	33	23

LEGAL ACTION FOR UNFAIR TRANSACTION

Classification	Unit	2018	2019	2020
Number of legal actions	case	0	0	0

LEGAL ACTIONS FOR CORRUPTION¹

Classification	Unit	2018	2019	2020
Number of legal actions	case	0	0	0

1.Neither fine nor penalty for three years

CORRECTIVE ACTIONS FOR DISCRIMINATION¹

Classification	Unit	2018	2019	2020
Number of reports of discrimination	case	7	5	2
Number of confirmed facts and actions	case	7	5	2

1.The company retains the system to report discrimination and strictly observes the protection of informants

PARTICIPATION IN LOCAL COMMUNITY, EFFECT EVALUATION

Classification	Unit	2018	2019	2020
Business sites which operate a program to develop local community	%	30	30	30
Business sites which operate a program to develop the local community considering the requirements of stakeholders	%	30	30	30
Business sites which operate an advisory committee and serve the local community including vulnerable social classes	%	30	30	30
Business sites which operate the official process to handle difficulties of local community	%	100	100	100

PARTICIPATION IN VOLUNTARY SERVICE ACTIVITIES¹

Classification	Unit	2018	2019	2020
Number of Activities	activity	363	302	19
Participation by Employees	Number of Participants	person	2,790	1,580
	Participation Rate	%	42	25
Volunteer Hours	Total Hours of Voluntary Service	hours	20,691	12,016
	Hours of Voluntary Service per Person	hours	3.11	1.87

1.Complete suspension/cancellation of external activities due to the COVID-19 outbreak

EXPENSES FOR SOCIAL CONTRIBUTION

Classification	Unit	2018	2019	2020
Amount of Expenses	Cash	KRW 100 million	8.4	6.6
	Goods	KRW 100 million	0.4	0.4
	Operation costs	KRW 100 million	0.5	0.5
	Total	KRW 100 million	9.3	7.5
Details of Expenses	Charitable donations	KRW 100 million	0.3	0.1
	Investment in local community	KRW 100 million	8.9	7.4
	Other	KRW 100 million	0.1	0.0
Location of Activities	Fostering talented personnel	KRW 100 million	7.1	6.0
	Supporting alienated social classes	KRW 100 million	0.5	0.2
	Close contact type with local areas	KRW 100 million	1.7	1.3

MAJOR NEGATIVE SOCIAL EFFECTS IN SUPPLY CHAIN AND CORRECTIVE ACTIONS

Classification	Unit	2018	2019	2020
Number of partner companies in progress of social effect evaluation	company	376	148	318
Number of partner companies which have been confirmed of actual & potential negative social effects	company	0	0	0
Ratio of partner companies which have taken consultation for the improvement from the result of evaluation	%	100	100	100
Number of disciplinary actions for partner companies ¹	action	0	1	2

1.Number of issues to implement the deliberation of disciplinary action by the Shared Growth Promotion Committee according to the specified DHIC's Differentiation Procedure for Partner Companies.

NUMBER OF COMPLAINTS OF WHICH THE VIOLATION OF CUSTOMER PRIVACY AND THE LOSS OF CUSTOMER INFORMATION HAS BEEN VERIFIED

Classification	Unit	2018	2019	2020
Number of leaks, theft, and loss of customers' data and related complaints	company	0	0	0

PERFORMANCE SUMMARY

SOCIAL PERFORMANCE DATA

SAFETY & HEALTH OF EMPLOYEES

Classification			Unit	2018	2019	2020
Employees	LTIR ¹	Domestic	LTIR	0.15	0.16	0.27
		Overseas	LTIR	0.00	0.00	0.00
		Total	LTIR	0.10	0.10	0.13
	ODR ²	Domestic	ODR	0.25	0.20	0.52
		Overseas	ODR	0.00	0.00	0.00
		Total	ODR	0.17	0.13	0.12
	LWSR ³	Domestic	LWSR	43.24	25.10	80.63
	Number of disasters	Domestic	disaster	10	10	14
		Overseas	disaster	0	0	0
		Total	disaster	10	10	14
Partner Companies	LTIR	Domestic	LTIR	0.19	0.26	0.34
		Overseas	LTIR	0.00	0.00	0.00
		Total	LTIR	0.04	0.06	0.10
	LWSR	Domestic	LWSR	7.36	24.77	31.13
	Number of disasters	Domestic	disaster	11	24	28
		Overseas	disaster	1	0	1
		Total	disaster	12	24	29

1.LTIR (Lost Time Incident Rate), U.S. OSHA (Work loss rate by the standard of Occupational Safety & Health Administration) = (Total number of suspended work hours/Total work hours) x 200,000
2.ODR (Occupational Disease Rate) = (Number of Occupational disease and Patients related with occupation/Total work hours) x 200,000
3.LWSR (Lost Workday Severity Rate) = (Total loss of work days/Total work hours) x 200,000
*LTIR, ODR, and number of disasters follow the computation standard of all domestic and overseas business sites. LWSR follows the computation standard of all domestic business sites

PRODUCT SAFETY

Classification	Unit	2018	2019	2020
Number of occurred issues of safety related recall	issue	0	0	0
Total number of products returned due to the occurred issues of safety related recall	product	0	0	0
Amount of financial sanctions in relation to product safety (penalty, fine, etc.)	KRW	0	0	0

HUMAN RIGHTS ASSESSMENT

Classification			Unit	2018	2019	2020
Business Activities	Sites	A. Total ratio evaluated in the last 3 years	%	-	23.1	-
		B. Rate of severe risks identified among the assessed sites (A)	%	-	0	-
		C. Rate of risks identified among the assessed sites (A) (Except for B)	%	-	12.3	-
		D. Rate of cases where mitigable/remedial measures were taken applied among the sites (B, C) where risks were identified	%	-	57.1 ¹	-

1.Mitigable/remedial measures to be taken 100% in the Head Office (South Korea) and in order in the overseas subsidiary companies as per the mid- to long-term plans
* Calculated as per the Head Office (South Korea) and 12 overseas subsidiary companies
** Conducted demonstration assessments in Vietnam and India among the overseas subsidiary companies in consideration of the number of employees and presence of production bases (2019)
*** Not conducted an assessment due to development of the DHIC Human Rights Assessment Index, implementation of mid- to long-term human rights, and establishment of the inspection system

GENDER WAGE INDICATOR

Classification			Unit	2018	2019	2020
Average Base Salary of Female Employees	Administrative Position	Base Salary	KRW one million	58	58	58
		Cash incentives such as Base salary + Other cash incentives	KRW one million	60	63	58
	Non-Administrative Position	Base Salary	KRW one million	36	31	28
Average Base Salary of Male Employees	Executive Position	Base Salary	KRW one million	201	195	157
		Cash incentives such as Base salary + Other cash incentives	KRW one million	212	220	167
	Administrative Position	Base Salary	KRW one million	76	72	63
		Cash incentives such as Base salary + Other cash incentives	KRW one million	82	81	67
	Non-Administrative Position	Base Salary	KRW one million	35	34	34
Ratio of Wage Difference Between Male And Female Employees	Gender Wage Gap	Average	%	128	134	134
		Median	%	109	132	161
Ratio of Difference In Bonus Between Male And Female Employees	Gender Bonus Gap	Average	%	73	212	97
		Median	%	0	0	0

*Revised data for 3 years due to changes in data calculation standards (limited to performance-based bonuses paid by performance evaluation)

PERFORMANCE SUMMARY

ENVIRONMENTAL PERFORMANCE DATA*

*All environmental performance data are prepared based on the DHIC Headquarters.

REDUCTION OF ENERGY CONSUMPTION

Classification	Unit	2018	2019	2020
Introduction of high-efficiency facilities	TJ	29	38	21
Total	TJ	29	38	21

USE OF ENERGY

Classification	Unit	2018	2019	2020
Fossil fuels	MWh	457,897	469,466	342,456
Electricity	MWh	304,583	299,913	254,225
Total	MWh	762,480	769,379	596,681
Energy Use (Direct)	TJ	4,577	4,708	1,339
Energy Use (Indirect)	TJ	2,741	2,699	2,441
Energy Costs	KRW one million	57,239	60,310	50,010
Cost Reduction	KRW one million	27,900	2,415	2,750

TOTAL EXPENSES FOR ENVIRONMENT

Classification	Unit	2018	2019	2020
Amount of environmental investment	KRW one million	2,815	2,200	623
Expense of cosigned waste treatment	KRW one million	1,047	1,759	1,378
Profit from waste disposal	KRW one million	911	805	544
Clean air	KRW one million	440	335	739
Water quality	KRW one million	203	297	216

USE OF RAW MATERIALS

Classification		Unit	2018	2019	2020
Non-renewable raw materials	Scrap iron	ton	110,574	120,300	78,915
	Recovered iron	ton	59,418	64,462	41,432
	Chip	ton	10,226	11,478	9,622
	Alloy steel	ton	5,952	6,256	4,316
	Quicklime	ton	6,997	7,742	5,294
	Fluorspar	ton	404	874	725
	Lump coal	ton	4,370	4,697	3,068
Total		ton	197,941	215,809	143,372

RECYCLING OF RAW MATERIALS

Classification	Unit	2018	2019	2020
Recovered iron	ton	59,418	64,462	41,432
Chip	ton	10,226	11,478	9,622
Ratio of Recycled Raw Materials	%	35	35	36

QUANTITY TO TAKE FOR EACH SUPPLY SOURCE

Classification	Unit	2018	2019	2020
Surface layer water	ton	0	0	0
Underground water	ton	0	1,627	3,299
Rainwater	ton	0	0	0
Wastewater from other business sites	ton	0	0	0
Water system or other water supply system	ton	1,229,625	1,201,208	942,262
Total	ton	1,229,625	1,202,835	945,561

RECYCLING AND REUSE OF WATER

Classification	Unit	2018	2019	2020
Quantity of Recycled Water	ton	0	0	0

PERFORMANCE SUMMARY

ENVIRONMENTAL PERFORMANCE DATA

EMISSION OF GREENHOUSE GAS

Classification	Unit	2018	2019	2020
Direct Emissions of Greenhouse Gas(Scope 1)	1,000 tCO ₂ eq	105.5	108.7	105.4
Indirect Emissions of Greenhouse Gas(Scope 2)	1,000 tCO ₂ eq	138.1	142.9	123.9
Total	1,000 tCO ₂ eq	243.6	251.6	229.3

SUBSTANCES DISCHARGED INTO AIR

Classification	Unit	2018	2019	2020
NOx Emission Amount	ton	0	0	109.5
SOx Emission Amount	ton	0	0	4.2
VOC (Volatile Organic Compound) Discharge Amount	ton	23.8	32.4	28.5
HAP (Hazardous Atmosphere Pollutants) Discharge Amount	ton	0	0	0
PM (Particulate Matter) Discharge Amount	ton	22.0	12.0	8.2

WASTE DISCHARG

Classification		Unit	2018	2019	2020
Hazardous Waste (Designated)	Recycling (Recycle rate)	ton(%)	762(13.5)	608(15.7)	637(21.4)
	Fertilization	ton	0	0	0
	Incineration	ton	0	430	305
	Landfill	ton	4,849	2,813	2,035
	Others	ton	0	0	0
	Total	ton	5,611	3,851	2,977
General Waste	Recycling	ton	47,969	50,732	36,865
	Fertilization	ton	0	0	0
	Incineration	ton	0	838	780
	Landfill	ton	3,081	742	601
	Field Storage	ton	0	0	0
	Others	ton	0	0	0
	Total	ton	51,050	52,312	38,246

WASTEWATER & RAINWATER DISCHARGE

Classification		Unit	2018	2019	2020
Name of Final Discharge Place for Wastewater		-	Deokdong Water Regeneration Center	Deokdong Water Regeneration Center	Deokdong Water Regeneration Center
Treatment Method for wastewater		-	Physical & Chemical Treatment	Physical & Chemical Treatment	Physical & Chemical Treatment
Discharged Amount of Wastewater(A)		ton	131,513	144,348	94,469
Name of Final Discharge Place for Rainwater		-	Masan Bay, etc.	Masan Bay, etc.	Masan Bay, etc.
Treatment Method for Wastewater		-	Silt Protector, etc.	Silt Protector, etc.	Silt Protector, etc.
Discharged Amount of Rainwater(B)		ton	2,906,139	3,059,804	3,225,230
Total Discharged Amount of Wastewater & Rainwater(A)+(B)		ton	3,037,652	3,204,152	3,319,699
Water Quality of Discharged Wastewater	COD	mg/l	9.6	9.9	9.9
	SS	mg/l	3.1	3.8	3.8
	N-H	mg/l	1.1	1.0	0.7
	Fe	mg/l	0.1	0.1	0.2
	T-N	mg/l	2.7	1.6	1.8
	T-P	mg/l	0.0	0.2	0.2
Water Quality of Discharged Rainwater	COD	mg/l	3.1	3.1	3.0
	SS	mg/l	1.7	1.9	4.8
	T-N	mg/l	0.3	0.9	1.0
	T-P	mg/l	0.1	0.0	0.6

HAZARDOUS CHEMICALS DISCHARGE

Classification	Unit	2018	2019	2020
Number of Substances ¹	substance	2	3	3
Amount of Hazardous Chemicals Used	ton	190.1	229.1	131.0

1.No hazardous chemicals were discharged outside from 2018 to 2020

PURCHASING ECO-FRIENDLY PRODUCTS

Classification	Unit	2018	2019	2020
Purchased Amount	KRW one million	8,841	22,737	21,037

VIOLATION OF ENVIRONMENTAL LAWS

Classification	Unit	2018	2019	2020
Number of environmental accidents	accident	0	0	0



INDEPENDENT AUDITOR'S AUDIT REPORT

To the Shareholders and Board of Directors of
Doosan Heavy Industries & Construction Co., Ltd.

March 18, 2021

Opinion

We have audited the consolidated financial statements of Doosan Heavy Industries & Construction Co., Ltd. and its subsidiaries (“the Group”), which comprise the consolidated statements of financial position as of December 31, 2020 and 2019, the consolidated statements of loss and other comprehensive loss, changes in equity and cash flows for the years then ended, and notes, comprising significant accounting policies and other explanatory information. In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2020 and 2019, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with Korean International Financial Reporting Standards (“K-IFRS”).

Basis for Opinion

We conducted our audits in accordance with Korean Standards on Auditing (“KSAs”). Our responsibilities under those standards are further described in the Auditors’ Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Republic of Korea, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of Matter

Without qualifying our opinion, we draw attention to following : As stated in Note 39 to the consolidated financial statements, Doosan Heavy Industries & Construction Co., Ltd. (“the Company”) is pursuing financial structure improvement plans such as restructuring of human resources and capital expansion to respond to financial difficulties. In particular, in order to overcome liquidity risks, the Company has entered into an agreement to implement the financial structure improvement plan with Korea Development Bank and Korea EXIM Bank, and is in the process of rationalizing its business and selling the Company's major subsidiaries according to the agreement. If a disruption occurs in the Company's financial structure improvement plan, the financial position and business performance may change significantly depending on the impact.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

1. Recognition of revenue such as using the input method

As described in the Note 2 to the consolidated financial statements, the Group recognizes its revenue when the control of products and services is transferred to the customers. Therefore, the Group estimates percentage of completion of performance obligation satisfied over time by using the input method and recognizes revenue over time depending on the progress. For performance obligations satisfied at a point of time, the Group recognizes revenue when the product is delivered to and accepted by the customer.

As the amount of revenue recognized over time using the input method depends on the measured percentage of completion, management’s judgment is involved in determining the method of measuring progress, estimating total contract cost and changes in construction. In addition, there is an inherent risk in revenue such as overstatement of unit sales price and manipulation of revenue through fictitious customers as revenue is one of the major performance indicators of the Group. Therefore, as there is a risk of overstatement of revenue due to an error in judgment or intent, we have identified the recognition of revenue as a key audit matter. Following audit procedures were performed regarding the revenue recognized using the input method.

- Evaluation and testing of internal controls related to the determination and modification of estimated total contract cost
- Evaluation and testing of internal controls related to changes in contract terms
- Evaluation and testing of internal controls related to product sales
- Evaluation and testing of internal controls related to aggregation and allocation of project costs
- Evaluation and testing of internal controls related to purchasing, production, inventory, and logistics of the Group affecting the input costs
- Evaluation and testing of internal controls related to calculation of liquidated damages
- Evaluation and testing of internal controls related to calculation of provisions for construction losses
- For major projects completed during the current year, performed retrospective review by comparing the actual cost incurred during the current year and construction cost estimated at the end of the prior year
- Inquiries and inspection of documents for projects with significant changes in estimated total contract cost
- Comparison of estimated total contract cost with those of other similar projects
- Inquiries and analytical review of changes in the percentage-of-completion for each reporting period
- For major projects, inquiries and inspection of documents if there were significant differences between the progress rate in the respective monthly progress reports received from customers and the percentage-of-completion calculated based on cost
- For selected samples, inspecting related documents to test the existence of cost of goods manufactured (including material costs, outsourced construction costs and other expenses) incurred during the current year and to test whether it attributed to appropriate project and period.
- Testing journal entries of cost transferred between projects to understand the reason of transfer and whether appropriate approval was obtained
- For the selected samples, performed site visits for on-going construction sites and sites which have equipment under construction
- Recalculation of the percentage-of-completion independently for each project
- For selected samples, inspection of documents (change order, official letter and others) to test changes in contract price
- Examined the contractual delivery date with the expected delivery date as of year-end. For those which the contractual delivery date has passed, inquired of the basis, performed analytical review and agreed to underlying documents
- Assessing the appropriateness of the estimation of liquidated damages at the end of current period For the selected samples of sales transactions, inspecting related documents to test whether it agrees with the substance of recorded sales transactions which incurred during the current year
- Assessing whether revenue is recognized in appropriate period by inspecting delivery acceptance notes signed by customers and bill of lading documents for selected samples of sales transactions
- For the selected samples, recalculation of the foreign currency transition of contract amount denominated in foreign currency
- Retrospective review and recalculation of provisions for construction losses by project

2. Recoverability of due from customers for contract work

As described in the Note 2 to the consolidated financial statements, the Group calculates expected credit losses (“ECLs”) based on the expected life of the ECLs and evaluates the recoverability of due from customers for contract work. In calculating ECLs, management’s judgment is involved due to uncertainty over the collection of due from customers for contract work from delayed payment of the owner, changes in conditions or claims incurred. Therefore, we identified the assessment of the recoverability of due from customers for contract work as a key audit matter, given there are risks of overstatement of due from customers for contract work due to error or bias in judgment. Following audit procedures were performed regarding assessment of the recoverability of due from customers for contract work.

- Evaluation and testing of internal controls related to the assessment of recoverability of due from customers for contract work
- Inquiries and inspection of documents to assess payment terms, delivery time, and other obligations of contracts for the due from customer for contract work which increased significantly
- Inquiries of long-term due from customers for contract work and inspection of documents to evaluate the reasonableness of the cause
- Assessed the current status of billing, collection and disposal of due from customers for contract work for each major projects
- For the projects with bad debt allowance reserved over trade receivables assessed whether an allowance is reserved for unbilled accounts receivable and inspected documents
- Reviewing legal opinion provided by external counsels



3. Impairment of goodwill

As described in the Note 2 to the consolidated financial statements, the Group conducts an annual impairment test for goodwill and compares the carrying amount of investment in subsidiaries with the recoverable amount which is measured as the value in use using discounted cash flow projection or calculated as the fair value less costs to sell using market value approach to determine whether it is impaired or not.

In calculating the recoverable amount, significant management’s judgment is involved in estimating long-term sales growth rate, discount rates and selected as a similar company and so on. Therefore, we identified the impairment for goodwill as a key audit matter as certain key assumptions on which management has based cash flow projections such as growth rate and discount rates are included, are subject to management bias.

Following audit procedures were performed regarding impairment of goodwill.

- Evaluation and testing of internal controls related to impairment test for goodwill
- Inquiries and assessment of valuation model used by the Group
- Understanding future cash flows and agreeing whether the estimated future cash flows corresponds to business plan approved by the Group’s management
- Testing the appropriateness of major assumptions (discount rate, growth rate) of the valuation model by comparing to benchmark of peer industry and past financial information of cash generating unit (by using our internal valuation specialists)
- Evaluation of the sensitivity analysis results of the discount rate and permanent growth rate presented by the Group to assess the impact of changes in major assumptions on the impairment assessment (by using our internal valuation specialists)
- Testing the appropriateness of use of the market value approach by considering the business and financial characteristics of similar companies selected (by using our internal valuation specialists)

4. Assessment of provision for warranty

As described in the Note 2 to the consolidated financial statements, Doosan Infracore Co., Ltd. and its subsidiaries (“DI”) segment of the Group provides customers with free warranty for a certain period of time after the sale of the product, and reserves a provision for warranty by estimating the expected warranty expenses.

The performance obligation of the warranty is determined by the nature and scope of the free warranty provided by DI and various assumptions, including the warranty period and estimated warranty expense to incur in the future. Therefore, we identified the assessment of provision for warranty as a key audit matter as certain key assumptions on which management has based on involves significant judgment of management.

Following audit procedures were performed regarding assessment of provision for warranty.

- Understanding of the accounting policy related recognition of provision for warranty and testing of internal controls
- Testing the accuracy of underlying data of major accounting estimates used by management
- Comparison and analysis of the basis of key assumptions used by management in measuring provision for warranty with actual past performance
- Independent recalculation of the balance of provision for warranty as of current year end

Other Matter

The procedures and practices utilized in the Republic of Korea to audit such consolidated financial statements may differ from those generally accepted and applied in other countries.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with K-IFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group’s ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so. Those charged with governance are responsible for overseeing the Group’s financial reporting process.

Auditors’ Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors’ report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with KSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with KSAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group’s internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management’s use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group’s ability to continue as a going concern. If we conclude that a material uncertainty exists, then we are required to draw attention in our auditors’ report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors’ report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditors’ report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditors’ report is Hyun Joong Kim.

March 18, 2021

This report is effective as of March 18, 2021, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that the above audit report has not been updated to reflect the impact of such subsequent events or circumstances, if any.

THIRD PARTY ASSURANCE STATEMENT

Dear Stakeholders of Doosan Heavy Industries & Construction

KFQ has been requested by Doosan Heavy Industries & Construction to conduct an independent assurance on the 2020 Integrated Report for Doosan Heavy Industries & Construction (further 'the Report'). KFQ has responsibility to provide an opinion of independent assurance in accordance with scope of assurance, based on standard, methodology and limitations stated in this Assurance Statement. KFQ was not involved in the process of preparing the Report and the information and presentation of data within the Report is the responsibility of Doosan Heavy Industries & Construction.

Standard and Scope of Assurance

The assurance was planned and carried out in accordance with following criteria based on international standard, AA1000AS v3, AA1000APS(2018) and GRI standards :

• Compliance with AA1000AS

- Application of Type 1 (Adherence to Principles of Inclusivity, Materiality, Responsiveness and Impact) with Moderate Level

• Compliance with GRI standards according to the criteria of “Core Option”

- GRI Standard reporting principles
- GRI Universal Standards
- Topic Specific Standards

- Economic Performance: 201-1, 201-3

- Indirect Economic Impact: 203-1

- Anti-corruption: 205-3

- Anti-competitive Behavior: 206-1

- Energy: 302-1, 302-4

- Water: 303-1

- Emissions: 305-1, 305-2

- Environmental Compliance: 307-1

- Employment: 401-1, 401-3

- Occupational Health and Safety: 403-2

- Training and Education: 404-1

- Diversity and Equal Opportunity: 405-1

- Human Rights Assessment: 412-1, 412-2

- Local Communities: 413-1

- Customer Health and Safety: 416-2

- Socioeconomic Compliance: 419-1

Methodology

In order to assess credibility of sustainability performance of the Report, we reviewed process and system for preparation of the Report, as well as available data and information. Non-financial information was reviewed based on internal data of Doosan Heavy Industries & Construction, such as latest integrated report, disclosed Business Report and compared with information from media and internet. Financial information was investigated whether data in the Report are correctly reported from DART(Data Analysis, Retrieval and Transfer System), a Electronic Disclosure System managed by Financial Supervisory Service. This assessment was conducted a document review only excepting a site verification. Validity of report descriptions and processes for materiality assessment, data collection and management, and report preparation are assessed through written questions. It was confirmed that the findings from above steps such as error, inappropriate information and ambiguous expressions are properly complemented by Doosan Heavy Industries & Construction.

Competency and independence

The assurance team was organized in accordance with KFQ's internal regulations. KFQ has no conflict of interest which could threaten the independence and impartiality of verification, other than providing third-party audit services in the Doosan Heavy Industries & Construction business.

Limitations

The completeness and responsiveness of sustainability performance in the Report has inherent limitations due to its nature and the methodology used to determine, calculate and estimate its performance. In accordance with the terms of the contract, assessment is conducted based on provided data and information without verification for original data of specified performance information which is out of assurance scope.

Findings and Conclusions

As a result of the above assessment, we confirm that the content of this report fulfills the requirements of the ‘Core option’ of GRI Standards and secured reasonable basis to assurance level of Type 1 in accordance with AA1000AS v3. Within the scope of the assurance activities above, we could not find further significant error or inappropriate information from the final Report against the following principles:

• Inclusivity

Whether Doosan Heavy Industries & Construction is actively identifying stakeholders and enabling their participation in establishing an organization's material sustainability topics, and the developing strategic countermeasures.

- Doosan Heavy Industries & Construction is collecting opinions from various stakeholders including shareholders, customers, employees, local communities, suppliers, government and competitors through communication channels such as Web Page, Conference, Seminar, Satisfaction Survey, Workshop, Operating Committee, Training, Labor-management Council. Omission of major stakeholders was not found.

• Materiality

Whether each topic is considered in overall sustainability management activities by identifying and prioritizing the most relevant sustainability topics in consideration of impact on the organization and stakeholders.

- Doosan Heavy Industries & Construction conducted a materiality assessment in terms of social (stakeholders) interest and business impact. They identified important issues, derived priorities, and reported sustainable management activities and performance without omission of major issues.

• Responsiveness

Whether Doosan Heavy Industries & Construction has established a communication process with stakeholders to respond to the needs, interests, and expectations of stakeholders that affect sustainability performance

- Doosan Heavy Industries & Construction has been reporting activities and performance that addresses needs and concerns of stakeholders which were identified from materiality assessment process and responds to their opinion by taking into consideration for its overall management.

• Impact

Whether Doosan Heavy Industries & Construction has considered sufficient aspects of the impact of material topics based on its understanding of related stakeholder concerns.

- KFQ confirms that Doosan Heavy Industries & Construction is identifying and monitoring for impact of material topics of stakeholders such as services and research activities and reporting them to the extent possible.

Recommendation for improvement

KFQ recommends following developmental approaches in order to systematize sustainability management in the future and to disclose results of the report effectively.

- As a member of the UN Global Compact, we look forward to continuance in disclosing practice achievements related to 10 principles of UNGC, including Human Rights, Labor, Environment, and Anti-Corruption.
- In the future, we anticipate Doosan Heavy Industries & Construction properly discloses not only safety & health and mutual cooperation, but also management of its partner's response on climate change. The action shall allow stakeholders to clearly understand Doosan Heavy Industries & Construction's efforts for ESG Management and Carbon Neutrality.

Ji Young Song

June, 2021
Seoul, Korea

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



ENVIRONMENTAL GUIDELINES

Following our people-first management philosophy and leveraging technology, DHIC is committed to environmental protection. In this regard, DHIC has established environment guidelines according to our Doosan Credo. They contain company regulations on environmental management and protection, internal protocols for working together to protect the environment along with employees, partners, customers, and local communities. DHIC has implemented the following in order to reduce the environmental impact of our business activities.

Environmental Management of Production and Business Sites

For effective environmental management of production and business facilities, DHIC has established 11 procedures of goal management, education and training, documents and records, and internal evaluation, as well as 10 instructions related to the environmental impact assessment, atmospheric environmental management, and waste management.

Selection and Continuous Evaluation of Suppliers/ Partner companies/ Service Providers

DHIC conducts regular (twice annual) evaluations of EHS management of partner companies. Evaluation results are utilized to provide incentives to and impose penalties on partner companies. In addition, DHIC delivers regular training to partner companies regarding EHS, and particularly, environmental, standards and laws. Through such education, which is delivered through the consultation committee (comprised of partner company chairs), DHIC reduces EHS risks throughout its entire supply chain.

Development of Products and Services

DHIC acknowledges both the crisis and opportunity presented by climate change and other diverse environmental issues. Accordingly, DHIC actively pursues R&D to develop products and services which can minimize the environmental impact of DHIC business activities.

Logistics

DHIC provides instructions to minimize environmental pollution which may occur during transportation. DHIC has established and implements best practice standards for each stage, from quotation and preliminary survey for transportation to the selection of transportation companies for contract to the locality (by land, barge, air, or the like) such as unloading, and insurance.

Waste Management

DHIC has implemented a waste management system encompassing the entire waste management process, from generation to final disposal. Through this, DHIC defines application range, terminologies, and responsibilities and authorities for the generation, collection, disposal, and inspection of waste, as well as consigned contract and monitoring. Guidelines are also provided regarding waste recycling.

Engineering and Maintenance

DHIC has established an environmental manual in order to minimize the occurrence of environmental pollution when operating, maintaining, and repairing power plants installed by DHIC. The aim is to fundamentally prevent environmental pollution due to abnormal operation. This manual, which is adapted to the characteristics of each power plant, helps DHIC minimize environmental impact related to operation of power plants.

New Project

DHIC has a Project Environmental Plan which sets forth detailed methods of assessing environmental management before launching a new project. The Project Environmental Plan covers project policies related to water supply and waste discharge requirements, hazard substance management, and air pollution control.

Preliminary Due Diligence at Acquisition to Merger

DHIC identifies environmental risks by conducting preliminary due diligence on companies before acquisition and merger. Major evaluation items include pollution of soil and underground water, asbestos, hazardous chemicals, environmental pollution prevention facility, and greenhouse gas management. The evaluation results are considered as an important factor at the time of acquisition and merger.

SASB INDEX

Sustainability Disclosure Topics & Accounting Metrics

TOPIC	Code	Accounting Metrics	Page	Remarks
Energy Management	RT-EE-130a.1	(1) Total energy consumed	106	
		(2) Percentage grid electricity	-	
		(3) Percentage renewable	-	
Hazardous Waste Management	RT-EE-150a.1	(1) Amount of hazardous waste generated	108	
		(2) Percentage recycled	108	
	RT-EE-150a.2	(1) Number of reportable spills	109	
		(2) Aggregate quantity of reportable spills	109	
		(3) Quantity recovered	109	
Product Safety	RT-EE-250a.1	(1) Number of recalls issued	104	
		(2) Total units recalled	104	
	RT-EE-250a.2	Total amount of monetary losses as a result of legal proceedings associated with product safety	104	
Product Lifecycle Management	RT-EE-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	-	
	RT-EE-410a.2	Percentage of eligible products, by revenue, that meet ENERGY STAR® criteria	-	
	RT-EE-410a.3	Revenue from renewable energy-related and energy efficiency-related products	14-17	
Materials Sourcing	RT-EE-440a.1	Description of the management of risks associated with the use of critical materials	12-35	
Business Ethics	RT-EE-510a.1	(1) Corruption and bribery	102	
		(2) Anti-competitive behavior	102	
	RT-EE-510a.2	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	102	
		Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations	102	

Activity Metrics

Code	Accounting Metics	Page	Remarks
RT-EE-000.A	Number of units produced by product category	12-35	
RT-EE-000.B	Number of employees	99	

TCFD INDEX

Classification	TCFD recommends	Page
Governance	a) Describe the board's oversight of climate-related risks and opportunities.	40-41
	b) Describe management's role in assessing and managing climate-related risks and opportunities.	40-41
Strategy	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	41-42
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	41-42
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	41-42
Risk management	a) Describe the organization's processes for identifying and assessing climate-related risks.	42
	b) Describe the organization's processes for managing climate-related risks.	42
	c) Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management.	42
Metrics and targets	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	42
	b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas emissions and the related risks.	42
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	42

GRI CONTENT INDEX

Universal Standards(GRI 100)

TOPIC	No.	Standard	Page	Remarks
Organizational Profile	102-1	Name of organization	4-5	
	102-2	Activities, brands, products, and services	12-35	
	102-3	Location of headquarters	4-5	
	102-4	Location of operations	4-5	
	102-5	Ownership and legal form	Disclosed in the business report	
	102-6	Markets served	4-5	
	102-7	Scale of the organization	4-5	
	102-8	Information on employees and other workers	100	
	102-9	Supply chain	4-5	
	102-10	Significant changes to the organization and its supply chain	4-5	
	102-11	Precautionary Principle or approach	43	
	102-12	External initiatives	120	
	102-13	Membership of associations	120	
Strategy	102-14	Statement from senior decision-maker	2-3	
	102-15	Key impacts, risks, and opportunities	2-3	
Ethics and Integrity	102-16	Values, principles, standards, and norms of behavior	44-45	
	102-17	Mechanisms for advice and concerns about ethics	44-45	
Governance	102-18	Governance structure	86-87	
	102-19	Delegating authority	86-87	
	102-20	Executive-level responsibility for economic, environmental, and social topics	52-53	
	102-21	Consulting stakeholders on economic, environmental, and social topics	52-53	
	102-22	Composition of the highest governance body and its committees	86-87	
	102-23	Chair of the highest governance body	86-87	
	102-24	Nominating and selecting the highest governance body	86-87	
	102-26	Role of highest governance body in setting purpose, values, and strategy	86-87	
	102-27	Collective knowledge of highest governance body	86-87	
	102-29	Identifying and managing economic, environmental, and social impacts	86-87	
	102-30	Effectiveness of risk management processes	86-87	
	102-31	Review of economic, environmental, and social topics	86-87	
	102-33	Communicating critical concerns	86-87	
	102-34	Nature and total number of critical concerns	86-87	
	102-35	Remuneration policies	86-87	
	102-36	Process for determining remuneration	86-87	
Stakeholder Engagement	102-40	List of stakeholder groups	36	
	102-41	Collective bargaining agreements	120	
	102-42	Identifying and selecting stakeholders	36-37	
	102-43	Approach to stakeholder engagement	36	
	102-44	Key topics and concerns raised	37	
Reporting Practice	102-45	Entities included in the consolidated financial statements	Disclosed in the business report	
	102-46	Defining report content and topic Boundaries	About this Report	
	102-47	List of material topics	37	
	102-48	Restatements of information	About this Report	
	102-49	Changes in reporting	About this Report	
	102-50	Reporting period	About this Report	
	102-51	Date of most recent report	About this Report	
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	102-55	GRI content index	118-119	
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Topic Specific Standards

Economic Standards(GRI 200)

TOPIC	No.	Standard	Page	Remarks
Economic Performance	201-1	Direct economic value generated and distributed	96-97	
	201-3	Defined benefit plan obligations and other retirement plans	Disclosed in the business report	
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	401-3	Parental leave of absence	101	
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Socioeconomic Compliance	419-1	Violations of social and economic laws and restrictions	102	

UN GLOBAL COMPACT

As a member of the UN Global Compact since 2014, DHIC complies with the ‘Ten Principles of the United Nations Global Compact,’ which covers human rights, labor, environment and anti-corruption. DHIC has adopted international standards on socially- responsible management and confirms its commitment to becoming a leading global enterprise – as well as a model enterprise for the Republic Korea –for sustainable socially-responsible business operations.

10 Principles			Page
Human Rights	Principle 1	Businesses should support and respect the protection of internationally proclaimed human rights; and	70-73
	Principle 2	make sure that they are not complicit in human rights abuses.	70-73
Labour	Principle 3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	70-73, 67
	Principle 4	the elimination of all forms of forced and compulsory labour;	70-73
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Environment	Principle 7	Businesses should support a precautionary approach to environmental challenges;	40-43, 58-61
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	Principle 9	encourage the development and diffusion of environmentally friendly technologies.	40-43, 58-61
Anti-Corruption	Principle 10	Businesses should work against corruption in all its forms, including extortion and bribery.	44-45, 88-89

MEMBERSHIP STATUS

Standard	List of Associations
Common	Korea New & Renewable Energy, World Energy Council Korean Member Committee, Korea Plant Industries Association, International Contractors Association of Korea, The Korean Society of Mechanical Engineers, Korea association of Machinery Industry, Korea Wind Energy Industry Association, Korea Association of Standards & Testing Organizations, Korea Engineering & Consulting Association, National Academy of Engineering of Korea, The Korean Society of Combustion, Korea Industrial Technology Association, Korea Chamber of Commerce and Industry, Korea Enterprises Federation, Korea International Trade Association , Korea Management Association, Korea-ArabSociety, Fair Competition Federation, UN Global Compact Network Korea, Carbon Disclosure Project, Mechanical Industry Carbon Neutral Conversion Committee, Korean Maritime Rescue & Salvage Association, KOREA LISTED COMPANIES ASSOCIATION, KOREA Investor Relations Service
Plant EPC	Construction Association of Korea, Korea Mech. Const. Contractors Association, Korea Housing Builders Association, Korea Electrical Contractors Association, Korea Information & Communication Contractors Association, Korea Fire Facility Association, Korea Construction transport New-technology Association, Korea Federation of Construction Contractors, Plant Eng. Association, International Desalination Association
Power Generation	Korea Institute of Electrical Engineers, Korea Electric Association, Korea Society for Fluid Machinery
Nuclear Power	Korea Atomic Industrial Forum, Korea Nuclear Association for International Cooperation, Korean Nuclear Society, Korean Radioactive Waste Society, Korea Nuclear Equipment Advancement Association, Korea Hydro Power Industry Association, World Nuclear Association, Korean Society of Pressure Vessels and Piping, Korea Defense Industry association
Castings & Forgings	Korean Institute of Metals and Materials, Korea Foundry Society, Korea Iron & Steel Association
Quality	Korean Standards Association, Korean Foundation for Quality, Korean Welding and Joining Society

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