



**Building Your Tomorrow Today**  
Doosan Corporation ESG Report 2020



# BUILDING YOUR TOMORROW TODAY

## Overview of the Report

Since 2013, Doosan Corporation has issued its annual CSR report to share its socially responsible management activities and performance. This report is the eighth report of Doosan Corporation, composed with a focus on ESG beginning this year, and its name has been changed to the ESG Report. With this report we aim to transparently disclose the major activities and achievements of our social responsibility management in 2020 to our stakeholders.

## Composition of the Report

This report consists of Introduction, which introduces Doosan's business strategy and major businesses, and Value Our Stakeholders, which includes the background to the introduction of the 3P(People, Planet, Partners) and the social value created by Doosan. The company's major policies, management methods, activities, and data related to corporate social responsibility can be found in the ESG Policy & Performance and the Appendix of the 2020 Doosan Corporation ESG Report on the Doosan website.

## Reporting Period and Scope

This report presents Doosan's CSR achievements from January 1st to December 31st, 2020. However, certain information in this report relates to activities carried out in the first half of 2021, in cases where it is deemed to have had an important impact on decision-making. The report also presents the achievements and activities of all the domestic and overseas worksites of Doosan Corporation, and the information on its worksites is categorized according to content. The report includes a business introduction of Doosan's major investors, although it does not include any quantitative data about them. Some quantitative data covering a period of more than three years are provided to facilitate the reader's understanding of certain trends. Furthermore, the report discloses the company's plans for 2021, along with mid- and long-term perspectives and future predictions.

## Reporting Principle

The reporting standards of the Sustainability Accounting Standards Board(SASB) have been partially applied to this report, which has been prepared in conformity with the "Core Option" of the GRI(Global Reporting Initiative) Standards. The current guidelines for reporting can be found on pages 94-98 of the report.

## Independent Assurance

The KFQ(Korean Foundation for Quality) has verified the contents and publication process of this report. The assurance statement appears on pages 100-101.

# Doosan Corporation ESG Report 2020

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## CEO MESSAGE



**Doosan Corporation, which has grown up in its 125 years of history, plans to build its own business competitiveness based on keywords of growth, internal stability, and innovation.**

**We are stepping up efforts to secure innovative technologies and products that can contribute to the human society in electronic materials, hydrogen fuel cell, and logistics solutions.**

Dear Stakeholders,

On behalf of Doosan Corporation, I would like to express our deepest thanks to our stakeholders for their encouragement and support, which certainly added to the momentum for achieving our goals in 2020 in spite of the challenging circumstances both at home and abroad.

In 2020, the spread of COVID-19 threw the entire world into political, economic, and social disarray, leading to an unprecedented crisis. In addition, the rapid transition to a digital economy presents a wave of new challenges for us while concerns over worsening climate change, US-China trade conflicts, and geopolitical instability continue to persist around the world. Nevertheless, Doosan Corporation has always sought out new opportunities and strived to sharpened its competitive edge even in an era of ultra-uncertainty, where predicting the future and making plans becomes extremely difficult. Furthermore, we have been able to expand our existing business and develop new growth engines by changing the way we do business.

Doosan Corporation has chosen three key words to drive our future: growth, profitability, and innovation. Based on these key words, we have reviewed the tasks that individual BG/BUs need to proactively carry out and developed plans to improve leadership. We are planning to create a unique business eco-system that centers on our core values, which include improving our technological competitiveness, expanding our value chain, and adopting a customer-oriented mindset. Particularly, we are stepping up our efforts to develop innovative technologies and products that can benefit humanity, with a focus on electro-materials, hydrogen fuel cell, and logistics solutions.

Our electro-materials business will zero in on discovering opportunities in fast-growing areas including 5G, AI, EVs and eco-friendly energy technologies. The goal of the hydrogen business is to occupy the market in the very early stage of standard development in target countries and to establish a global presence in mobility and water electrolysis, building upon the success of fuel cell for power generation. We are planning to improve market leadership as a total logistics solution provider by developing innovative technologies in response to the rapid adaptation of automated and unmanned technologies in logistics.

Moreover, Doosan will actively manage environmental, social, and corporate governance-related indicators and disclose its ESG performance data, reflecting the social and economic values that are most important to our customers, investors and other stakeholders. We will also closely monitor changes, big and small, in the business environment and proactively manage risks to ensure sustainable ESG management.

The ESG Committee, chaired by the CEO, will play a central role in establishing corporate governance and setting and implementing long-term strategies, as well as managing performance indicators. We will remain flexible in designing and implementing our strategies in order to cope with climate change in a timely manner while steadily working to promote human rights and improve working conditions at our business sites at home and abroad, through the human rights policies of Universal Declaration of Human Rights adopted by the United Nations. We will also measure the impact that our ESG activities have on all our stakeholders, including employees, customers, suppliers and partners, local communities, and the environment, and try to increase the social value that can result from these activities.

Sang-chul Kwak  
CEO, Doosan Corporation



# INTRODUCTION OF DOOSAN GROUP



### The Oldest Company in Korea

Doosan is the oldest company in Korea, with a history of 125 years. It was founded in 1896 as the Park Seung Jik Shop, the first modern shop in Korea, and has continuously embraced change and achieved continuous growth for over a century.



### An Innovative Global Business

We are committed to the tireless pursuit of innovation and strive to improve the value and quality of people's lives.



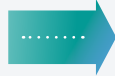
### A People-Centered Business

We aim to maximize the value of our customers, shareholders and investors based on our own people-centered values and to improve customer satisfaction.

## Proud Global Doosan



People-centered management that views talented people as a source of global competition



Operating a process that meets global standards

## Doosan's Affiliates

Doosan Corporation	Electro-Materials BG	Industrial Vehicle BG	Fuel Cell Power BU	Retail BU	Doosan Digital Innovation BU
Affiliated Companies or Subsidiaries	Doosan Heavy Industries & Construction	Doosan Infracore	Doosan Bobcat	Doosan Fuel Cell	Doosan Engineering & Construction
	Doosan Robotics	Doosan Mobility Innovation	Doosan Logistics Solution	Doosan Mecatec	
	Hancom	Doosan Magazine	Doosan Bears	Doosan Cuvex	Oricom
Auxiliary Organizations	Doosan Yonkang Foundation		Doosan Art Center	Doosan Business Research Institute	

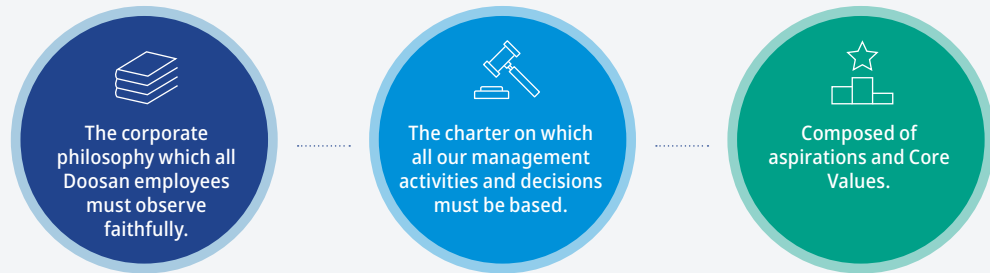
\*These affiliated companies or subsidiaries may be partially different from those in the business report.

## A Winning Team that Follows the Doosan Credo

### “Winning Team Doosan”

Doosan's unique way of doing business represents a corporate philosophy, culture, and set of management principles we have developed with the aim of transforming our company into a “Proud Global Doosan.” The unique way of doing business consists of the following three elements: the Doosan Credo, the People of Doosan (“The Six Traits of Doosan People”), and the Doosan Credo Change Model (core competitiveness, and advancement and scientification of work methods), which serves as the foundation through which the People of Doosan realize the Doosan Credo.

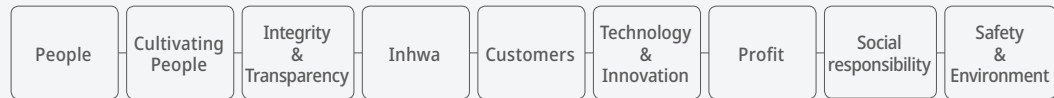
#### Doosan Credo



#### Doosan Credo System

**Aspirations** Proud Global Doosan, Winning Team! Doosan!

**Core Values** Doosan employees spend every day of their working lives putting the nine core values of the Doosan Credo into practice. We make it a rule to practice it anywhere we do business in our drive to become world-class players. The core values relate to the way we do business, the way we treat each other, and the way we work in collaboration with our business partners.



#### Enhancement of Our Fundamental Competitiveness

To ensure continuously strong performance, Doosan strives to secure a strong competitive edge while at the same time optimizing its work through advanced processes and systems. This creates a virtuous cycle in which Doosan's people, the individuals who actually determine Doosan's performance as a company, are trained to pursue these same objectives. This positive feedback mechanism results in a winning team.

#### Doosan People

Doosan employees are committed to improving their abilities in order to willingly contribute to the growth and evolution of our organization. They value the Company's fundamental values and adhere to the Company's definition of talented employees. The characteristics of Doosan employees desired by the Company are as follows:



# GLOBAL NETWORK

Doosan Corporation is the parent company of Doosan Group. The company manages the global network of Doosan Group, which is formed throughout Europe, Asia, and the Americas, while also running its own businesses comprised of Electro-Materials BG, Industrial Vehicle BG, and others.

Date of Establishment	December 18 <sup>th</sup> , 1933
Representative Directors	Jeong-won Park, Min-chul Kim, Sang-chul Kwak
Business Areas	Electronic parts/materials, forklifts, retail, fuel cell, etc.
Sphere of Operation	14 countries, including Korea, China, United States, and the United Kingdom
HQ Address	275 Jangchungdan-ro, Jung-gu, Seoul, Republic of Korea



Local Corporations

17

Branch Offices

8

R&D Centers

2

Production Facilities

5

- Doosan Fuel Cell America (DFCA)
- Doosan Corporation Electro-Materials America
- Doosan Industrial Vehicle America (DIVAC)
- Doosan Material Handling Solution (DMHS)
- Doosan Digital Innovation America (DDIA)

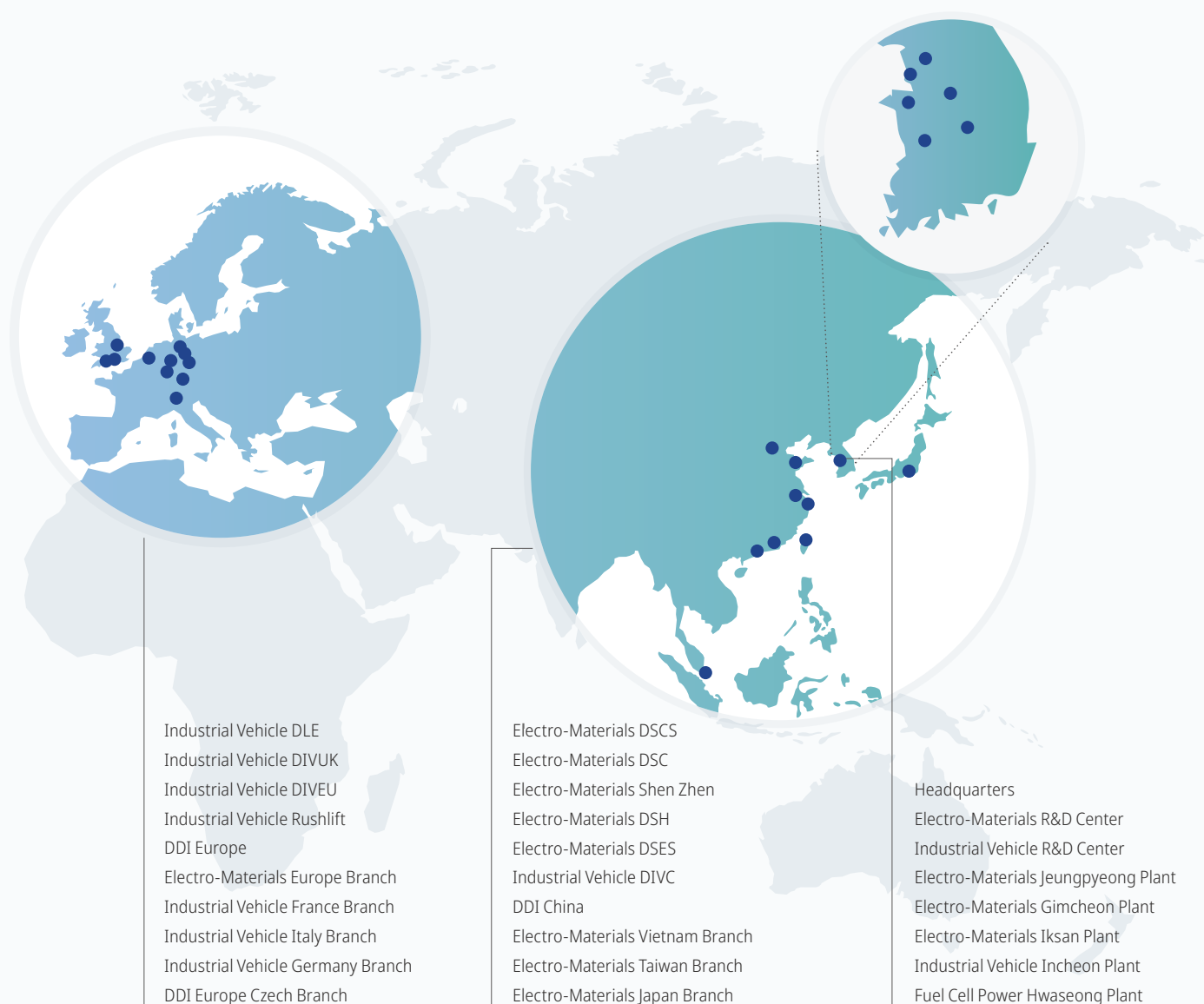
Americas		
Materials	Local corporations	1
Machinery	Local corporations	2
Information/communications(IT)	Local corporations	1
Energy	Local corporations	1



Current Status

Current status of Doosan Corporation, including its local corporations abroad, as of the end of 2020

<b>Total Assets</b>	<b>Annual Sales</b>	<b>Operating Profit</b>	<b>Total Number of Employees</b>
KRW 7,500.9 billion	KRW 2,385.2 billion	KRW 121.7 billion	3,980 people



- Industrial Vehicle DLE
- Industrial Vehicle DIVUK
- Industrial Vehicle DIVEU
- Industrial Vehicle Rushlift
- DDI Europe
- Electro-Materials Europe Branch
- Industrial Vehicle France Branch
- Industrial Vehicle Italy Branch
- Industrial Vehicle Germany Branch
- DDI Europe Czech Branch

- Electro-Materials DSCS
- Electro-Materials DSC
- Electro-Materials Shen Zhen
- Electro-Materials DSH
- Electro-Materials DSES
- Industrial Vehicle DIVEC
- DDI China
- Electro-Materials Vietnam Branch
- Electro-Materials Taiwan Branch
- Electro-Materials Japan Branch

- Headquarters
- Electro-Materials R&D Center
- Industrial Vehicle R&D Center
- Electro-Materials Jeungpyeong Plant
- Electro-Materials Gimcheon Plant
- Electro-Materials Iksan Plant
- Industrial Vehicle Incheon Plant
- Fuel Cell Power Hwaseong Plant

Europe		
Materials	Branch offices	1
Machinery	Local corporations	4
	Branch offices	3
Information/communications(IT)	Local corporations	1
	Branch offices	1

Asia		
Materials	Local corporations	5
	Branch offices	3
Machinery	Local corporations	1
	Local corporations	1

Korea		
Materials	R&D centers	1
	Production facilities	3
Machinery	R&D centers	1
	Production facilities	1
Energy	Production facilities	1

# BUSINESS STRATEGY




## Continuous Change and Growth

In 2020, we experienced difficulties in the overall global management environment due to the COVID-19 crisis and saw rapid changes in the global market. Now, it is more necessary than ever before to enhance our business competitiveness in preparation for the post-COVID era.

In the electro-materials sector, the market environment worsened markedly, including a fall in the number of smart phones shipped out of factories and delayed investment in 5G base stations, while the situation in the memory and NWB<sup>1)</sup> markets improved on the back of rising demand for semiconductors/servers amidst the spread of contact-free communication. As for the industrial vehicle sector, the overall worldwide situation slowed down in 2020 due to the COVID-19 crisis, while ongoing changes in the market, such as the growth of the electric-powered equipment (electric-powered equipment)/logistics/rental market and the shift to automation/unmanned systems continued apace. Looking at the fuel cell sector, the market continued growing with the expansion of the share of renewable energy. In the logistics market, the share of the online market grew further amid the spread of contact-free communication.

We have succeeded in raising our overall competitiveness due to the following factors: development of market-leading products that enable us to handle market changes; higher profitability due to an improvement of our manufacturing/quality capability; and an improvement of our competitiveness in manufacturing through the digital transformation of our business operations. We also improved our global competitiveness and expanded our world market share<sup>2)</sup> by diversifying our business portfolio and developed SOFC technology, while taking steps to expand our new business platform for the MEMS oscillator<sup>3)</sup> and the 5G antenna module businesses. The year 2020 was one in which we focused on consolidating our competitive edge in existing and new business areas and our ESG management groundwork.

1) NWB(Network Board): Materials applicable to network equipment  
 2) M/S: Market Share  
 3) Microelectromechanical system(MEMS) oscillators: Extremely small reference signal generation parts that are used in digital devices.

 <b>Electro-Materials</b>	<ul style="list-style-type: none"> <li>· High-margin sales expanded continuously in relation to 5G and semiconductors breaking away from existing ICT material industry, and we established a foundation for new businesses such as electrodes, PFC, etc.</li> </ul>
 <b>Industrial Vehicle</b>	<ul style="list-style-type: none"> <li>· Releasing new products in response to European Stage-V Emission Standards and securing competitive edge through full line-up launch of electric-powered equipment in North America</li> <li>· Measures for leading the market and creating customer value, such as introducing NXE<sup>1)</sup> to the market and promoting downstream and automation</li> </ul>
 <b>Fuel Cell</b>	<ul style="list-style-type: none"> <li>· Profitability boosted by improving the competitiveness of fuel cell technology for power generation (PEMFC<sup>2)</sup>/PAFC<sup>3)</sup>/SOFC<sup>4)</sup>) and improving the management of overall quality and product stock</li> </ul>

1) NXE: New electric-powered equipment    2) PEMFC: Polymer Electrolyte Membrane Fuel Cell    3) PAFC: Phosphoric Acid Fuel Cell    4) SOFC: Solid Oxide Fuel Cell



1) CCP: Customer-Centric Process

### Improvement for Solid Growth in Business and a Competitive Edge






We will concentrate on improving the efficiency of our overall operations by strengthening our market dominance, securing quality competitiveness, and strengthening our cost competitiveness. To increase our market dominance, we aim to maintain our leading position in the electro-materials sector and expand the share of highly profitable products. To improve our quality competitiveness, we will increase customer value in the fuel cell sector by promoting digital transformation. We will make concerted efforts to introduce cost innovations, strengthen the stock management system, and optimize parts in order to strengthen our cost competitiveness.

Strategies	Expansion of Market Dominance	Improving Quality Competitiveness	Improving Cost Competitiveness
Specific Tasks	<ul style="list-style-type: none"> <li>• <b>Electro-Materials</b> Expand our range of hi-end, highly profitable products - Strengthen our competitiveness in the PKG<sup>1)</sup> sector with the focus on non-memory products - Play a leading role in NWB technology; expand our market volume</li> <li>• <b>FCP</b> Enhance our product competitiveness to the top-tier level</li> </ul>	<ul style="list-style-type: none"> <li>• <b>FCA/FCP</b> Strengthen competitiveness in manufacturing/services through Digital Transformation - Establish RMS<sup>2)</sup> for the provision of differentiated service - Establish a data analysis platform</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Electro-Materials</b> Company-wide cost innovation PKG/NWB yield ratio improvement Diversification of vendors and improvement of DTC<sup>3)</sup> process/equipment</li> <li>• <b>FCA</b> Reinforcement of inventory management system Test and lead time reduction</li> <li>• <b>FCP</b> 5~10kW inverter cost reduction / reactor design wiring</li> </ul>

1) PKG(Package): Substrate material in contact with semiconductors 2) RMS: Remote Monitoring System 3) DTC: Design to Cost

### Futuristic Innovations

Doosan Corporation presented the direction of future growth through three business areas (advanced materials/hydrogen economy/retail) and DT/ESG activities. In the materials sector, we plan to expand to cutting-edge materials in order to handle 5G based on our current business capabilities and to secure technologies that will enable us to deal with the market demand for environmentally-friendly energy. In the hydrogen economy sector, we will strive to improve the availability of products in the existing hydrogen business with consideration to the need to extend availability in virtually all areas, including the production, storage, transportation, and use of hydrogen. Due to the complexity of the logistics market and the surge in demand for automation systems, we would like to expand the total logistics solution business based on existing business areas such as cooperative robots, industrial/distribution drones. In the DT sector, we will provide customer-centered service in a bid to strengthen our relationships with all our customers. In addition, we will reform our governance structure to improve ESG, expand our ESG management areas, and improve external communication.

Sectors	Market Trends	Areas of Focus
<b>Cutting-Edge Materials</b> 	Rapid growth in 5G, AI, EV, environmentally-friendly energy	<ul style="list-style-type: none"> <li>• <b>Catalyst/electrode</b> Expand PAFC electrode capacity; enhance productivity, commercialize PEM catalysts, etc.</li> <li>• <b>PFC</b> Meet customers' technological needs; lead the market with differentiated products.</li> <li>• <b>5G/NWB</b> Expand to the module business by securing technologies related to the MEMS oscillator and 5G antenna.</li> </ul>
<b>Hydrogen Economy</b> 	Continued growth of hydrogen business	<ul style="list-style-type: none"> <li>• <b>Water electrolysis</b> Entering PEMFC with growth potential; securing SOFC capability; promotion of SOEC<sup>1)</sup></li> <li>• <b>Stationary</b> Strengthening dominance over diverse technology/portfolio-based stationary market</li> <li>• <b>Mobility</b> Concentration on applications we expect to enjoy competitive edge such as REEV<sup>2)</sup> and ships, etc.</li> </ul>
<b>Retail</b> 	Rapid growth of online shopping and increase in life cycle-focused consumption	<ul style="list-style-type: none"> <li>• <b>Identity of Doota revamped</b> Securing product competitiveness and cementing Doota brand through vertical reorganization with Doota Mall's unique contents, and directly operated stores</li> <li>• <b>Site-linked activities</b> Customer value realized by strengthening local penetration and coexistence by utilizing site advantages</li> <li>• <b>E-Commerce</b> Online directly-managed mall operation based on Doota brand</li> </ul>
<b>Digital Transformation</b> 	Digital Transformation requires customer-centered mindset and rapid coping with changes.	<ul style="list-style-type: none"> <li>• <b>RMS</b> Improve our operating rates; enhance service quality.</li> <li>• <b>MES</b> Realize the smart factory</li> <li>• <b>S&amp;OP</b> Strengthen our capability to deal with markets and customers</li> <li>• <b>TMS</b> Optimize operating efficiency; minimize non-operating hours</li> <li>• <b>Downstream Platform</b> Promote data-based understanding of customers and strengthen relations with them</li> </ul>
<b>ESG</b> 	Increase in regulations and social demand, requiring businesses' positive coping measures	<ul style="list-style-type: none"> <li>• Doosan Corporation ESG committee operated</li> <li>• Expansion of the management areas for ESG-related core indicators</li> <li>• Strengthening ESG-related global initiative</li> <li>• Reflection of ESG factors in credit evaluation of businesses</li> </ul>


1) SOEC: Solid Oxide Electrolyzer Cell

2) REEV(Range Extended Electric Vehicle) : It is mainly used to extend an EV's mileage and is a fuel cell power pack designed for recharging batteries.

## Introduction of Businesses

# ELECTRO- MATERIALS BG

Electro-Materials Business Group



Electro-Materials BG produces and supplies CCL(Copper Clad Laminate), which is a core material for printed circuit boards, an essential part of electronic products. Doosan's CCL is growing into a foundation for technological advances in high-tech electronic devices, such as smartphones, semiconductors, and telecommunication equipment. In particular, Electro-Material BG is continuing to improve its competitive edge as the world's only supplier with a full line up of high-end CCL, including PKG CCL for semiconductors, NWB CCL for telecommunication equipment, FCCL for smartphones, and CCL for electrical devices.

In addition, it is mass-producing electrodes, a key material for fuel cell, to improve competitiveness in the renewable energy market. We are continuously expanding the approval of global automobile manufacturers by developing key components of batteries for future electric cars. We are improving our sustainability by building future-oriented portfolios for 5G, eco-friendly cars, and energy.

## Main Products and Services

### IC Package Substrate CCL

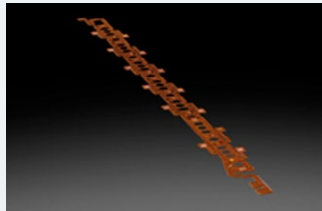
The IC package substrate CCL market is divided into CCL for memory semiconductors, such as DRAM and NAND, and for non-memory semiconductors, such as CPU, GPU, and AP. It is high-end CCL that can be used in microcircuits for high-temperature semiconductor processes and high-integration circuit design.

### Fuel Cell Electrode

Electrodes, a key component of fuel cell which are produced by EM BG, are supplied to Doosan Fuel Cell. We are strengthening our business competitiveness by internalizing the processing of raw materials in the fuel cell business.



Fuel Cell Electrode



Patterned Flat Cable(PFC)

### Network Substrate CCL

Network Substrate CCL is high-function CCL used in wired and wireless communication equipment such as servers and base stations, which increases the demand for low-loss product technology to minimize electrical signal loss for high-capacity and high-speed communication. Our low-loss technology is considered one of the best in the world.

### Patterned Flat Cable(PFC)

A PFC is a component installed on an electric car battery. The existing wires for the battery cell connecting materials are being replaced with flat cables in order to make electric cars safer and more lightweight. In addition, the application of long, flat cables is expanding according to an increase in driving distance, and the electro-materials BG is pioneering a new market by developing long, highly functional flat cables.

### Flexible CCL

Flexible CCL is used in smart devices and wearable products, such as smartphones, smartwatches, and wireless earphones. It is ideal for optimal circuit design for small devices due to its flexible characteristics, and its application has expanded to various new technologies, such as foldable phones and electric vehicles.

## Major Performance in 2020 & Future Plans

Market Changes	2020 Performance	2021 Plan
<ul style="list-style-type: none"> <li>· Although the mobile market shrank due to the COVID-19 pandemic, Greater China-centered recovery is becoming visible in 2021.</li> <li>· The markets for high value-added products such as telecommunication equipment and CCL for semiconductors have grown.</li> <li>· The size of the renewable energy market is expected to expand based on carbon emission restrictions.</li> <li>· As telecommuting/video lectures were vitalized, increased data traffic, demand for high-speed/low-loss material for next-generation data centers increased.</li> </ul>	<ul style="list-style-type: none"> <li>· Sales of NWB(Network Board) increased by 38% compared to the previous year due to acceleration of entry into the market of CCL for telecommunication equipment.</li> <li>· The percentage of overseas sales of the electro-materials BG was 41%, a 6% increase compared to the previous year.</li> <li>· 2020 sales in China increased by approx. KRW 46 billion compared to the previous year due to accelerated expansion into new markets in China.</li> </ul>	<ul style="list-style-type: none"> <li>· Products to be developed to satisfy the demand for high-performance materials with characteristics such as ultra-high frequency, low loss, and high heat emission.</li> <li>· Business competitiveness to be secured through preemptive response so that sales can be increased continuously.</li> <li>· Started supplying materials to new mobile set manufacturers in China, planning to expand continuously annually as well</li> </ul>
<ul style="list-style-type: none"> <li>· Eco-friendly fuel cell market forecast to expand in earnest.</li> <li>· The automotive electronic component/energy business is a promising industry group in the future.</li> <li>· Due to a paradigm shift of future cars, the electric car battery industry is forecast to achieve high growth.</li> </ul>	<p><b>New Business</b></p> <ul style="list-style-type: none"> <li>· Created synergy with Doosan Fuel Cell by stabilizing the mass production system of electrodes for fuel cell.</li> <li>· Strengthened business competitiveness by internalizing key raw materials.</li> <li>· Secured approval of global automobile manufacturers (customer) for electric car battery parts.</li> </ul>	<p><b>New Business</b></p> <ul style="list-style-type: none"> <li>· Planning to expand the mass production line of electrodes for fuel cell</li> <li>· For battery parts used in electric cars, customers' approval of complete new cars has been secured and the SCM of each complete car has been identified.</li> <li>· Planning to discover and foster new items continuously in other promising industry areas</li> </ul>

## Introduction of Businesses

# INDUSTRIAL VEHICLE BG

Industrial Vehicle Business Group



Starting with the production of Korea's first forklift in 1968, the Industrial Vehicle BG now leads the logistics equipment industry in Korea. It has grown into a global logistics equipment company that exports forklifts to 100 countries around the world based on its six overseas business sites, including its production corporations in China and Germany and its sales corporations in the USA, Belgium, and the UK.

The Industrial Vehicle BG is developing into a data-based, total logistics service provider, moving beyond the traditional manufacturing business by strengthening its forklift rental and second-hand businesses, expanding its business areas to include the supply of customized products and services, and building a digital platform that incorporates ICT technology in a bid to enhance its sustainability.

## Main Products and Services

### Diesel/LPG Forklifts

Industrial Vehicle BG has a line-up of 1.5 to 30 tonne diesel models and 1.5 to 7 tonne LPG forklifts. These forklifts enable high-efficiency logistics at various worksites thanks to their climbing capacity and high power output.



### Electric Sit-Down/Stand-Up Forklifts

We have built up an extensive product lineup composed of 1.5 to 5 tonne models of sit-down forklifts and 1.3 to 2.5 tonne models of stand-up forklifts and offer two power source options: lead storage and lithium-ion batteries. These forklifts are eco-friendly, with low noise and vibration, making them perfect for indoor work such as moving food and cold storage. Lithium-ion battery forklifts have a longer battery life and are easier to maintain than lead-battery electric forklifts, and hence dramatically reduce operating costs for customers and create a safer working environment without the generation of harmful gases during charging and discharging.



### Warehouse Equipment

The warehouse equipment of Industrial Vehicle BG consists of various line-ups, including 1.3 to 6 tonne order pickers, pallet trucks, stackers, and tow/transportation vehicles that provide excellent mobility in small spaces with their compact size and minimal turning radius.



### Downstream Business

Through downstream businesses such as forklift rentals, used forklift trading, and maintenance services, we are meeting the changing needs of product use from ownership to sharing. We also provide an option that enables customers to acquire a forklift quickly and easily by supplying customized products and services via the digital platform.

## Major Performance in 2020 & Future Plans

Market Changes	2020 Performance	2021 Plan
The market has contracted significantly due to the COVID-19 crisis, but it is expected to recover thanks to the supply of vaccines and the effects of economic stimulus plans.	Sales: KRW 807 billion	Sales: KRW 891.7 billion
The regulations on engine exhaust gas have been reinforced due to increasing interest in reducing atmospheric pollution.	Development of a next-generation (Tier 5) engine model and establishment of a full lineup of electric forklifts equipped with lithium batteries.	Execution of tasks related to the development of eco-friendly power sources (hydrogen fuel cell forklift, etc.).
The need for automation & unmanned technology has increased due to the expansion of the logistics market and the growing preference for contract-free modes.	Reinforcement of the lineup of small logistics equipment and winning of AGF <sup>1)</sup> project orders.	Development and commercialization of digital sensors (strengthened safety along with an increase in automation and unmanned technology).
The need for customized solutions based on the sharing economy and ICT-based logistics innovation has increased.	Regularization of the downstream business based on the digital platform.	Overseas roll-out of a downstream platform and introduction of a customized rental price system through TMS <sup>2)</sup> .

1) AGF: Automated Guided Forklift  
2) TMS: TeleMatics System

# FUEL CELL POWER BU

## Fuel Cell Business Unit



Fuel Cell Power BU was founded in 2003, and is the first company in Korea to lead the fuel cell for residences/buildings. It is a company that specializes in fuel cell that has secured core technology such as stack and reformer design and manufacturing, fuel converter and system integration. In response to the acceleration of the shift to the use of hydrogen energy fuel cell for commercial buildings, residences, and the mobility sector, which is expected as a result of the promotion of the 2050 carbon net-zero policy objectives, the Fuel Cell Power BU has proactively driven the development and distribution of high-efficiency, eco-friendly hydrogen fuel cell and has played a leading role as a Total Solutions Provider of fuel cell.

### Main Products and Services

#### PEMFC(1/5/10kW)

##### (Polymer Electrolyte Membrane Fuel Cell)

A polymer electrolyte membrane fuel cell(PEMFC) is a type of fuel cell that uses a polymer membrane as the electrolyte. It has the advantages of on/off operations and power generation adjustment according to power demand. It can also be installed indoor and its installation area and time are smaller compared to those of other energy sources.



#### SOFC(10kW) (Solid Oxide Fuel Cell)

A solid oxide fuel cell is a type of fuel cell that runs at a high temperature (600°C or higher) using ceramic electrolytes to conduct negative oxygen ions. It has the advantages of delivering high economic feasibility, high efficiency, and competitiveness of installation area compared to existing fuel cell, thanks to its compact design.



### Major Performance in 2020 & Future Plans

Market Changes	2020 Performance	2021 Plan
<ul style="list-style-type: none"> <li>· In Korea, the domestic fuel cell market is expected to expand based on the global expansion of carbon net-zero in 2050, the Hydrogen Economy Revitalization roadmap announced in 2019 and the Hydrogen Economy Law enacted in 2021.</li> <li>· In Japan, the residential fuel cell market has been expanding at the rate of 50,000 households annually thanks to the Japanese government's subsidy policies.</li> <li>· In Europe, the public sector centered on Germany will invest in technology development for fuel cell and hydrogen, and it is planning to establish a completely independent fuel cell ecosystem without subsidies.</li> </ul>	<ul style="list-style-type: none"> <li>· Prepared the foundation for providing various products in the building/residential fuel cell market through the development of not only PEMFC that is currently under mass production but also SOFC products for buildings.</li> <li>· In order to increase the sales of fuel cell for building/residence, the BU has promoted entry into not only the Korean market but also global markets like China and North America where there is high demand for eco-friendly dispersed power generation. It has also responded to the overseas market by developing a locally customized model based on thorough market analysis.</li> </ul>	<ul style="list-style-type: none"> <li>· Respond to the change in operating market via completion of high-efficiency SOFC development for buildings and full-fledged mass-production system</li> <li>· Driving the development of high-efficiency stack and powerpack for mobility</li> <li>· Respond to hydrogen market expansion through participation in a national project of H<sub>2</sub> PEMFC and development</li> <li>· Continuous analysis of overseas markets and creation of export base through the discovery of PJT</li> </ul>



# RETAIL BU

## Retail Business Unit

As an attraction going beyond Dongdaemun that captures the hearts of the MZ generation (Millennial + Z generation), the new generation of consumers, Doota Mall has 7 floors. It is Korea's representative fashion shopping mall that over 9.5 million shoppers including 7 million tourists visit annually to enjoy everything from shopping to dining in one location. Retail BU offers the best customer satisfaction with its differentiated services at Doota Mall.



### Main Products and Services

Doota Mall is providing a pleasant and unique shopping environment to customers in Dongdaemun, the mecca of fast fashion, through continuous renovations. This mall provides products from traditionally popular domestic and foreign sports and street/casual brands along with products made by new designers, instilled with the spirit of Dongdaemun that can only be seen in Doota, and it is offering the highest satisfaction to customers. Moreover, Doota Mall is exerting every effort for shared growth by diversifying product offerings and creating an environment grafted with ESG to meet new social demands. A tired body and mind can be refreshed at food court areas on each floor, with the newly created Food Atelier offering visitors the fun of choosing and eating popular Korean and foreign foods.



### Major Performance in 2020 & Future Plans

Market Changes	2020 Performance	2021 Plan
<ul style="list-style-type: none"> <li>· Low growth of domestic fashion market predicted; continuous bearish trend of offline market is expected.</li> <li>· Experience aimed at MZ generation, the new consumer generation, and MD centered on social consumption is expected to be strong.</li> <li>· Bullish domestic and overseas online market based on online contents (direct purchase/reverse direct purchase, live broadcast, etc.).</li> </ul>	<ul style="list-style-type: none"> <li>· Improved one-stop shopping enabling everything from shopping to dining by launching Food Atelier (Doota foodcourt).</li> <li>· Stabilized sales centered on global concept stores such as Nike Flagship, Shake shack, Starbucks, etc.</li> <li>· Strengthened ESG activities including pursuit of win-win activities with small businesses by participating in "good lessor" campaign.</li> </ul>	<ul style="list-style-type: none"> <li>· Plans to operate Business Portfolio for enhancing the existing strength of distribution business and realizing customer value.</li> <li>· Merchandising (MD) restructuring in association with Mut(Fashion), Mat(Food and drink), and Jam(Fun), the unique contents of the Doota Mall, based on the Dongdaemun Identity.</li> <li>· Strengthening product competitiveness and promoting the Doota brand via the operation of direct Doota management shops.</li> </ul>
		<ul style="list-style-type: none"> <li>· Push through with domestic/overseas Two-track Online business by improving price competitiveness based on the Doota brand.</li> <li>· Reinforcing marketing through methods such as attracting customers and experience-based issue- making by strengthening local ties and win-win growth using site strengths</li> <li>· Conducting ESG management activities steadily, such as supporting sales routes for local specialty products, SMEs, and young designers.</li> </ul>

# DIGITAL INNOVATION BU

## Digital Innovation Business Unit

The Digital Innovation BU is in charge of providing a comprehensive range of IT services, including IT consulting, system integration, business systems, and IT infrastructure services to all Doosan Group companies around the world. It utilizes SI and added service businesses, and provides IT services to enable the globalization of Doosan Group.



### Main Products and Services

Doosan's Digital Innovation(DDI) BU provides total IT services, including IT consulting and system integration, application systems, and IT infrastructure services, for Doosan affiliates and general customers around the world.

#### Digital Service Business

It has established an innovative customer business model using diverse technologies including AI and data analysis, cloud, digital platform, and telematics, and creates opportunities to generate new profits and value.

#### Platform Service Business

It implements, maintains, and repairs hybrid IT infrastructures based on cloud and on-prem, provides a PaaS<sup>1)</sup>/SaaS<sup>2)</sup> service based on the digital platform, and develops and operates common IT services such as HR, workplace, digital web, and information security.

#### Enterprise IT Service Business

Developing applications and providing digital services for smart manufacturing, smart engineering, supply chain management, and financial cost management

1) PaaS: Platform as a Service  
2) SaaS: Software as a Service

## Major Performance in 2020 & Future Plans

Market Changes	2020 Performance	2021 Plan
<ul style="list-style-type: none"> <li>· With AI, big data and other intelligent technologies, all systems, industries and stakeholders are now connected to the network</li> <li>· It is expected that drones and robots that can interact with the environment and people will be developed, and AI technology will be applied in the digital factory area, where advanced AI plants will be developed</li> <li>· The SaaS-based platform services will be expanded, and reviews of new convergent services will be reviewed through ICT regulatory reform. Data utilization and protection will also be strengthened</li> </ul>	<ul style="list-style-type: none"> <li>· It provides a total IT service including digital services, the development and operation of apps, and the construction of platforms and IT infrastructures for Doosan Group affiliates</li> <li>· It plans to improve its infrastructure and train specialist personnel in order to support the digital cloud transformation of Doosan Group companies</li> <li>· The Digital Innovation BU strives to provide IT services that truly contribute to the reinforcement of customer values</li> </ul>	<ul style="list-style-type: none"> <li>· The Digital Innovation BU is planning to establish collaboration models for the new growth engine business of Doosan Group companies, accelerate BMI<sup>1)</sup> and GTM<sup>2)</sup> based on Open Innovation and carry out OE innovation tasks to support the business platform and strengthen the backbone of group companies</li> <li>· Planning to proceed with the verification of competitiveness in external businesses and markets based on the BU's capacity in order to discover new growth engines for Digital Innovation and prepare business models for the future, such as making preparations to switch over from traditional IT services like SI<sup>3)</sup> and SM<sup>4)</sup> to Cloud-based solutions</li> </ul>

1) BMI: Business Model Innovation  
2) GTM(Go To Mark): Strategies to extend from first meeting to business orders with customers  
3) SI: Service Integration  
4) SM: Service Management

# DOOSAN ROBOTICS



Doosan Robotics is a specialized robot solution provider that leads the “Cobot”(Collaborative Robot) market. It was launched in 2015 as one of Doosan Group's new growth engines and core businesses. It developed cobots with in-house technology and completed mass-production facilities with a yearly capacity of 10,000 units by the end of 2017. Doosan Robotics is recognized both domestically and in overseas markets such as Europe, the United States, and China, for its outstanding technology. It is currently accelerating its expansion into the global market.

## Main Products and Services

Doosan Robotics has a line-up of collaborative robot arms for a variety of processes with maximum work envelopes ranging from 900mm to 1,700mm and with payloads ranging from 5kg to 25kg. Cobots are equipped with a high-performance “torque sensor” that detects forces in each of six joints (Optional for A-series models, which are small-scale models).

Collaborative robots are used extensively in manufacturing, production, and logistic processes such as assembly (screw fastening, gear assembly), pick & place, polishing and deburring, milling machine assistance, inspection, gluing/bonding, plastic injection assistance, packaging and palletizing, and press forming, among others. They are also being introduced to various areas including services like restaurant business, healthcare, quarantine, and more.

## Major Performance in 2020 & Future Plans

Market Changes	2020 Performance	2021 Plan
<ul style="list-style-type: none"> <li>Market interest in Cobots continues to grow due to difficulties in securing manufacturing personnel, improvement of production efficiency through labor hour distribution between workers and robots, avoidance of potentially harmful physical work for elderly workers, and increased on-site automation needs</li> <li>According to the market report of Markets &amp; Markets in 2020, the cobot market is forecast to grow by an annual average of 40% by 2025</li> </ul>	<ul style="list-style-type: none"> <li>Participated in CES 2020</li> <li>New model A-Series (payload 5~9kg, operating radius 900~1,200mm), H-Series (payload 20~25kg, operating radius 1,500~1,700mm) released</li> <li>Fostering excellent technical manpower and creating a foundation for conducting education and training on collaborative robots by signing an MOU with Korea Polytechnics' Robot Campus</li> <li>Used as a certified robot in the industrial cooperative robot occupation at the 55th National Skills Contest in 2020</li> </ul>	<ul style="list-style-type: none"> <li>Doosan Robotics aims to sell 12,000 units in 2025, or 20% of the global cooperative robot market, by expanding sales channels and product line-ups, and improving product competitiveness</li> <li>It is currently expanding its market from Germany, China, the United States, and Korea to new countries, planning to develop additional channels by expanding sales territories within existing markets, and searching for new sales targets</li> <li>Planning to continuously create new demand by releasing a pairing product line for cobots such as AGV<sup>1)</sup>, AMR<sup>2)</sup>, Vision, etc., expected to provide solutions satisfying customer's needs quickly and accurately by establishing a cobot platform and enabling open innovation</li> </ul>

1) AGV(Automated Guided Vehicle: Unmanned vehicles moving autonomously between specific points using auxiliary markers such as magnet, wire, and QR

2) AMR(Autonomous Mobile Robots): Autonomous Mobile Robots that use SLAM(Simultaneous Localization and Mapping) technology to route autonomously and move while avoiding obstacles

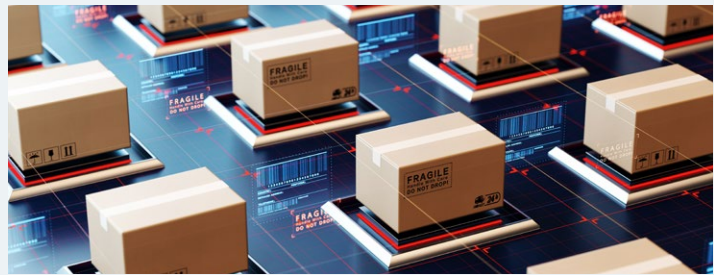
# DOOSAN LOGISTICS SOLUTIONS



Doosan Logistics Solutions was established in 2019 following the acquisition of Samo Logistics Information, which has supplied logistics automation software to the domestic distribution and manufacturing industries since the 1990s. It has been leading the WMS(Warehouse Management System) and WCS(Warehouse Control System) markets in Korea with its in-house technology and has further expanded its business scope to system integrators, which supply logistics automation equipment using advanced software. Doosan Logistics Solutions will become the best total solution provider by supplying advanced logistics automation equipment and enhancing software in a variety of industries to meet customer needs.

## Main Products and Services

Doosan Logistics Solutions integrates software technologies and automated hardware systems that control and manage all processes at logistics centers, including designing and consultation. It provides turnkey solutions or individual product development/services upon customer request.



## Major Performance in 2020 & Future Plans

Market Changes	2020 Performance	2021 Plan
<ul style="list-style-type: none"> <li>Explosive growth in online sales channels, the aging of the population, increased labor costs, and intensified competition among shipping companies are driving the need to introduce automation technologies to logistics centers</li> <li>Demand for logistics automation solutions in Korea and Asia is expected to continue to grow by five to ten percent over the next ten years. In particular, the demand for high-end automation systems for large retailers and e-commerce will expand to manufacturing industries</li> <li>Especially after COVID-19, the logistics channel was restructured to focus on online channels, and there was an explosive increase in demand for e-commerce and home delivery due to the pandemic</li> </ul>	<ul style="list-style-type: none"> <li>Doosan Logistics Solutions has created visible performance such as being designated as the business supplying logistics automation solutions to domestic and Asian customers since its launch in 2019</li> <li>Carried out logistics center automation projects for Thailand's state-run petrochemical company, the Vietnam national post office, and a global sportswear company</li> </ul>	<ul style="list-style-type: none"> <li>Doosan Logistics Solutions is planning to provide user convenience and efficiency in automation management by adding functions such as index management and predictive management to its logistics IT software through 3D monitoring and Dashboard</li> <li>Aiming to increase supply of Hi-end automation projects to domestic large distribution companies, e-commerce, and 3PL customers in collaboration with its hardware partner Knapp(Austria) and Geek+, the no. 1 company in terms of global market share in AMR</li> <li>Won order for automation project of leading home delivery company and e-commerce company in Korea' plans to carry it out in 2021</li> </ul>

# DOOSAN MOBILITY INNOVATION



Doosan Mobility Innovation(DMI) plans to apply mobile fuel cell to firefighting robots, range extenders, and forklifts in the future based on its experience in commercializing small and light weight mobile fuel cell pack for the first time in the world. Furthermore, we are aiming to enter the large cargo drone and UAM(Urban Air Mobility) market.

## Main Products and Services

### Hydrogen Fuel Cell Pack(DP30)

This is a Long Endurance power pack that enables flight of more than 2 hours, successfully commercialized for the first time in the world. It can be used for drones that need long-distance/long-term flight. Especially, this is a very eco-friendly product since hydrogen is used as the renewable energy source. This power pack received the Innovation Award in the Sustainability, Eco-design & Smart Energy categories at the last CES 2020 event.

### Hydrogen Fuel Cell Drone

**DS30W** The wind-resistant version of DS30, which won the Best Innovation Award in the Drones & Unmanned Systems category at CES 2020. It can fly for up to 2 hours with a maximum payload of 5 kg.

**DT30N** This is the model jointly developed by DMI and a Chinese company specializing in industrial drones. It will primarily be used in harsh industrial environments such as military, firefighting, and mine development sites (released this year).

**DJ25** This is a VTOL (Vertical Take Off and Landing) model jointly developed by DMI and a Chinese company specializing in industrial fixed-wing drones. It can fly for up to 250 minutes. This will be used for borderline surveillance, large-area mapping, etc (released this year).

**DZ15** This is a helicopter-type drone jointly developed by DMI and a high tech unmanned electric helicopter company in China, and is optimized for long flights. It can fly for up to 330 minutes, and is expected to be actively used for marine flights (released this year).

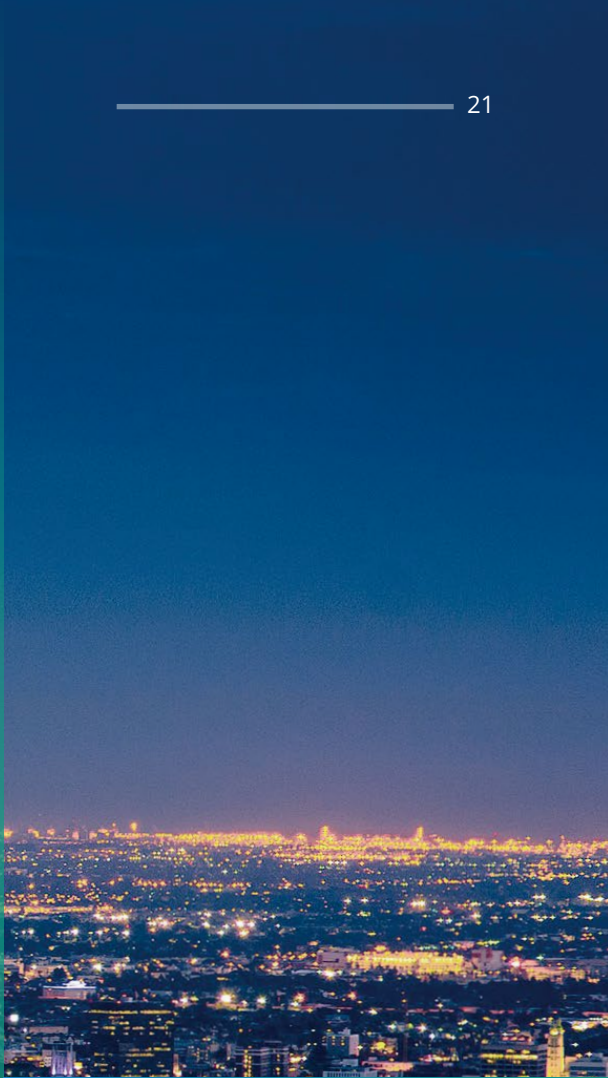
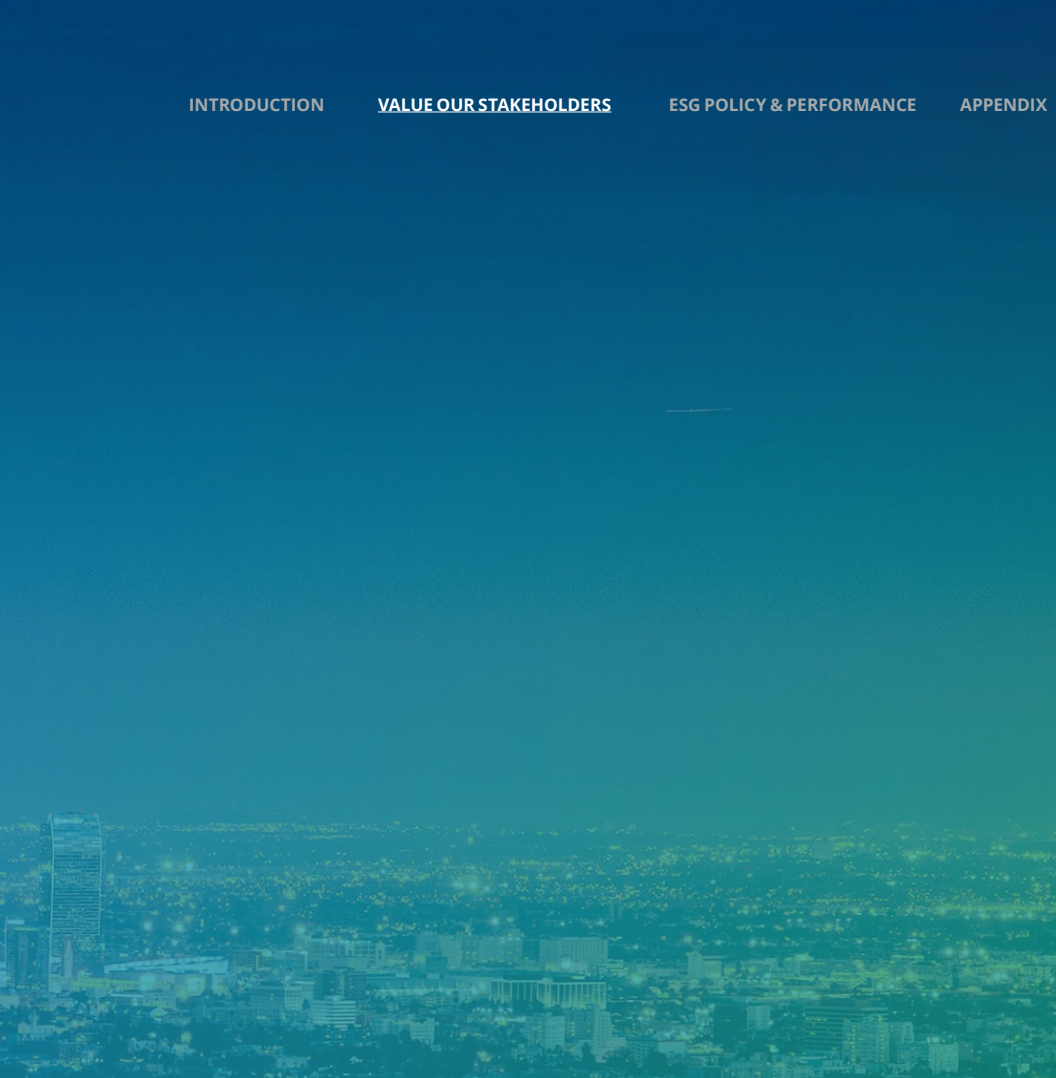
## Major Performance in 2020 & Future Plans

Market Changes	2020 Performance	2021 Plan
<ul style="list-style-type: none"> <li>Market expansion of industrial drones and increased demand for longer duration drone flights for purposes such as inspection of pipelines, power lines, transmission towers, and wind power plants, etc.</li> <li>As untact delivery is increasing due to the impact of the COVID-19 pandemic, the introduction of delivery using drones is accelerated mainly from the US market.</li> <li>Globally, UAM market(Urban Air Mobility) is attracting interest</li> <li>In 2020, various companies entered the UAM market to develop products and conduct test flights</li> </ul>	<ul style="list-style-type: none"> <li>DMI has gained empirical experience in areas such as delivery, gas pipeline inspection, and solar power plant inspection in the domestic market, and successfully settled in the premium drone market</li> <li>Due to the effect of COVID-19, we continued our sales activities through Virtual Demo in the Americas and participated in online exhibitions to enter the Australian market. In the Chinese market, we are concentrating on local sales and B2B development centered around DMI's Shenzhen subsidiary(DMIS).</li> <li>DMI participated in the "Urban Air Mobility Public-Private Council(UAM Team Korea)" launched by the Ministry of Land, Infrastructure and Transport as the representative company from the industry</li> </ul>	<ul style="list-style-type: none"> <li>DMI plans to commercialize solutions for each field in video control monitoring, including gas pipe monitoring solutions</li> <li>In the Americas, DMI plans to continue dealer-centered commercialization and customer POC</li> <li>In China, business scope is expanded to firefighting and mapping through the launch of a new product, DT30N, which improved the marketability of the existing jointly developed DT30 model, and new releases of DJ25 and DZ15</li> <li>DMI plans to continue participating in UAM Team Korea to participate in the detailed tasks of the roadmap, and seek multilateral consultations with various participating entities (research institutes, local governments, companies)</li> </ul>

# VALUE OUR STAKEHOLDERS

Doosan Corporation is establishing its position in a newly growing market and business by monitoring rapidly changing market conditions and paradigm shifts and responding promptly.

By expanding our investments and concentrating our efforts, we are diversifying our business portfolio, focusing on businesses with high future growth potential, and continuously exploring eco-friendly and new growth businesses to enhance corporate sustainability and corporate value.



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## Doosan ESG Management

In the past, a business's main aim in conducting ESG management activities was the simple management of its prestige, but it is now focused on increasing the creation of capital market results as well as risk management. We aim to handle external stakeholders' demand positively in the areas of environment, social, and governance and to carry out customized ESG management activities based on our own 3P(People, Planet, Partners) framework.

### ESG Management Based on the 3P(People, Planet, Partners) Framework

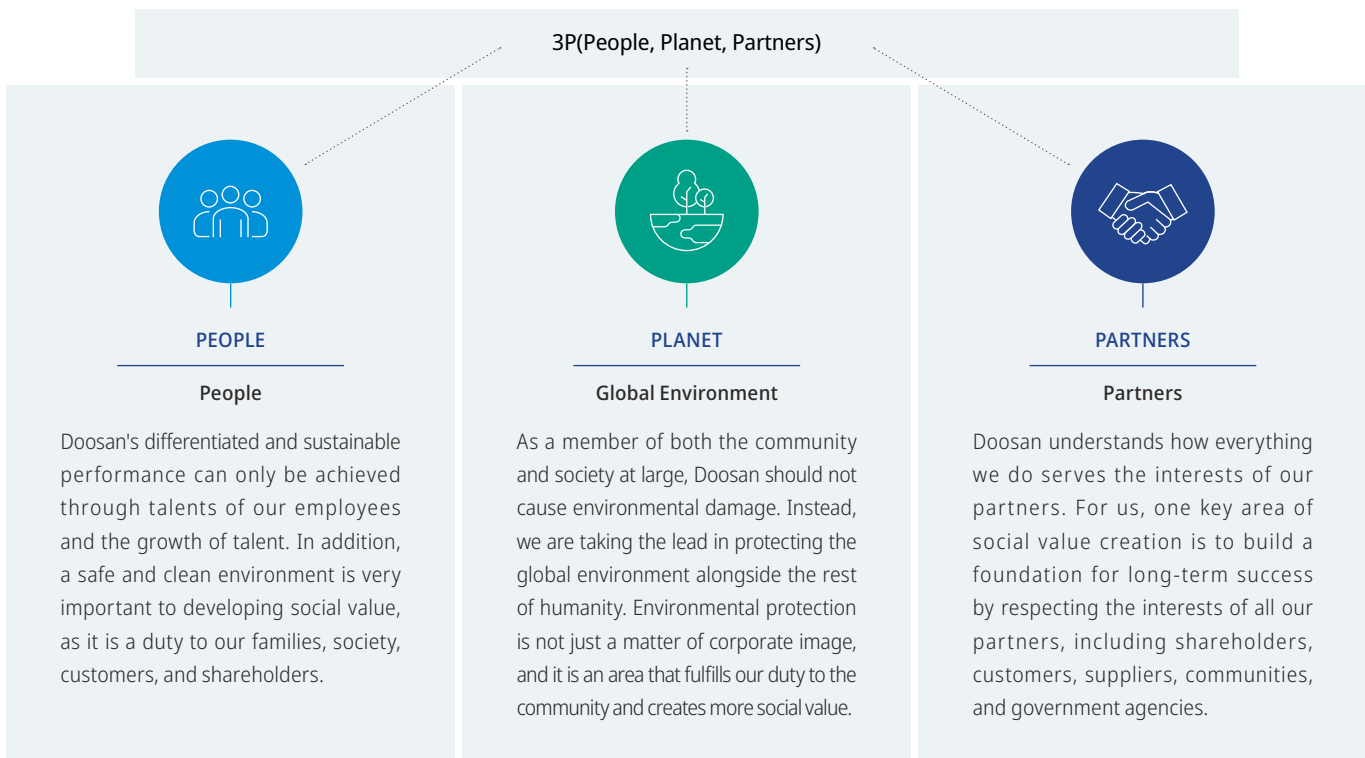
The key to successful management is the efficient allocation of resources. To develop a more effective ESG management system, Doosan has further subdivided the areas of contribution to stakeholders in consideration of the characteristics of its business based on the ESG management framework as discussed by scholars and specialists in the business sector.

In 2020, we clearly presented which areas of our business operation we needed to concentrate on by highlighting the 3P framework in our ESG report. We disclosed ESG information based on the 3P framework while striving to improve and refine our ESG activities in each area.

We are concentrating our management activities on enhancing efficacy in ESG to bolster our system and manage results. We will measure the social value of the results based on the ESG system and continue to refine our measurement of social value from the perspective of products and services.

We will conduct 3P-based ESG company to promote not only economic value creation activities, but also with various actors and stakeholders who have a close relationship with Doosan's management activities, such as employees, customers, partners, local communities, and the natural environment.

### Doosan's Value Contributes to the 3P(People, Planet, Partners)





## Stakeholder Interview



**Eun-kyung Lee**, Chief of UN Global Compact Network Korea

### Q1.

What do you think about ESG management and the 3P (People, Planet, Partners) model of Doosan Corporation?

### A1.

Doosan Corporation's management of the 3P(People, Planet, Partners) is evident through clearly distinguished goals and targets to implement Doosan Group's unique ESG management model. Doosan is presenting values that should be pursued for the sustainable development of the company and society. The 3P that have been reorganized based on the group's direction and strategy are regarded as the best practice, to be referenced by companies that want to internalize ESG. The United Nations defines "sustainable development" as "filling the needs of the present generation without compromising the foundation on which future generations can fill their own needs", and announced that this can be achieved through interaction based on three factors: people, the planet earth, and profit creation. It is quite positive that Doosan Corporation recognizes partners as the key stakeholders of the company, as an important area of ESG, in addition to the three elements of the United Nations. After all, the ultimate goal of ESG management is to achieve sustainable development for everyone, together. At home and abroad, standards are converging at a rapid pace in various areas such as ESG disclosure, governance, and communication. Doosan Corporation needs to systematically organize and utilize the ESG management framework with regard to the implementation of 3P management.

### Q2.

What do you think about the measurement of Doosan Corporation's social value?

### A2.

Continuous measurement of a company's social and environmental impact and performance is very important in determining the results of actual implementation, and in setting improvement directions and goals. Through the continuous monitoring of actual impact measurement and improvement of social value creation in addition to financial performance, the direction of corporate management can be confirmed, and social needs can be identified and adjusted. This is very important because corporations can always exist and grow in the market and society.

Especially in light of international trends such as the demands of policy authorities and investors, efforts to convert social value into financial results are becoming increasingly important. Thus, an active response is necessary to develop such values. However, it is necessary to prepare persuasive data and materials on the method and process of monetization measurement, which shall be communicated to stakeholders.

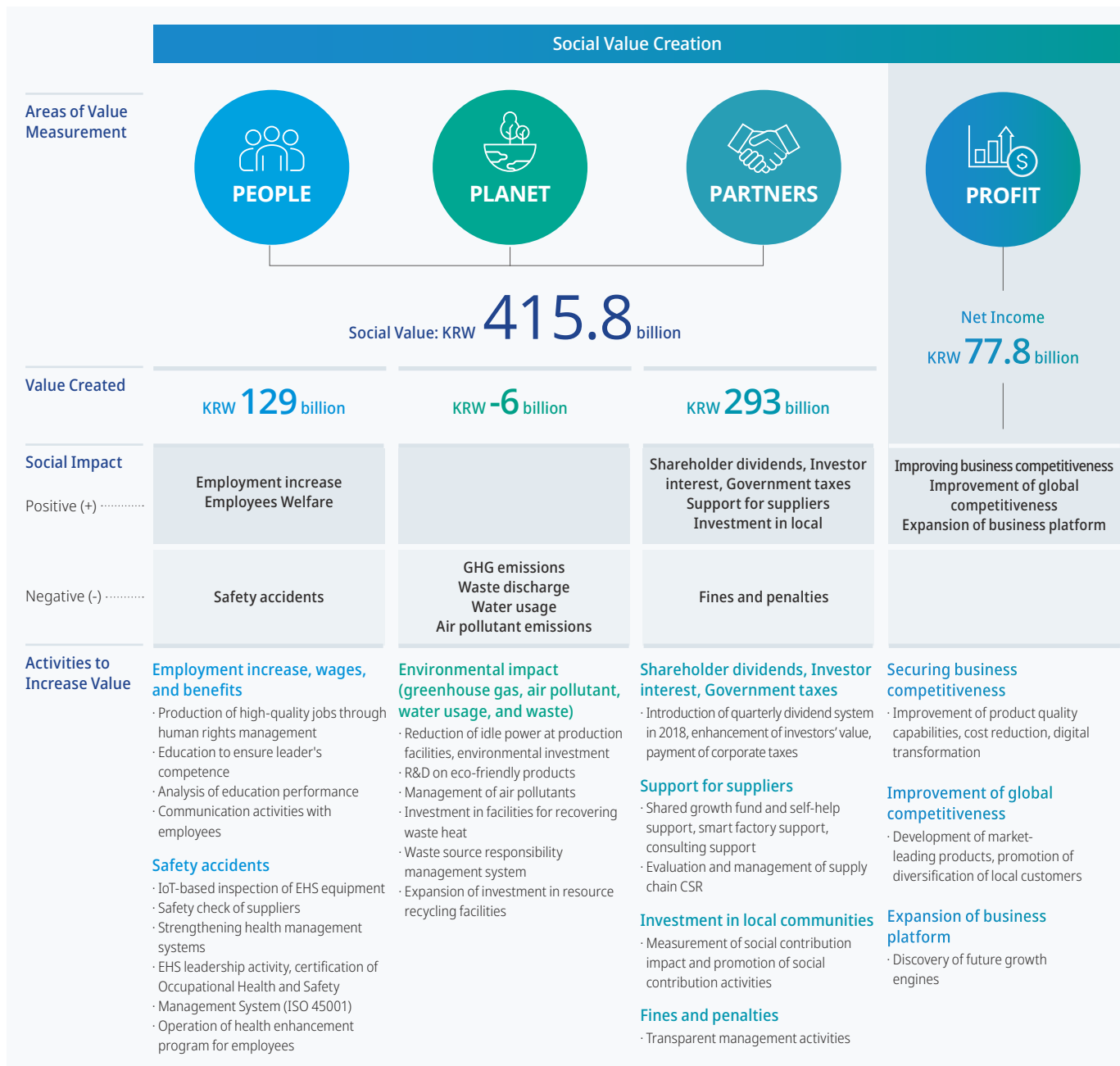


## Social Value

### Measurement of Corporate Social Value

Doosan Corporation discloses its business innovation performance and continuous growth process to its stakeholders in a clear and transparent manner. We measure changes in the value of the social and environmental impact on various stakeholders and use the results as a performance indicator of our business activities to enhance the value of Doosan Corporation. Doosan Corporation will continue to carry out management activities aimed at enhancing our social value and communicating with stakeholders.

The social value of Doosan Corporation in 2020 was divided into three categories (People, Planet, and Partners) and measured accordingly; it was valued at approximately KRW 415.8 billion. As the environmental impact is reduced, we expect a positive trend to continue in the future. Doosan Corporation is committed to improving its corporate social value continuously based on the impact on stakeholders.

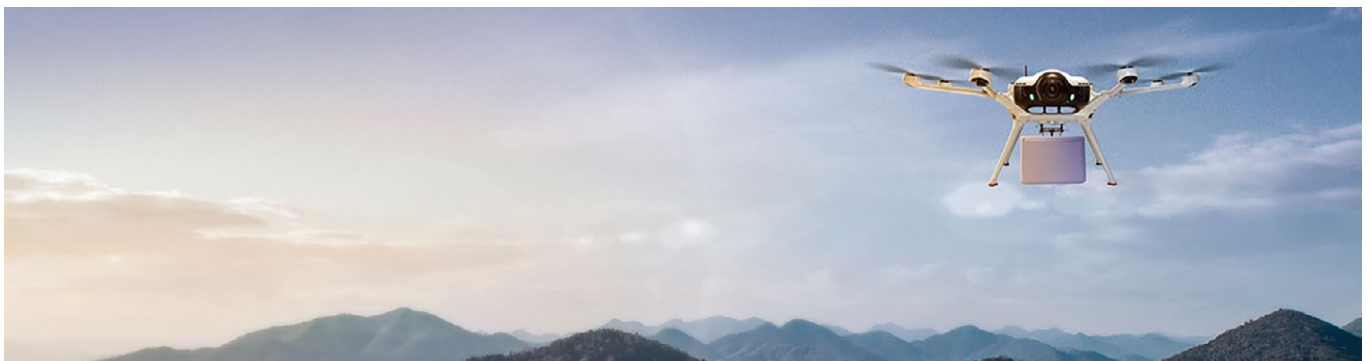


\* Social value is measured with KPC, a special institution for sustainable management. Each value calculation was measured based on statistics and research data from Korea and overseas.

### Social Value of COVID-19 Emergency Relief Solution using Hydrogen Drone

Doosan Corporation works to improve its business competitiveness not only by measuring the company-wide social value that measures the performance of corporate management activities but also by measuring and improving the social value of its products and services. Doosan Mobility Innovation (DMI) conducted a mask delivery project using hydrogen-powered drones that can fly for two hours or more over small islands around Jeju Island, where no public masks were available in 2020 when COVID-19 was spreading rapidly. It also provides differentiated value by utilizing “fully automatic beyond the line-of-vision flight” technology, which allows the aircraft to be moved to a designated place without additional control beyond the line-of-vision of pilots.

Three types of value were applied to measure the social value of this project: ①eliminating value that removes existing negative factors, ②improving value that enhances negative factors, and ③creating three measurement methods of new value. The results showed that the social value thus created amounted to about KRW 1,200 million. Doosan Corporation will do its best to establish a sustainable society and evolve into a leading company by investing in and promoting future technologies.



# OUR PEOPLE

Percentage of Employees Participating HRIA\* **80.2%**  
2018-2020



\* HRIA: Human Right Impact Assessment

Number of Serious Accidents (Including suppliers) **0** case



Number of COVID-19 Infections (Based on Domestic occurrence) **0** case



### Link to Materiality

- Recruitment of talented employees and improvement of employee abilities
- Organizational Culture(HRD/Human Rights/Safety)

### Link to SDGs



### Why It Is Important

The world is in a time of rapid change with a new paradigm centering on climate change and eco-friendly technologies. Due to the rapidly changing management environment, ultra-uncertainty is emerging. In this management environment, the importance of selecting and nurturing talented employees that will lead the company's future is gradually increasing. In addition, the company's efforts to improve employee satisfaction are gradually expanding, such as providing employees with safer and more comfortable working conditions and introducing various in-house systems to guarantee a work-life balance.

### How We Respond

Doosan Corporation is pursuing long-term growth based on its 2G strategy (Growth of People, Growth of Business) of helping develop talented people and is committed to realizing a virtuous circle in which corporate growth provides opportunities for individuals to grow. In addition, we are carrying out various activities, such as creating a safe working environment, strengthening human rights management, and making a happy organization for employees based on a respectful corporate culture.

# Establishing a Happy Organizational Culture

## Establishment of a Culture of Respect for Employees Based on Human Rights Management

### Internalization of Human Rights Management

Doosan Corporation is carrying out various activities to internalize a strong culture of human rights management throughout the entire company with the aim of creating mature relationships and mutual respect among all our employees. Doosan Corporation also plans to respond more actively to human rights-related issues. In 2021, we are planning to publish a White Book on human rights management for leader-managers, with a focus on actual cases of violations of employee human rights, in order to prevent potential human rights violations from occurring within the organization proactively. We will also hold a workshop to improve the competences of persons in charge of human rights at each business unit and improve employee access to the grievance process handling system by strengthening the advertisement of the system.

### Human Rights Impact Assessment(HRIA)

Through human rights impact assessments, we actively identify potential human rights violation issues in the areas of discrimination, forced labor, wages, working hours, child labor, freedom of association, consumer human rights, and information security. We have conducted a human rights impact assessment at all our workplaces in Korea and at major branches in China in the last three years, assessing 4,120 employees, i.e. 80.2% of the total workforce. We aim to complete our assessments of all employees and overseas workplaces in 2021.

### Due Diligence

Doosan Corporation's due diligence on human rights consists of discovering potential human rights risks, which are internalized in major items such as the grievance process, fair treatment, respect and communication, prohibition of forced labor, and the organizational culture, and in evaluating, improving, and communicating the identified risks. In 2020, human rights due diligence based on interviews and surveys was conducted with a total of 125 executives and staff members (approximately 10% of the total office staff) of 6 affiliates (Electro-Materials, Industrial Vehicles, retail, Doosan Robotics, Doosan Mobility Innovation, Doosan Logistics Solutions) of Doosan Corporation. In addition, in order to expand human rights management coverage, from 2020, we are conducting human rights due diligence to include not only office workers but also technical workers (average 10% per site).

### Major Items of Human Rights Due Diligence at Doosan Business Sites in

Grievance settlement system	Fair treatment	Organizational culture/ Leadership
Prohibition of forced labor and improvement of quality of living	Respect and Communication (Sexual harassment, Bullying in workplace, Communication)	

### Human Rights Monitoring Process

**01 Commitment of Human Rights Policy**

**02 Risk & Impact Assessment**

**Preparation of Company-wide Human Rights Assessment System**

1. Establish assessment areas
2. Establish assessment scope
3. Establish assessment period & plan
4. Summarize assessment result

**03 Due Diligence**

1. Major due diligence items
2. Criteria for selecting employees subject to due diligence
3. Due diligence cycle and plan
4. Summary of due diligence results

**04 Preventive & Mitigating Actions**

**Plan for Risk Prevention Measures Based on Assessment Results**

1. Take action for vulnerable areas
2. Educate and communicate

**05 Performance Assessment & Disclosure**

**Review and Reporting of Human Rights Management Assessment**

**Disclosure of Human Rights Management Issues**

### Measures for the Prevention & Alleviation of Human Rights Issues

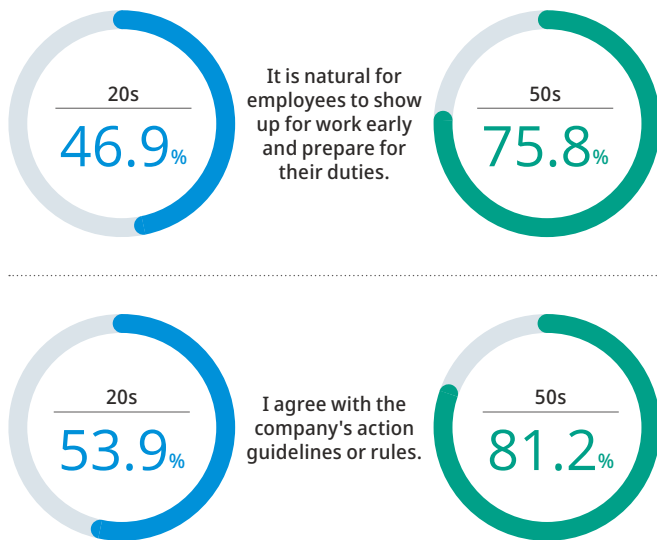
The due diligence on the human rights of office and technical workers conducted in 2020 showed that there were no critical issues from the overall perspective of human rights. However, it revealed that employee awareness and use of the in-house grievance process was relatively low. As preventive and mitigation measures, activities of advertising the grievance process channels are provided to promote the grievance process and expand awareness, and education and workshops were held to strengthen and promote the expertise of members in the grievance process. Doosan Corporation will continue to education and other beneficial programs in 2021.

## Vitalization of Communication with in the Organization

### Diagnosis of the Generation Gap

As of 2020, millennials born after 1981 account for 57% of all office employees in Doosan's business divisions. As such, activities designed to minimize the generation gap within the organization and improve communication have become an essential factor in ensuring that employees from different generations can progress efficiently towards a common goal. Accordingly, Doosan began systematizing the generation gap diagnosis program in 2019 and, based on this, launched an initiative designed to increase company-wide communication between executives and staff members. Thanks to this program, Doosan has been able to form a window for understanding the generation gap from a demographic perspective, and establish a channel for talking about our organizational culture and the future.

### Differences in Perceptions about Company Norms between the Older and Younger Generations



The difference in generational perceptions of office-leaving hours and work preparation was about 30%, with employees in their 20s responding that there is a difference in their perception of the rules related to work life and culture. Furthermore, the difference in the generational perceptions of the company's action agenda and rules was approximately 27%.

Doosan is working hard to develop a new standard of "Us" to minimize generational differences. We are currently attempting to narrow the differences in employees' perceptions based on communication and consensus by collecting inter-generational opinions on the tacit rules and converting them into explicit criteria.

### Preparation of a Channel for Vitalizing Communication

The generation gap diagnosis program is effectively playing the role of a direct-indirect communication channel between executives and staff members within Doosan Corporation. We periodically send out newsletters containing each generation's perceptions of situations that can cause conflict within the organization, such as "leaving the office at the regular time," "not wearing formal attire," "company dining culture," "devotion to the organization," "task-cueing," and "decision making," as well as good suggestions for problem-solving. These efforts allow Doosan to present the differing perspectives of each generation on the same issues to employees of various age groups within the company; and we are now preparing an indirect channel that can promote effective inter-generational communication.



**Professor Yun-soo Lee,**  
Department of Educational  
Engineering, Hanyang University

Q1.

What do you think about Doosan Credo?

A1.

Doosan's Credo is characterized by fulfilling social responsibility as an ethical company and focusing on the values of people (customers and employees), while maintaining its business model. The 9 core values seem more understandable than just slogans because they provide specific guidelines in comparison to other companies. Sharing and awarding the best practices of the Credo has been a strong motivator for employees, and is acknowledged as the yardstick of self-monitoring. I hope that the Doosan Credo will spread as a successful corporate culture brand at home and abroad in the future.

Q2.

What is the direction of future development?

A2.

In the end, the Credo will be practiced by people. From an HRD perspective, the company-wide interest and support Doosan has shown for its employees is sufficient enough to show bright prospects for future development. The need to develop human resources to proactively and preemptively respond to environmental changes such as digital transformation and COVID-19 is obvious, and Doosan's actions are highly likely to create innovation and maintain a competitive edge. However, the company needs to focus on increasing learning agility to promote voluntary learning by employees rather than company's management of all individual jobs and capabilities. Organizations staffed by individuals who actively develop their own skills will be healthier and more innovative. To this end, I think it is necessary to prepare a system that manages and recognizes learning history and experiences, and a support system that encourages voluntary learning organizations.

## Strengthening Activities for Developing Employees' Competencies

### Leadership Workshop for Innovation of Change

To promote innovation of change in connection with the Doosan Credo and the company's future vision, we are providing a workshop in which all the leaders in each business division gather in one place. The 4th Leadership Meeting for Innovation of Change, held in 2020, was conducted with the theme "Reading and adapting to changes and achieving new growth", which is the way leaders work in an ever-changing environment.

The leaders of Doosan Corporation have thought about their duty to ensure the psychological stability of Doosan employees and discussed the roles required of leaders to rapidly respond to the ever-changing external environment, the generational gap between employees, and methods of adapting to changes in modes of communication.



Leadership Workshop

Doosan Corporation's Business Groups plan to carry out new activities for the management of "employee immersion in their work" in 2021. In 2020, a survey on was conducted to assess the "psychological stability" of all office workers (449 out of 1,021 employees participated) as a preliminary inspection of employee immersion management. The results of the survey were used in the leadership workshop after analyzing the results by business and position in Doosan Corporation BG. Leaders had meaningful time to think about the virtuous cycle structure, which can produce superior performance based on securing the psychological stability of employees. Doosan Corporation set future plans for changes and innovation in issues related to employees at the workshops to follow the direction of the Doosan Credo in 2021.

### Systematization of Training to Strengthen the Core Competencies of New Business

Doosan Corporation is strengthening and gradually expanding training programs to reinforce the core competencies of new business divisions. In 2020, we prepared a training program for strengthening the core competencies of the Fuel Cell Power BU. In order to set up a training system for the division, we identified required skills by position and developed a customized training program for each job. Through the training program, designed for a total of 85 executives and staff members in the research institute, services, manufacturing, sales, and quality assurance, Fuel Cell Power BU employees acquired knowledge that can be immediately used in their actual work, and they were able to learn skills on how to approach and solve a problem when it arises.



#### Fuel Cell Power BU training

A total of **85** employees

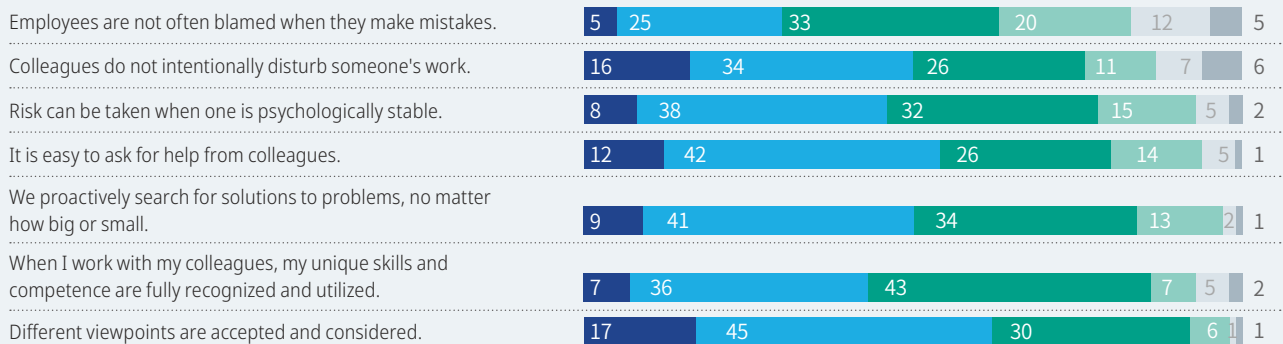
To strengthen the leadership skills of the Doosan Robotics, we are conducting a leadership workshop to instilling self-directed leadership. Specifically, the workshop hopes to induce discussion by publicizing current issues that Doosan Robotics is facing, and to ensure that a leader can clearly recognize his/her rights and responsibilities and develop effective methods to lead the organization. Through the program, which consists of training sessions on issues such as methodologies for effective team building, conflict resolution, and collaboration, Doosan Corporation is laying the groundwork for effective leadership in Doosan Robotics.

#### Core Competency Training

Discussion of installation cases	8 people from research institute, services, QA
Understanding of line configuration/firmware/electronic components	30 people from research institute, services, manufacturing, sales, QA
Problem-solving process	1st 16 people 2nd 12 people 3rd 18 people

#### Results of the Psychological Stability Survey

● Strongly agree ● Agree ● Slightly agree ● Slightly disagree ● Disagree ● Strongly disagree (Unit: %)



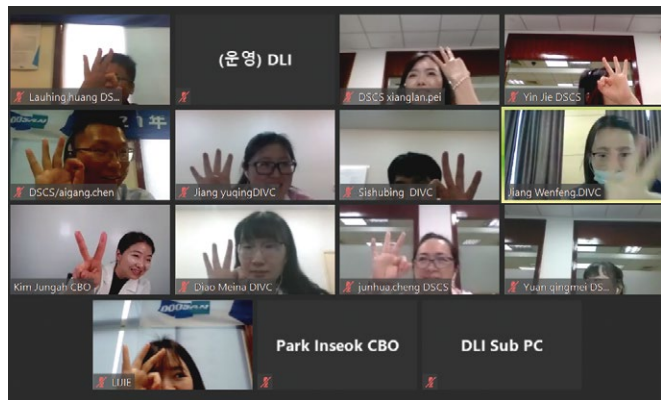
**"New Normal" Era, Improving Contactless Training Programs**

Due to COVID-19, we are responding to the "new normal" era by changing the employee training—which used to be conducted offline—to contactless training. Doosan Corporation has carried out a systematic changeover of major training activities and systematically developed a curriculum in the following order: ①Contactless conversion design, ②Concentrated preparation of contactless operation, ③Improvement & development of contactless content, and ④An execution & supplementation stage.

We have improved the training program by conducting a survey to receive quantitative/qualitative feedback from employees after holding contactless training. In the future, Doosan Corporation will work to overcome COVID-19 through the expanded operation of contactless training programs and effectively respond to the "new normal" era in preparation for the era after COVID-19. To this end, we will do our best to establish the infrastructure and related systems in which employees can immerse themselves in the contactless training course.

**Contactless Training Program**

For production engineers		For office workers	
1:1 LAB video language course			
Production Academy	Engineer stepping-stone course	Pre-session on understanding resident employee culture	Chinese corporation promotion course



Chinese Corporation promotion course

**Workplace Safety Management**

**Enhancing the Health and Safety of Suppliers**

Doosan Corporation is operating the 4 major directions it established for strengthening the safety of suppliers; in 2020, suppliers achieved 0 case of serious disaster accidents. We are sharing major legal changes through the EHS regular consultative group and improving EHS management abilities with activities for inducing the discovery and improvement of risk elements on-site with joint inspection. We are also working hard to make sure that risk assessment, safety & healthcare training, and technical support are managed at the same level as our company by operating the safety & healthcare cooperation & coexistence program.

In particular, Doosan Corporation runs health promotion activity programs and preventive activities for stress-related illnesses, cardiovascular, cerebral and musculoskeletal disorders, and is committed to health and safety management of its suppliers' employees.

**Four Strategies for Safety Management of Suppliers**

- 01  
Operate health & safety council joined by suppliers
- 02  
Identified potential risks via site inspection
- 03  
Offer employee training for supplier's to improve EHS competence
- 04  
Technical support for health & safety and Health Care



Number of serious accidents in suppliers (2017-2020)

**0** case



**Safety Management System & Activities**

Doosan Corporation has set improving “field safety” as its top priority and is making its management system more sophisticated. The Electro-Materials BG extended the MOC (Management of Change) process to all manufacturing processes in order to proactively identify potential risks and prevent accidents.

Through the MOC process, we do our best to discover and eliminate potential risk factors at each step by forming committees at each step (before placing an order, and before and after construction). In addition, Doosan Corporation is strengthening its safety management system by improving the MOC process and expanding the scope of its application.

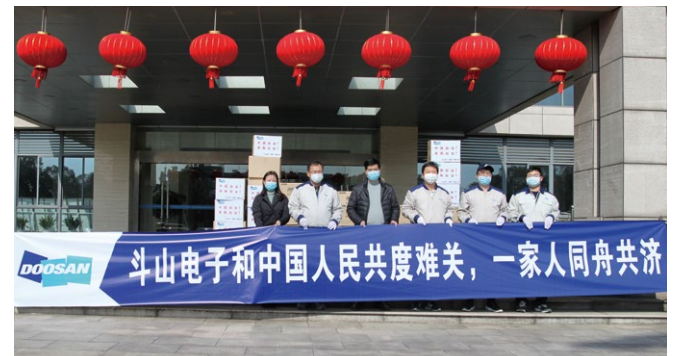
**MOC(Management of Change) Process**

Description	Before Order	Before Construction	After Construction
Responsibilities	Change management Committee	Safety Planning Approval Committee	Final Approval Committee for Change
Activities	<ul style="list-style-type: none"> <li>· Determination of MOC class (class 1 to 3 according to risk)</li> <li>· Confirmation of possible risks (discussion of related laws, changes, EHS issues, etc.)</li> <li>· Advance risk assessment</li> </ul>	<ul style="list-style-type: none"> <li>· Construction safety plan and work safety analysis</li> <li>· Identification of risks before construction (Daily Check for all workers)</li> <li>· Issuance of daily security work letter</li> </ul>	<ul style="list-style-type: none"> <li>· Inspection before operation and preparation of punch list</li> <li>· Establishment of a work improvement plan</li> <li>· Preparation and amendment of SOP1)</li> <li>· Training of new workers</li> </ul>

1) SOP: Standard Operating Procedures

**Countermeasures to COVID-19**

Doosan Corporation has not only followed the government guidelines on COVID-19 but also established and managed its own strict quarantine standards to protect the health of its employees and their family members. We have developed detailed criteria for the various circumstances (contact with an infected person, testees, presymptomatic expression, etc.) of employees or members of their households. In addition, we have developed a rapid response system based on the daily monitoring and reporting of confirmed case statistics of testees, people in quarantine, overseas business travelers, and neighboring regions of our domestic and overseas workplaces. Furthermore, there have been no confirmed local cases, as we have provided step-by-step quarantine guidelines and executed steady quarantine activities. In particular, we are committed to preventing the spread of COVID-19 by supplying quarantine items and personal protective equipment (PPE), including 70,000 masks, non-contact thermometers, hand sanitizers, and latex gloves to local and overseas workplaces and suppliers that have difficulty acquiring them. In the future, Doosan Corporation will maintain the quarantine measures until the COVID-19 crisis has been resolved in order to ensure the safety of its employees.

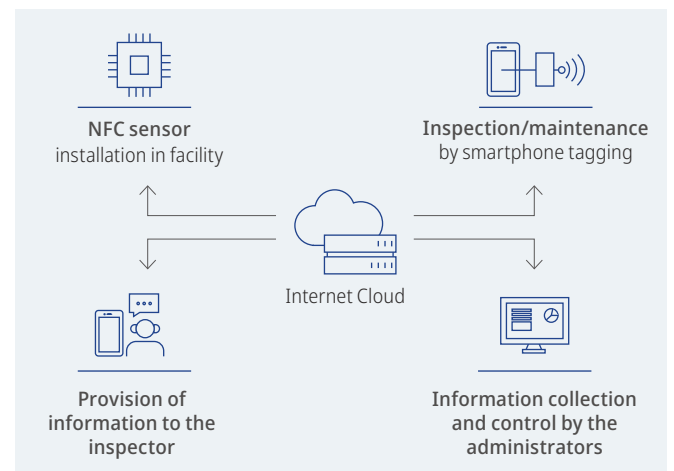


Supply of Masks to the Electro-Materials BG China

**IoT-based Safety Management Activities**

Doosan Corporation introduced safety management activities grafted with IoT technology to the electro-materials BG to establish a safe work environment. Mobile inspection is an inspection on facilities and workers with location-based technology through tablet devices and beacons<sup>1)</sup>. We are inspecting prevention facilities and hazardous machinery, among other things. Furthermore, we ensure that accidents are prevented beforehand with the activation of an alarm and a warning light by installing a body detection sensor and a forklift approach warning device on forklifts. These safety management activities will be gradually expanded to all worksites. Doosan Corporation will upgrade the EHS inspection system.

1) Beacon: It's a smartphone near-field communication technology for browsing equipment at close range based on the user's location and connecting them to smartphone programs.



# OUR PLANET

Sales Share of Eco-Friendly Products **77.9%**



Recycling Rate **78%**  
(Domestic and overseas business sites)



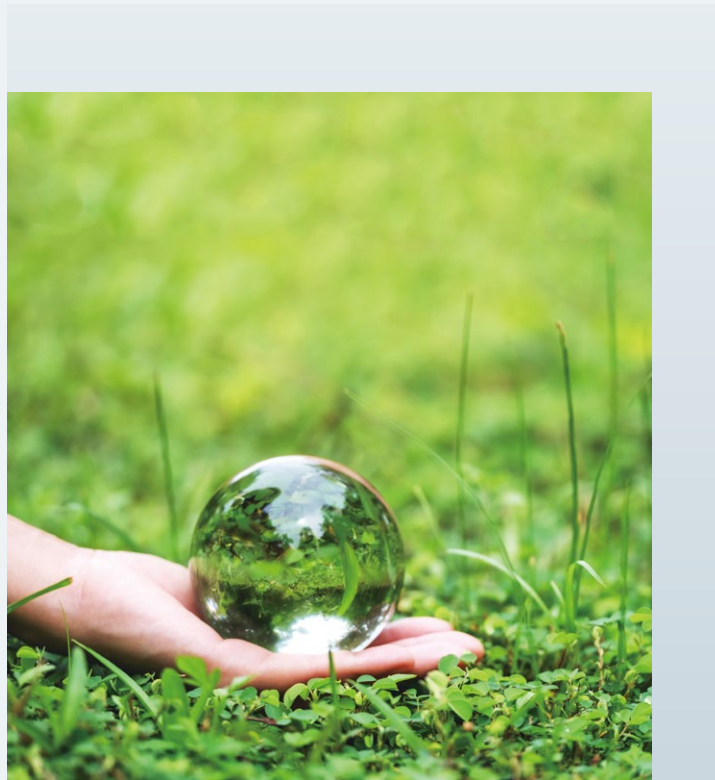
Energy Intensity **0.82**  
TJ/1 billion



### Link to Materiality

- Develop eco-friendly products and services
- Efforts to reduce greenhouse gas emissions and energy use
- Increased resource circulation and recycling

### Link to SDGs



### Why It Is Important

Indiscreet industrial activities have caused not only climate change but also various environmental pollution issues. In response, various members of society, including the state, initiatives, and NGOs, have begun to take active steps to prevent, reduce, or reverse environmental damage. ESG management is becoming actively focused on major developed countries and global-leader companies, and the demand for the disclosure of transparent information on corporate activities is increasing.

### How We Respond

Doosan Corporation seeks to minimize the impact of its business activities on the global environment. To this end, we are carrying out greenhouse gas and energy reduction activities and are concurrently carrying out activities to preemptively respond to various government regulations, such as air pollution and waste reduction activities at business sites. In addition, we advanced the resource circulation system and expanded related businesses.

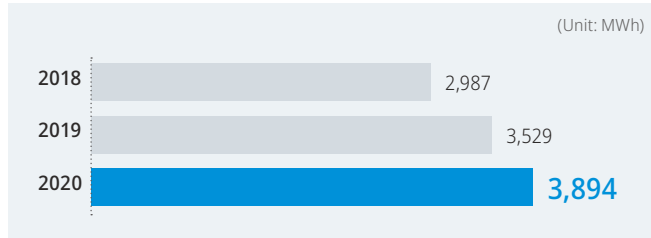
## Reduction of Greenhouse Gas Emissions and Energy Consumption

### Reduction of Greenhouse Gas Emissions through Energy-Saving Activities

Doosan Corporation is progressing with greenhouse gas emissions reductions based on energy reduction activities. In particular, targets subject to regulation have been expanded from the greenhouse gas emission trading scheme for each workplace in the Electro-Materials BG to the “greenhouse gas and energy target management scheme”. Thus, the target goal of reductions for each workplace has been established to achieve the government goal and activities of reduction in energy and greenhouse gas have been steadily promoted to achieve the target goal.

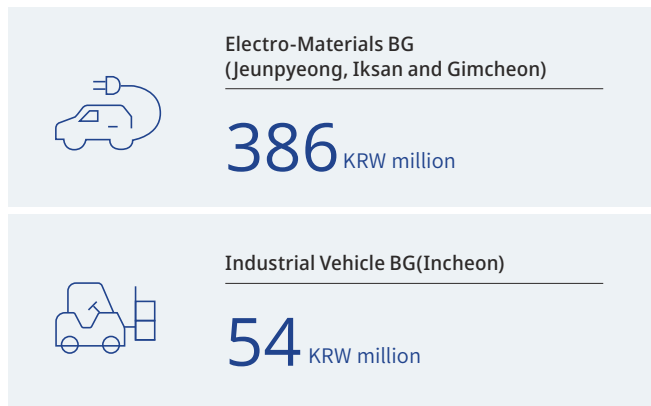
In 2020, Doosan Corporation's business sites subject to energy-intensive management saved 3,894 MWh of electricity, which is a 10.3% reduction compared to the previous year. In the future, Doosan Corporation will do its best to reduce greenhouse gas generated from management activities based on energy reduction activities and expansion of facility investment.

Amount of Power Saved by Our Major Factories<sup>1)</sup>



1) Major factories of Doosan Corporation: Electro-Materials BG(Jeunpyeong, Iksan and Gimcheon) and Industrial Vehicle BG(Incheon)

### Our Investment in Energy Saving Activities in 2021



### Improvement of Energy Efficiency at Production Facilities

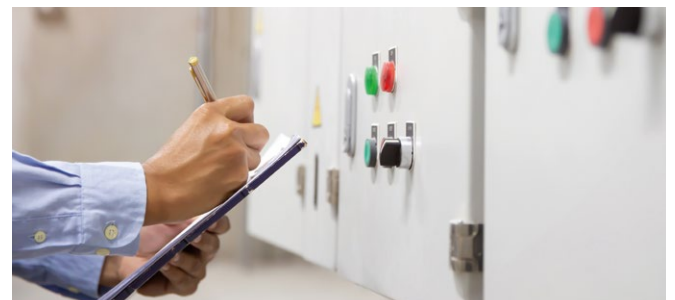
Doosan Corporation is carrying out activities to improve the efficiency of our production facilities in order to cope with the GHG Target Management System.

For example, the Incheon factory of the Industrial Vehicle BG saved 702.44 MWh in 2019~2020 by replacing dilapidated compressors and investing in new compressors, and achieved a more efficient use of power by replacing existing lighting with LED lights. The Electro-Materials BG's large-scale factories in Gimcheon, Iksan, and Jeunpyeong also led the way in improving the energy efficiency of production facilities by focusing on energy-saving activities.



### Idle Power Saving

The Gimcheon factory of the Electro-Materials BG reduced electricity consumption by setting the temperature of its air handling units 2°C higher than normal when not in use, and more efficient operation of the hot-water pumps. Meanwhile, the Iksan factory saved a total of 697.32 MWh in power consumption by cutting the power supply to the air handling units when they are not in use.



## Expansion of Resource Circulation

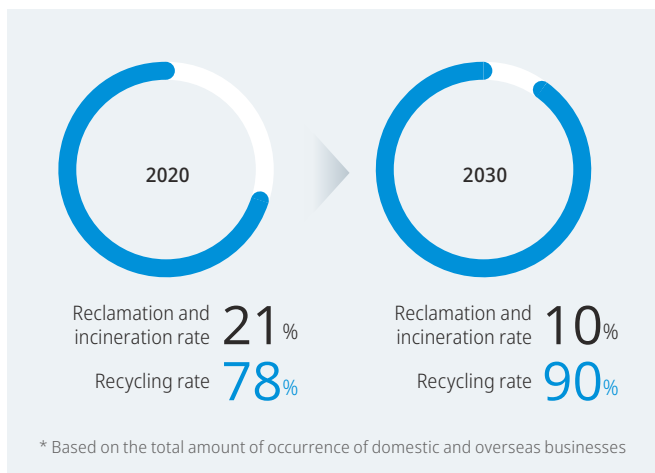
### Advanced Resource Circulation System

Doosan Corporation has established a waste recycling-based resource recycling process to minimize waste generation in its business activities and to establish a resource circulation system that can recycle unavoidable waste as much as possible. We have established a resource circulation initiative to gradually expand our recycling rate for waste to 90% by 2030 as we put into practice management activities to minimize our environmental impact. Doosan Corporation has established a responsibility management system for waste sources of BGs to enable us to proactively respond the Framework Act on Resource Circulation. A resource circulation goal is set for BGs, including Electro-Materials and Industrial Vehicle BGs. The amount of waste generated is managed according to the BG and the process. Doosan Corporation has established emission goals for its BGs by selecting waste that needs to be reduced, preparing a material balance analysis of emissions performance, and establishing improvement measures. In addition, the recycle rate of waste in 2020 was 75% of the domestic standard and 78% of the domestic and overseas total, and continuous management is in place to increase the recycling level. As the urban air quality environment deteriorated, 8 local governments, including Seoul Metropolitan Government, began to reduce exhaust gas from old diesel engines to improve air pollution under the supervision of the Ministry of Environment. To this end, as part of the partial recycling of products, the equipment engines of old construction equipment (excavators, forklifts) were replaced with eco-friendly ones.

#### Establishing a Resource Circulation Process Based on Waste Recycling

- 1 — Analysis of waste types and components
- 2 — Selection of recyclable waste and establishment of recycling standards
- 3 — Discovery of recycling companies
- 4 — Establishment of a virtuous circle system, including monthly recycling treatment notices

#### Resource Circulation Initiative (2030)



### Logipia Vitalization of Resource Circulation-Based Business

Doosan Corporation Logipia has expanded its downstream business to include logistics equipment rental, second-hand trading, and services. Beyond simple forklift manufacturing and sales, we provide a total solution for the entire product lifecycle, including use, maintenance/management, and disposal of forklifts.

Logipia supports everyone who uses forklifts so they can upload forklift information onto the platform, and created an environment where they can freely purchase and sell used forklifts within the platform. In addition, Logipia is providing stable and reliable used forklifts in the market by operating a self-certification system for used products, and we are striving to raise the level of the used forklift market to the level of the used car market. We aim to become the center of the used forklift market in the future.

Service	Information
<b>Work environment consulting</b>	<ul style="list-style-type: none"> <li>· Customer worksite consulting</li> <li>· Proposal of optimum no. of equipment</li> <li>· Proposal of optimum type of equipment</li> </ul>
<b>Rental program</b>	<ul style="list-style-type: none"> <li>· Customers pay after using the equipment as long as they want</li> <li>· Customer-friendly rental program</li> </ul>
<b>IT service</b> ① LinQ	<ul style="list-style-type: none"> <li>· Analysis of customer's task and environment</li> <li>· Modeling of highest profit creation</li> <li>· Monitoring by monthly regular visits</li> </ul>
<b>IT service</b> ② QR APP	<ul style="list-style-type: none"> <li>· Receiving of reports by QR Code</li> <li>· Reduction of standby time for requesting repair</li> <li>· Transparent repair cost &amp; prompt checking</li> <li>· Sharing of repair status</li> </ul>
<b>Used equipment purchase</b>	<ul style="list-style-type: none"> <li>· Possession of domestic &amp; foreign brand forklifts</li> <li>· Recommendation of similar equipment (used forklifts)</li> <li>· Direct transaction between individuals</li> </ul>

### Value of Resource Circulation Contributed by Logipia

Logipia is selling vehicles by repairing the ones whose rental has expired and is providing services of assisting in scrapping the vehicles of customers. Logipia is operating around 1,200 rental vehicles. Used rentals among these account for 26%. This is the volume of used vehicles Logipia purchases and repairs and rents out by recycling them. Through this, Logipia generated sales of approximately KRW 1.5 billion in 2020.

## Expansion of Eco-Friendly Business

### Product Innovation and R&D

#### Research on Batteries for Secondary Batteries

The battery secondary battery has been developed centered on small batteries for mobile IT devices, but we expect demand for highly stable/high-capacity/high power batteries to increase as mid- to large-size batteries are used in electric cars in the future.

We forecast that the use small (IT) batteries will expand to new markets such as the military (requiring high safety), healthcare, and cordless devices by 2025 and the use of mid- to large-size (EV, ESS) batteries will expand to the EV market and EV-dedicated platform market, which require high capacity and high output.

The technology of secondary batteries will improve in safety in the future; batteries will have high capacity and high output characteristics, and production cost will be reduced. Moreover, we expect that materials that can be activated stably at high temperature will be required for solid electrolytes. We also forecast that Gel Polymer materials for semi-solid battery that can facilitate hyperionic conductivity will be in high demand. Additionally, there will be a need for cathode materials in order to stabilize base materials such as hard carbon to satisfy high capacity and high output. In addition, we expect composite technology such as Si-C to be needed for reducing production costs and achieving high production capacity.

Accordingly, Doosan Corporation has been conducting collaborative research with local and overseas universities focusing on solid electrolyte and cathode materials to preemptively secure the technologies required for secondary batteries. Based on this, Doosan Corporation has designed its 2025 product development roadmap, centered on solid electrolyte and high throughput and combinatorial cathode materials synthesis technologies.

#### PhD Program Support to Develop R&D Manpower

Doosan Corporation signed an agreement with Korea University of Science and Technology(UST), and it is running a doctorate course that is closely related to the business of the electro-materials BG. We are supporting the acquisition of degrees related to the technologies needed to foster excellent R&D manpower for the continuous growth of the Electro-Materials BG. We are also providing an opportunity for employees to develop their knowledge and skills and grow into an expert. The goal of the course is to foster next-generation professional leaders equipped with technical expertise and business insight. Currently, two researchers have acquired a doctor's degree through the doctorate support system; as of 2021, two researchers are participating in the doctorate course.

### Stakeholder Interview



**Dae-woon Kwak,**

Head of Korea Environmental Industry & Technology Institute

#### Q1.

What do you think about the greenhouse gas management activities of Doosan Corporation?

#### A1.

Doosan Corporation's eco-friendly infrastructure innovation through improvement in energy efficiency of production facilities is considered to be an exemplary case in the industry considering both corporate development and greenhouse gas reductions. In addition, the expansion of R&D and training of professional manpower for rechargeable batteries is considered to be a major strategy in line with international trends in the mid- to long-term. I hope Doosan will continue to work on behalf of the domestic industry in building infrastructure that considers the environment, developing technology, and fostering employee talent.

#### Q2.

What do you think of companies' resource-recycling activities?

#### A2.

Globally, ESG-oriented management of companies is becoming a hot topic, and resource recycling activities are also being emphasized. Minimization of waste generated from management activities and efficient use of raw materials are the most basic elements in building a resource circulation system. If Doosan Corporation expands its resource recycling-based business based on the 2030 initiative currently being promoted, the company will be able to grow further as a global company leading environmental management.



## Strengthening the Hydrogen Economy Value Chain

### Expansion of Hydrogen Economy-Based, Eco-friendly Business

#### Climate Change and the Hydrogen Economy

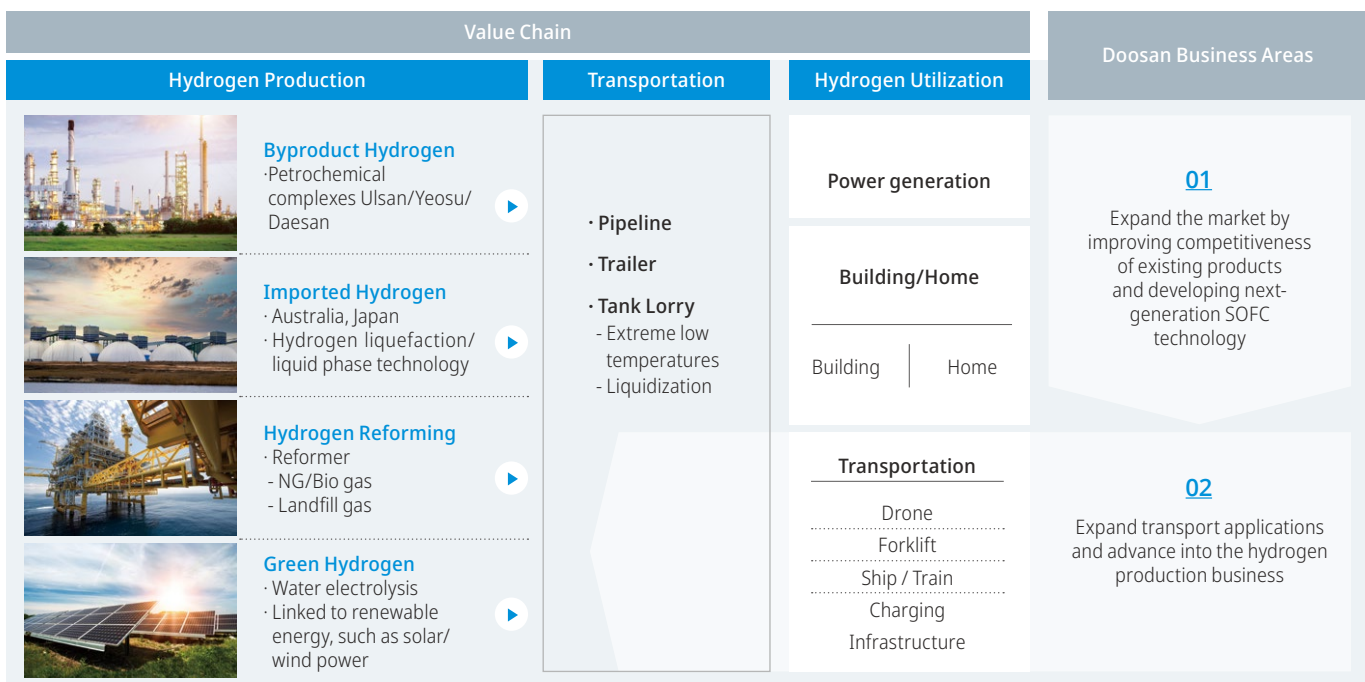
Climate change, caused in large part by the burning of fossil fuels, has a significant impact on the environment, society and the economy. Global regulations on natural disasters, ecological changes and greenhouse gas emissions caused by climate change require a switch to new energy sources. Hydrogen is emerging as an alternative, next-generation energy source. Countries are beginning to establish economic and industrial structures (production, storage, distribution, and utilization) that use hydrogen as their main source of energy. In Korea, various market opportunities are expected to emerge based on the government's hydrogen economy roadmap.

According to this roadmap, hydrogen-based fuel cell are projected to supply 15GW(307.6MW in 2018) for power plants and 2.1GW(5MW in 2018) for residences/buildings by 2040. Doosan Corporation recognizes the growth of the hydrogen industry under the hydrogen economy roadmap as a business opportunity, and is working to secure a competitive technological advantage and to develop various applications. It will grow into a leading company in the hydrogen industry and push forward the change to an eco-friendly society.

#### Key Abilities and Business Areas of Doosan Corporation

Doosan Fuel Cell was established in 2014 when Doosan Corporation acquired CEP (Clear Edge Power). It has become a leading company in fuel cell for power generation by winning 300 MW in orders by 2019, including for the world's largest byproduct hydrogen power plant in 2018. In particular, with the possession of the proven PAFC technology, we have improved synergy and life cycle safety. Recently, we signed an agreement with Ceres Power, a British fuel cell technology company, to jointly develop high-efficiency SOFC for buildings in 2019 and an agreement to support SOFC development for power generation in 2020, increasing the opportunity to expand our fuel cell portfolio and strength in power generation using hydrogen.

The hydrogen industry covers the extensive entire value chain, including production, storage, transportation and utilization of hydrogen. Doosan Corporation plans to expand its business throughout the value chain through continuous investment in the hydrogen industry. In particular, our hydrogen fuel cell business will be expanded into various transportation applications beyond its current drone business. In addition, we aim to enter into hydrogen production market in the long term.



## Role and Direction of Hydrogen Economy Innovation Office

In January 2020, Doosan Corporation established its Hydrogen Economy Innovation Office (HEIO) to present mid- to long-term growth directions for fuel cell based on Korea's 2019 hydrogen economy roadmap, seize business opportunities, and create new business in the hydrogen economy. HEIO aims to not only improve technical development but also raise the synergy of new product development by strengthening cooperation between development organizations within the group. The current major roles are as follows:

### Developing SOFC Technology Strengthens Fuel Cell Competitiveness

#### Improvement of competitiveness through SOFC Development & Commercialization

- SOFC System Development (Building/Power Generation)
- Developing mass-production SOFC technology
- Responsible for national projects to develop power generation systems

#### Discovery and Promotion of Hydrogen Economy Business Model

- Improvement of company-wide R&D capabilities
- Alignment of Doosan Group's hydrogen economy business directions
- Increasing transport applications
- Mid- to long-term hydrogen production technology

## Development of Mid- to Low-Temperature Solid Oxide Fuel Cell(SOFC) for Power Generation over 200kW

Doosan Corporation is an eco-friendly energy facility manufacturer that owns the source technologies of fuel cell for power generation. It is constantly conducting research and development for performance improvement of existing products and the development of new systems to become a leader in the fuel cell sector of the new and renewable energy industry.

Solid Oxide Fuel Cell(SOFC) are characterized by high efficiency due to their high energy conversion efficiency, and their CO<sub>2</sub> emission is one-third of that of coal-fired power generation, emitting only a small amount of NOx and SOx. Thus, an SOFC is an eco-friendlier battery. Furthermore, it has capacity of hundreds of kW-MW and less spatial limitations when installed, and adjusting the installation capacity is easy depending on the demand. However, Korea does not have competitive technology compared to overseas technologies and products. Thus, Doosan Corporation has entered into a strategic partnership with competitive Cell/Stack companies for SOFC technology, and it is concentrating the capacity of the entire company on partnering with major domestic suppliers and developing SOFC systems. To make an early entry into the market, we have started system development with a government project commencing in May 2020. We are aiming to raise the level of fuel cell business a step higher through the hybridization of fuel cell so that we can respond to market demand. Moreover, we are aiming to fulfill our social responsibility by contributing to the development of the domestic fuel cell industry through industrial investment in SOFC and creating a green energy environment while also heading in the direction that the country's hydrogen fuel cell roadmap is targeting.

## Stakeholder Interview



**Hae-weon Lee, Vice President**

Hydrogen Economy Innovation Office,  
Doosan Corporation

### Q.1

After the government announced the hydrogen economy vitalization roadmap, various policies are being implemented to vitalize the hydrogen industry. Please tell us about the future growth direction of the hydrogen industry.

### A1.

To respond to climate change in the future, many countries are announcing policies on NZE (Net Zero Emissions) to achieve net zero greenhouse gas emissions. NZE policies are based on the introduction of a carbon-neutral policy and are moving toward realizing economies of scale by expanding investments in the entire hydrogen economy value chain. From this perspective, the government is already expanding support from technology to businesses, such as the hydrogen economy committee and HPS system. Hydrogen is expected to continue to expand from production to utilization as an energy source in the future, and the growth of the hydrogen industry is expected to accelerate with the active participation of governments and companies.

### Q2.

Please tell us about the development direction of Doosan Corporation's hydrogen business.

### A2.

Doosan Corporation plans to improve the economic feasibility of hydrogen fuel cell production through continuous technology development and investment. Through this, I think that Doosan should contribute to expanding the supply of hydrogen fuel cell and improving energy efficiency and reducing greenhouse gas emissions. Doosan Corporation already has PEMFC and PAFC, which are key platform technologies for fuel cell, and is developing a high-efficiency SOFC as a new additional platform. We are also expanding the possible applications of hydrogen fuel cell technology through hydrogen drones, and the hydrogen fuel cell power pack is expected to provide a new business model through application to industrial vehicles and construction machinery, which are businesses operated by Doosan affiliates. We have completed the world's first byproduct hydrogen (PAFC) fuel cell power plant and we are spurring the development of PAFC Tri-gen technology that can produce electricity, heat, and hydrogen at the same time.

Starting from fuel cell business, Doosan Corporation is contributing to the establishment of an ecosystem for the domestic hydrogen industry. Ultimately, by developing water electrolysis technology to produce clean hydrogen, which is the start and core of the value chain of the hydrogen economy, we want to solidify our position as a true hydrogen economy leader and create the opportunity for another leap forward.

# OUR PARTNERS

## Supply Chain Purchases

Total purchases in the domestic and overseas supply chain of Doosan Corporation

KRW **890.6** billion



## Social Contribution Investment

KRW **5,937** million



## Total Volunteer Hours

**3,125** hours



## Link to Materiality

- More support for suppliers
- Alignment of CCI activities with business

## Link to SDGs



## Why It Is Important

Companies are corporate citizens and members of their community. To achieve sustainable growth, they must grow and develop together with their supply chain and local communities. Mutual growth and sharing can be done by anyone, but not by everyone. The practice of sharing with partners and local communities will be an important foundation for creating a sustainable society.

## How We Respond

Doosan Corporation is engaged in a number of different activities to grow with its suppliers. We carry out activities based on the needs of our suppliers such as supporting smart factories for shared growth, and upgrade social contribution activities aligned with business to practice sharing with local communities.



# Support to Enhance Suppliers' Competitiveness

## Doosan Corporation's Support for Substantial Shared Growth

Amid increasingly fierce competition with other global businesses, Doosan Corporation recognizes shared growth with partners as the major management tasks. To do this, Doosan Corporation has integrated support activities for partners, which were conducted separately by each business unit in the past, to upgrade the programs led by the shared growth team. In 2020, Doosan operated various programs to support shared growth through efforts such as supporting the establishment of smart factories and support for narrowing the gap between partners by directly helping wage and welfare benefits of employees of partners. Doosan is planning to develop programs that can strengthen the practical capabilities of our partners in the future.

## Operation of Programs to Strengthen Non-Face-to-Face Partner Competence

Doosan Corporation is running programs to strengthen competence for our partners to help them develop a basis for sustainable growth. In 2020, non-face-to-face education and training have been conducted in addition to existing ones such as competency-enhancing academy and EHS education for partners in consideration of COVID-19 circumstances. Considering the COVID-19 situation, Doosan Corporation has made efforts to convert its existing competency-enhancing offline education program to online formats. We selected 5 topics (manufacturing innovation, communication leadership, communication, problem solving, quality management to revitalize the organization) and produced and distributed educational videos. As a result, 2,297 executives and employees of 226 Doosan suppliers were able to improve their skills through the training program in 2020.

### Doosan's Philosophy of Shared Growth

**Vision of Shared Growth**

 Establishment of a virtuous cycle of partnerships with suppliers to improve their global competitiveness

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**What is a Virtuous Cycle of Partnership?**

 Such a cycle involves the operation of a single system encompassing technology, quality, and management and includes suppliers.

- We aim to increase our suppliers' competitiveness by sharing our own management, quality, and technology systems, including our technological development and business systems, with suppliers for win-win growth and success in global markets.

Supplier's Contact-free Education



### Major Shared Growth Programs in 2020

Support Program	Contents
Education/training	Academic sessions designed to enhance supplier capabilities, non-face-to-face education, support of education given by partners themselves, and EHS education
Professional management consulting	Professional consulting conducted for partners
Smart factories	Support for the construction of smart factories (in conjunction with the government's projects to support the construction of smart factories)
Development of overseas markets	Support for supplier forays into overseas markets, and assistance for partners to participate in overseas exhibitions
Raising the % of locally produced parts	Support to help BG suppliers increase the ratio of locally produced parts for their products.
Recruitment	Support for subcontractor recruitment of new employees (including operating/education/labor costs)
Supplier ESG	Support designed to improve supplier workplace environment and ESG
Support for bridging gap	<ul style="list-style-type: none"> <li>· Support for Win-win incentives</li> <li>- Payment of monthly incentives and expenditure related to the four major insurances</li> <li>- For secondary/in-house suppliers</li> <li>· Welfare Payment</li> <li>- Provision of gifts on special holidays, (biennial) health checkups, mutual-aid service</li> <li>- For primary, secondary/in-house suppliers</li> </ul>

**Efforts to Improve Partners' Technological Competitiveness**

Doosan Corporation selected 10 key partners for activities to strengthen their competitiveness and developing intensive support activities for those partners. For companies selected as the key partners, customized technical consulting and benchmarking opportunities are provided, and manufacturing quality improvement is advised through putting the quality assurance system in place. Based on the partner technical support activities from 2019 to 2020, Doosan Corporation ran an academy to optimize the process efficiency of major partners and to strengthen their technological capabilities.

Doosan Corporation is running various programs to support the strengthening of partner competitiveness for a sustainable growth-enabling environment through the fundamental enhancement of the production competence of partners. Doosan is promoting shared growth activities to organically link the strengthening of partner competitiveness to the strengthening of the competitiveness of Doosan Corporation.



Process Efficiency

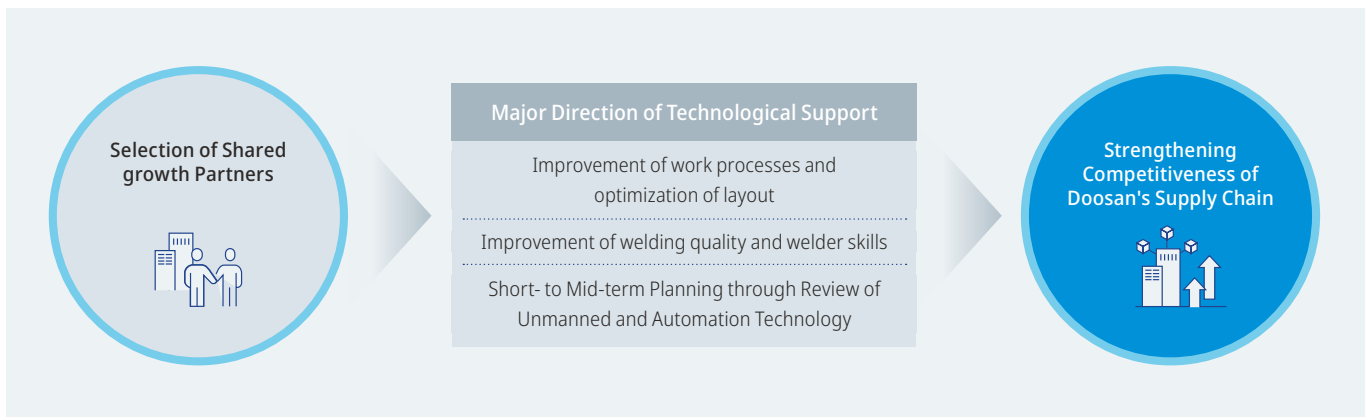
**Improving the Efficiency of Supplier Production Processes**

Doosan Corporation is helping strengthen production competitiveness of key partners by using its own competence. In particular, it organized the task force team to improve partners' existing processes from diagnosis of existing processes, execution of improvements, and standardization for each step. Doosan Corporation has improved efficiency by not only cost reductions via consulting with partners but also shortening the production lead time using process re-layouts. In addition, Doosan is helping the continuous improvement of partners by supporting partner-tailored assessment modules and monitoring to execute constant improvements.

**Training Sessions to Improve Technological Prowess**

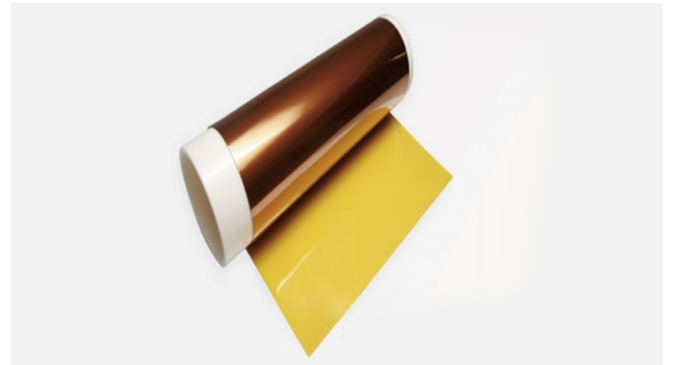
The Industrial Vehicle BG is operating a welding academy for major partners to ensure welding quality that is directly related to product competitiveness. This program provides basic welding methodology education to improve the personal skills of welders, as well as other various measures to improve their skills, including ensuring the process audit system and standardization of welding work in partners to enhance the welding competence of partners.

**Our Strategy for Helping Suppliers Improve Their Technological Competitiveness**



**Leading Example of Our Support for Suppliers**

We are making concerted efforts to help SMEs with promising materials, parts, and equipment to improve their competitiveness and eventually link it to improvement of our competitiveness in conjunction with the steps taken by the Ministry of SMEs and Startups (MSS). In 2020, we provided the technological capability and infrastructure owned by Doosan Corporation Electro-Materials to promising SMEs specializing in new 5G materials. With this support, they succeeded in developing and mass producing a special polymer that can minimize frequency loss during the transmission of high-frequency signals with highly heat-resistant adhesives for the FCCL of 5G smart phone antennae using a high band width of 10GHz and higher. We are also continue the support to them about future methods of development.



High Heat Resistant Adhesives for FCCL

**Stakeholder Interview****Woo-jung Han, CEO**

DAALL Precision

**Q1.**

**What impact did Doosan's support for subcontractors have on your business?**

**Q2.**

**What is the direction for the Shared Growth Policy of Doosan Corporation?**

**A1.**

Doosan Corporation's mutual growth program gave SMEs confidence in the direction and change of innovation when faced with the limits of their capabilities. Through Doosan Corporation's activities to enhance the competitiveness of its suppliers since 2020, the company has laid the foundation for change. The systems of cost, quality, and time management were systemized, and the will of the employees for change was improved.

In addition, the Manufacturing Execution System (MES) has been implemented, and Doosan Corporation is making further efforts to put the system of the sustainable company in place based on the MES. Based on this, we are making further efforts to establish foundations for a sustainable company. Since October 2020, as part of the second system construction, MES establishment and KPI establishment programs have been in progress. In this way, I believe that Doosan Corporation's support for its suppliers will continue to energize our company's competitiveness in the future.

**A2.**

If given the opportunity to understand Doosan Corporation's systematic and flexible organizational method, I think it will be more helpful for SMEs in resolving the manpower shortage problem. Resolving the manpower shortage of small- and medium-sized enterprises (SMEs) has a positive effect on improving the quality of life of employees, and I believe this is an important factor in establishing a sustainable company. In addition, the information and network accumulated by Doosan Corporation over a long period of time helps SMEs adapt to the era of rapid change and is very helpful in building a realistic smart factory system. If SMEs can share Doosan Corporation's thoughts on market trends and various information, collaborations such as developing new items are anticipated to continue.

## Advancement of Social Contribution Projects

### Reorganization of Social Contribution Programs with the Focus on Improving Sustainability

#### "Woori Doori" Sports Program for Disabled Youth

"Woori Doori" is a life sports program designed to help youth with developmental disorders for their health and emotional stability, which is one of the representative social contribution projects that Doosan has supported since 2016. Until 2019, the program has provided a Tee-ball<sup>1)</sup> indoor sports activity support for special schools for youth with developmental disorders near its business sites in Seoul, Incheon, Iksan, and Changwon. In 2020, Doosan restructured the program to be continued face-to-face and even in a non-face-to-face environment under COVID-19 circumstances.

1) Tee-ball: A new sport where a polyurethane baseball on a T shaped stick is hit without a pitcher

#### Shift of Leading Social Contribution Programs to Contract-Free Mode

"Woori Doori" has been reorganized in a contact-free fashion in consideration of the purpose of promoting the social contribution program amid the COVID-19 pandemic. Sport stacking was added in view of its various beneficial effects related to hand-eye coordination and fine motor skills, and it is closely linked to Tee-ball. Doosan's contact-free support for community sports is designed to improve the health and emotional stability of youths with developmental disorders.



Woori Doori Contact-free Program



Woori Doori Contact-free Program

### Stakeholder Interview



**Hye-ji Chu,**  
A teacher at Changdong High School,  
Seoul

#### **Q1.** How did people respond to sport stacking carried out in contact-free mode?

**A1.** If we'd had to invite a community sports coach over to the school, it would have been burdensome, but the session was done contact-free. Not having been previously exposed to sport stacking, the children seemed a bit awkward at first, but they soon got familiar with it and took part more actively. We are grateful for having had the opportunity to develop a program that is so good for youth with developmental disorders and look forward to having similar opportunities soon.



**Su-min Kim,**  
Vice President of Hanbit Counseling  
Center for Children Development

#### **Q1.** What significance does "Woori Doori" have for youth with developmental disorders?

**A1.** If they only stay at home, they are likely to become depressed emotionally and underdeveloped physically. They told me they felt very good and would like to engage in the program more, although it was just a small-scale community sports activity carried out contact-free due to the COVID-19 crisis. It is very nice to see them expressing their feelings in such a way. I hope we'll be able to have more good times like this in the future.

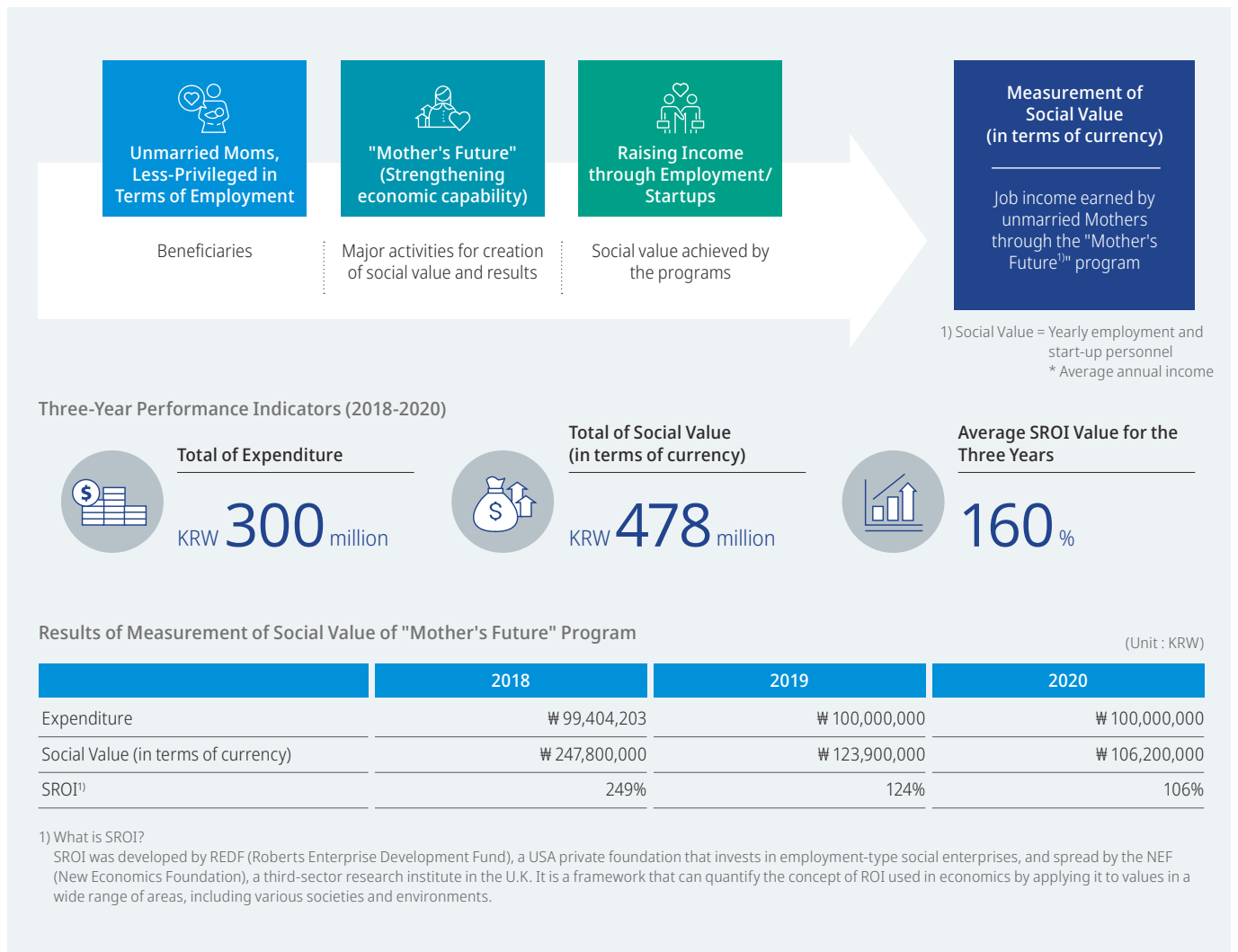
## Expansion of the Measurement of Social Value of Social Contribution Programs

### "Mother's Future", a program designed to support unmarried mothers' economic self-reliance

Since 2013, we have paid the costs of vocational training designed to support unmarried mothers' economic self-reliance. So far, a combined total of KRW 800 million has been paid to 489 unmarried mothers willing to stand on their own, and we plan to continue providing diverse types of support.

### Social value of "Mother's Future"

We analyzed the results of our quantitative social contributions to verify the effectiveness of the "Mother's Future" program. We measured its effects and benefits for unmarried mothers, using an evaluation tool called Social Return On Investment (SROI). The total amount of the social value over the past three years amounted to KRW 480 million, i.e. a social result of 160% compared to the input amount.



# ESG Performance and Planning

	Activities in 2020	Plans in 2021
 <b>Coping with Climate Change</b>	<ul style="list-style-type: none"> <li>Reduction of emissions by 10% y-o-y through continued energy saving activities</li> <li>Raising employees' awareness of the importance of addressing climate changes</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of strategies for climate change</li> <li>Response to greenhouse gas and energy target management: Continuous activities to reduce energy use</li> </ul>
 <b>R&amp;D on Environmentally-Friendliness</b>	<ul style="list-style-type: none"> <li>Nine projects in eco-friendly product development (five projects completed and four projects under progress) : Two projects of reduction of hazardous substances, Four projects of reduction of pollutant discharge, and two projects on energy efficiency improvements</li> </ul>	<ul style="list-style-type: none"> <li>Additional discovery of eco-friendly product development projects</li> <li>Current status of eco-friendly certifications and analysis of the possible expansion of certifications (including K-Taxonomy, etc.)</li> </ul>
 <b>Promotion of Employee Value</b>	<ul style="list-style-type: none"> <li>Expansion of the system for practicing/checking human rights management</li> <li>Expansion of human rights assessment/coverage</li> <li>Review of development of programs for mandatory education on human rights management</li> <li>Laying the basis for expansion/invigoration of the system for promoting a healthy work-life balance</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of the human-right management system</li> <li>Declaration of human-right management, expansion of the scope of human-right management (including supply chain and business partners)</li> <li>Improvement of assessment of human right impact and of the execution plan of human-right related due diligence, and refinement of the grievance process</li> <li>Diagnosis planning and execution for employee engagement management</li> </ul>
 <b>Training of Talented People; Respect for Diversity</b>	<ul style="list-style-type: none"> <li>Strengthening of leadership/job training for newly starting businesses/subsidiaries</li> <li>Strengthening new normal era and non-face-to-face education programs</li> <li>Development of jobs that can be carried out by the disabled and improvement of the related recruitment process</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of measures to ensure gender diversity of employees: Short- and long-term target setup</li> <li>Employment of the disability and ceaseless review of possible employment positions for the disabled</li> <li>Review on measures to ensure diversity of job positions for women workers</li> <li>Upgrading non-face-to-face education programs</li> <li>Management of education data refinement (by gender, rank, and age)</li> <li>Improving digital transformation skills of employees in business sectors</li> </ul>
 <b>Healthy/ Safe Workplace</b>	<ul style="list-style-type: none"> <li>Establishment of the culture for in-house partner-related EHS management; expansion of outside partner-related EHS support</li> </ul>	<ul style="list-style-type: none"> <li>Improving the compliance with the Severe Accident Punishment Act: Checklist, organizations, and major risk work procedures</li> <li>Report of Safety and Health Plan to the BoD and approval</li> <li>Operation of site management activities for EHS leaders</li> </ul>
 <b>Shared Growth and Fair Trade</b>	<ul style="list-style-type: none"> <li>Expansion targets subject to the assessment of supply chain sustainability</li> <li>Support to narrow gaps between large and small companies</li> <li>Operation of programs to strengthen the competitiveness of partners</li> <li>Operation of self-compliance programs for fair trade</li> </ul>	<ul style="list-style-type: none"> <li>Improvement of the ESG management level</li> <li>Horizontal development of internal competency to partners: Expansion of DSEP</li> <li>Operation of shared growth programs steadily</li> <li>Financial support, professional consulting, and development of smart factories, etc.</li> </ul>
 <b>Ethical Management</b>	<ul style="list-style-type: none"> <li>Strengthening company-wide ethical education</li> <li>Establishment of a system for evaluation of corruption risks</li> <li>Strengthen the global ethics management</li> <li>Levelling up of the ethical culture among employees</li> <li>Strengthening communication with outside stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Education for the code of ethics conducted in Korea and overseas in 2021 (office and technical workers)</li> <li>Third-party evaluation of ethical management and strengthening the usability of level test</li> <li>Sharing and expanding global ethical management issues</li> <li>Operation of Ethical Management Council and sharing of issues in the code of ethics</li> <li>Improvement of the ethical management system and enhancing communication between internal and external stakeholders</li> </ul>
 <b>Social Contribution</b>	<ul style="list-style-type: none"> <li>Upgrading social contribution projects</li> <li>Performance measurement of representative programs (analysis of SROI) and disclosure</li> <li>Adoption of a system for encouraging employees' participation</li> <li>Awarding best practices of social contribution activities and producing advertisement contents for internal use</li> </ul>	<ul style="list-style-type: none"> <li>Upgrading social contribution projects</li> <li>Development of performance measurement indicators for each major business</li> <li>Enhancing internal and external communications</li> </ul>
 <b>Information Protection and Customer's Personal Information Protection</b>	<ul style="list-style-type: none"> <li>Settlement of system to manage personal information protection</li> <li>Establishment of mid-to-long term roadmap and execution of performance management system</li> <li>Execution of preliminary impact assessment of personal information system</li> <li>Prevention of risk through inspection of vulnerability areas of personal information</li> <li>Organization of accident prevention and response management system</li> <li>Expansion of education for employees and execution of campaigns to comply with the practice</li> </ul>	<ul style="list-style-type: none"> <li>Organization of local management system basis and expansion to overseas</li> <li>Reinforcing the preventive inspection system of information leakage and execution of inspection to comply with regulations</li> <li>Development of operation system of technical safety measures in vulnerable areas</li> <li>Internalization of accident prevention and response competency</li> <li>Execution of customized professional education and propagation of accident risks</li> </ul>

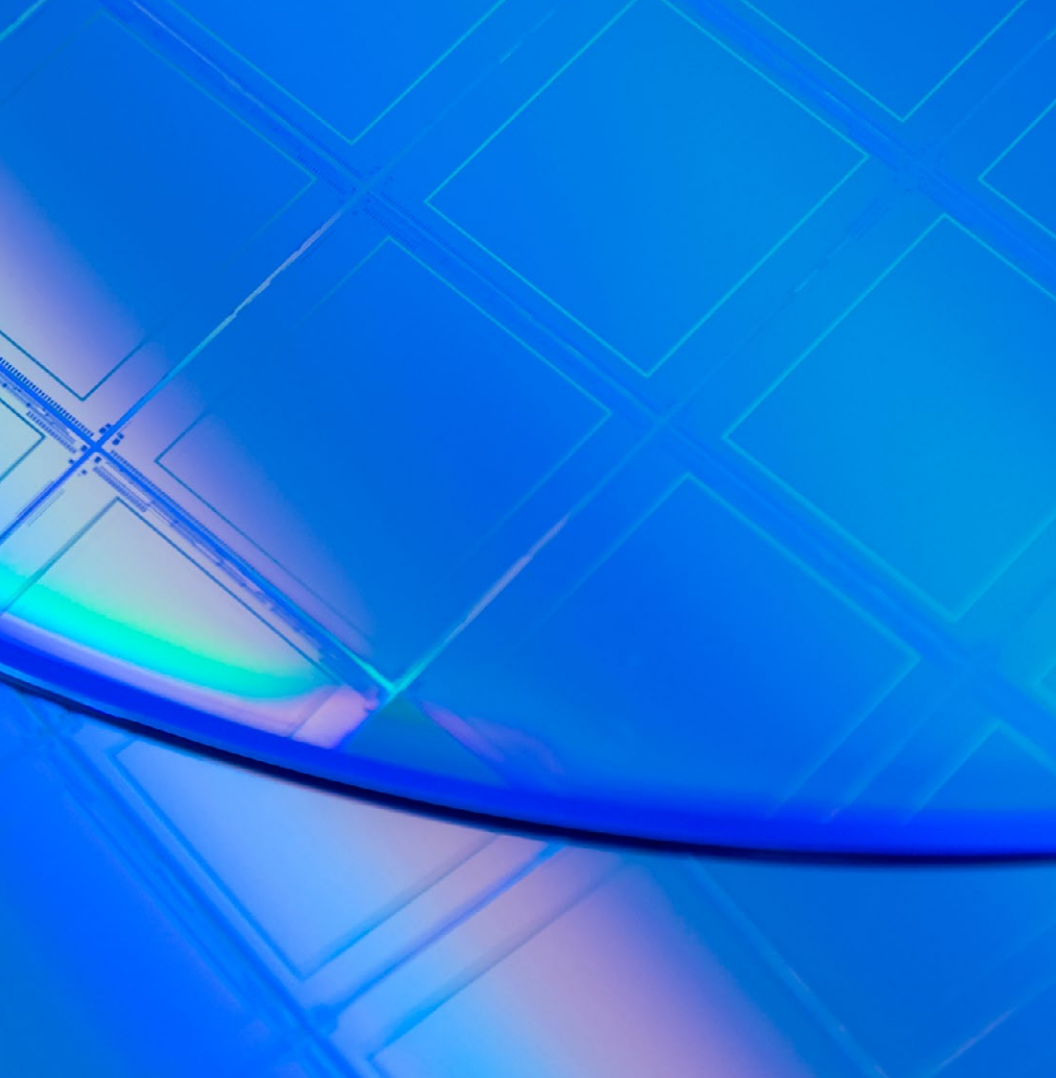
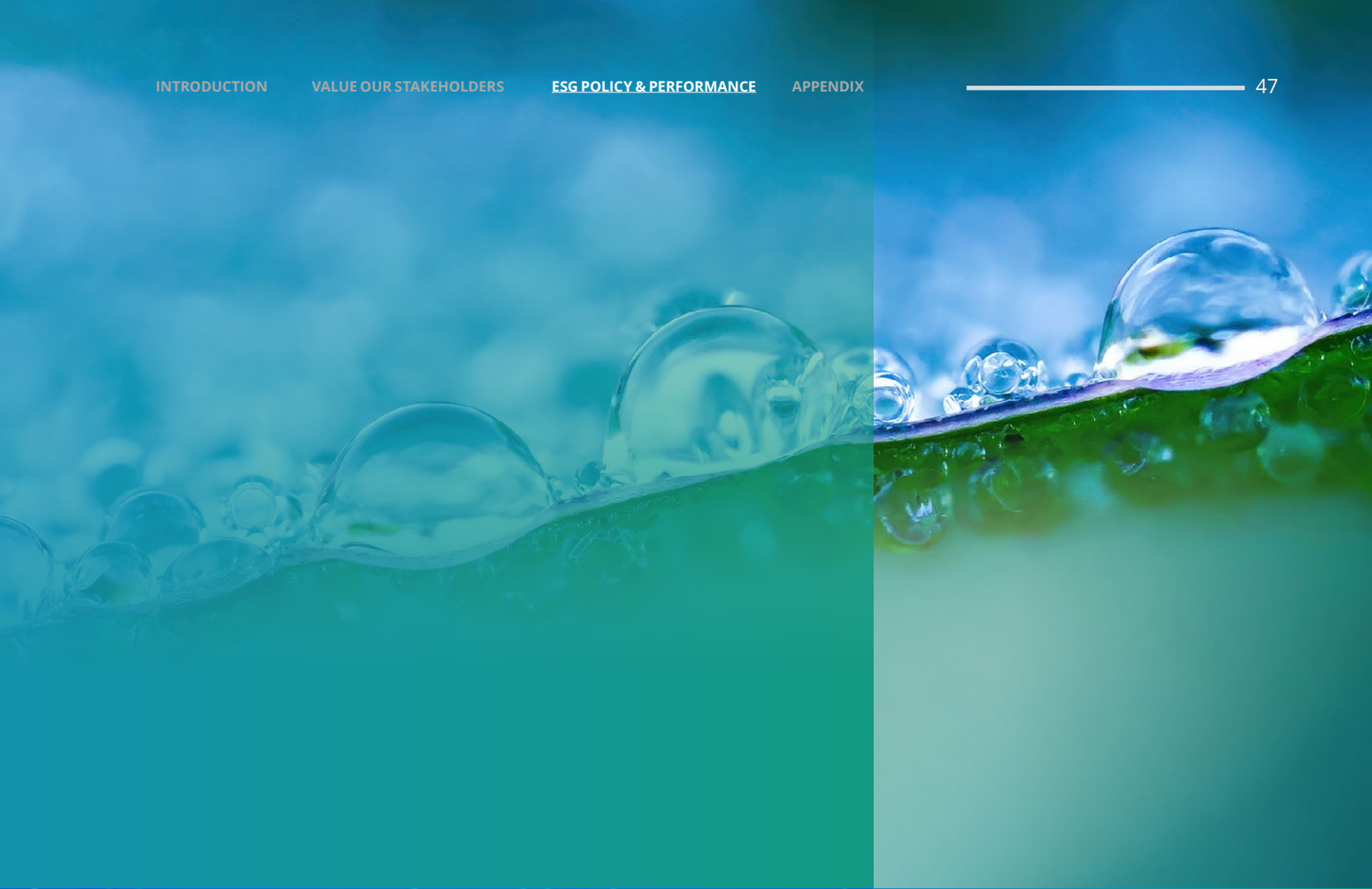
Mid- to Long-Term Plans	Performance Indicators in 2020		
<ul style="list-style-type: none"> <li>Establishment of a greenhouse gas inventory for overseas workplaces</li> <li>Establishment of climate change-related strategies</li> </ul>	<p>Greenhouse gas emission</p> <p><b>5.2</b> tCO<sub>2</sub>eq/KRW 100 million</p>	<p>Energy intensity</p> <p><b>0.82</b> TJ / KRW 1 billion</p>	
<ul style="list-style-type: none"> <li>Announcement and promotion of environmentally-friendly products</li> </ul>	<p>Sales share of environmentally-friendly products</p> <p><b>77.9</b> %</p>	<p>Proportion of R&amp;D investment/sales</p> <p><b>3</b> %</p>	
<ul style="list-style-type: none"> <li>Monitoring of potential human rights risks in all workplaces</li> <li>Achieving 100% in taking actions to mitigate potential human rights risks</li> <li>Continued improvement of employee's work-life balance</li> </ul>	<p>Employee turnover rate (Percentage of voluntary turnover based on regular employees) Percentage</p> <p><b>4.3</b> %</p> <p>Mid/long-term target <b>2</b> %</p>	<p>Percentage of employees subject to human rights impact assessment</p> <p><b>80.2</b> %</p>	
<ul style="list-style-type: none"> <li>Demonstration of effectiveness, and upgrade, of job training for engineers/technicians</li> <li>Management of education indicators</li> <li>Strengthening of diversity; establishment of an organizational culture based on gender equality</li> </ul>	<p>Average number of hours of education/employee</p> <p><b>20.5</b> hours</p>		
<ul style="list-style-type: none"> <li>Diffusion of the EHS culture to overseas workplaces</li> <li>Adoption of a program for observing unsafe acts</li> </ul>	<p>Number of severe accidents</p> <p><b>0</b> case</p>	<p>Number of COVID-19 confirmed cases</p> <p><b>0</b> case</p>	<p>Industrial accident rate</p> <p><b>0.27</b> %</p>
<ul style="list-style-type: none"> <li>Settlement of fair trade and shared growth culture</li> <li>Establishment of sustainable supply chain system</li> <li>Upgrading the level of ESG in the supply chain</li> </ul>	<p>Comprehensive evaluation of shared growth index: <b>Excellence acquired</b></p> <p>(The best company in mid-to long-term target section)</p>		<p>Size of investment fund for shared growth</p> <p>KRW <b>1.66</b> billion</p>
<ul style="list-style-type: none"> <li>Third-party demonstration of compliance system</li> <li>Periodic campaign for enhancement of employees' ethical mindset</li> <li>Extension of control scope of ethical management issues</li> <li>Operation of a system for checking the status of putting ethical management into practice, measuring the results, and providing feedback</li> </ul>	<p>Number of employees who have received education on ethical management (Based on domestic office and technical workers)</p> <p><b>2,299</b> people</p>		
<ul style="list-style-type: none"> <li>Upgrading social contribution projects</li> <li>Development of UN SDGs-linked programs</li> </ul>	<p>Employee participation in social contribution</p> <p>Total volunteering time <b>3,125</b> hours</p>		
<ul style="list-style-type: none"> <li>Expansion of global management system and spreading practice culture</li> <li>Strengthening suppliers' cooperation in the protection of personal information</li> <li>Upgrading the response system to intelligence cyber security</li> </ul>	<p>Number of violations and administrative restrictions due to customer's personal information leakage</p> <p><b>0</b> case</p>	<p>Execution rate of education for customer's personal information protection and information security</p> <ul style="list-style-type: none"> <li>- General education of employees: <b>1,478</b> employees (100%)</li> <li>- Professional education of those who handle information: <b>125</b> employees (100%)</li> </ul>	

# ESG POLICY & PERFORMANCE

Doosan Corporation strives for transparent corporate information disclosure with a focus on ESG.

We are strengthening our internal capabilities in order to successfully enter new growing markets and new businesses and to grow healthily. We are enhancing the value of the company not only in economic performance but also in the areas of environment, society, and governance.





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## Environment—Environmental Management

### Response to and Monitoring of New Environmental Regulations

Global public awareness of and interest in environmental issues such as environmental pollution, water shortages, natural disasters, and climate change have increased significantly over the years. Along with this interest, efforts to solve the problems, such as policies and regulations, are ongoing at the national level. In particular, the importance of environmental management at companies is being heavily emphasized. Doosan Corporation has established an environmental management system designed to minimize the impact of its business on the environment. It preemptively responds to government regulations and trends by steadily monitoring its business activities and surveying their impact on local communities. Furthermore, the company has conducted in-depth expert research to secure the essential EHS capabilities of the employees and enhanced its execution ability through its participation in EHS activities.

### Stewardship of Hazardous Chemical Substances

Doosan Corporation strives to create a safe and clean workplace through the tighter management of hazardous chemicals. Our management of hazardous chemicals consists of replacing hazardous substances with eco-friendly ones and, for those which cannot be replaced, in establishing and managing an effective management system encompassing purchase, utilization, and disposal.

The Electro-Materials BG has obtained a business license for harmful chemical substances in order to comply with related laws and regulations and conducts statistical and emissions surveys on a regular basis in accordance with the legal requirements. Employees of all worksites periodically attend education courses on the safe handling of chemical substances and the importance of systematically wearing personal protective gear. In addition, we have continuously invested in facilities to ensure that it complies with the chemical substance management laws at our business sites in Jeungpyeong, Gimcheon, and Iksan. By checking the material information of imported chemicals, we ensure that the safety management of chemical substances entering the company complies with all the legal procedures. The company has also strengthened its management by introducing a chemical management system. In 2021, by improving the applicable system, we plan to respond to the newly reinforced laws and requirements on chemical substances.

The Industrial Vehicle BG prevents the inflow of hazardous chemicals into the workplace by conducting a preliminary impact assessment at the chemical purchase planning phase in order to pre-validate the replacement or non-use of chemicals. Since 2016, the BG has succeeded in maintaining “zero” handling of hazardous chemicals at its business sites.

Number of hazardous chemical spills between 2016–2020

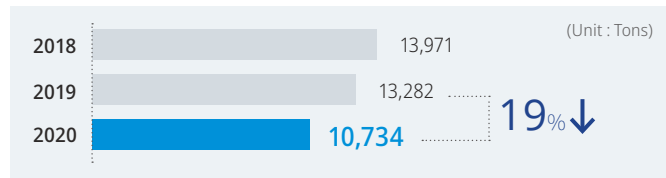
0 (zero) case

### Waste Management

Doosan Corporation separates waste according to its nature and state and then processes it through the “Allbaro System”<sup>1)</sup> thereby monitoring the whole process from the generation to final treatment of waste. In addition, the company periodically educates and evaluates the vendors concerned to ensure that the waste generated by its various processes is processed according to the law. It also makes consistent efforts to reduce the volume of waste discharged by its processes. As a result, Doosan Corporation’s waste generation (assigned-general) has been reduced by 19% year-on-year at domestic workplaces.

1) Allbaro System: As the IT-based waste management system of the Korean government, it controls the entire set of processes for waste management, right from discharge to transportation, to the final treatment.

#### Waste(Assigned/General) Output



\* Based on all domestic business sites

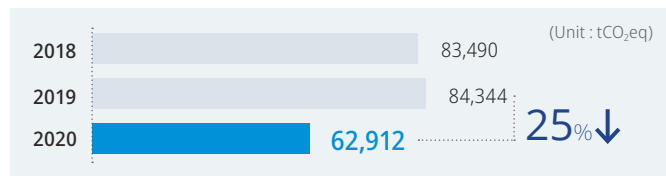
\* The criteria for target business sites were changed due to split-off, etc

### Response to Climate Change

Doosan Corporation regularly discloses information related to the greenhouse gas emissions of its facilities and controls these according to the IPCC Guidelines and the government’s own guidelines. Doosan Corporation’s statements on greenhouse gas emissions and energy consumption and its plans for monitoring them are verified by a third party each year. In particular, we have set reduction targets for our workplaces and have steadily promoted energy saving and greenhouse gas reduction activities to achieve the targets set by the government, as regulatory targets were shifted from the GHG emissions trading scheme in Electro-Materials BG to the GHG management target in all BGs.

Doosan Corporation continued to control items subject to energy saving from 2019 to 2020, thereby cutting its emissions by about 747tCO<sub>2</sub>eq. Emissions were further reduced as follows: 150tCO<sub>2</sub>eq by the Electro-Materials BG; and 168tCO<sub>2</sub>eq by the Industrial Vehicle BG. Thus, the company reduced its GHG emissions by a total of 1,065tCO<sub>2</sub>eq in 2020.

#### Greenhouse Gas Emission



\* Based on all domestic business sites

\* The criteria for target business sites were changed due to split-off, etc

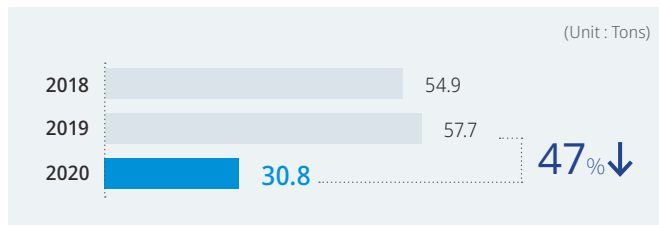
# Environment—Environmental Management

## Control of Air and Water Pollutants

Doosan Corporation keeps the atmospheric pollutant emissions generated at its worksites at less than 50% of the standard allowed under the relevant statutes. In particular, Electro-Materials BG conducts self-measurement of major pollutants twice a month and, starting in 2020, plans to further measure pollutant emission concentrations and improve facilities, as air pollutant emission standards continue to be strengthened. This effort resulted in a 44% decrease in NOx emissions from Electro-Materials BG domestic sites in 2020 compared to last year. In addition, Electro-Materials BG manages the water pollutant concentration of its final discharge water to keep it below 50% of the acceptable standard for water resource risk management in order to reduce stable water supply and water depletion risks.

The Industrial Vehicle BG has carried out activities to improve painting quality and remove the causes of painting damage with the participation of all the employees involved in all processes ranging from parts to shipment and eliminated the finished painting process. In this way, the BG has fundamentally removed sources of environmental pollution while enhancing customer value and raising its productivity. Consequently, five environmental pollutant discharge and prevention facilities were either demolished or closed, and the volume of environmental pollutants was reduced to 2.4 tons of air pollution per year and 12.2 tons of waste per year.

NOx Emission



\* Based on all domestic business sites

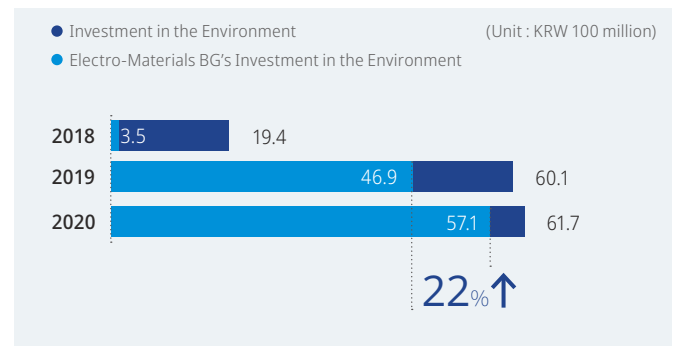
\* The criteria for target business sites were changed due to split-off, etc

## Management of Environmental Investments

Doosan Corporation operates a system for the management of environmental expenditures to internalize its environmental management system. Our environmental investments are mainly focused on the installation or replacement of pollution-prevention and environmental-protection equipment and on the construction of waste- water treatment stations and waste storage warehouses. In 2020, the Electro-Materials BG invested KRW 5.7 billion in maintenance at its wastewater treatment plant and made improvements and repairs to the facilities that handle harmful chemical substances.

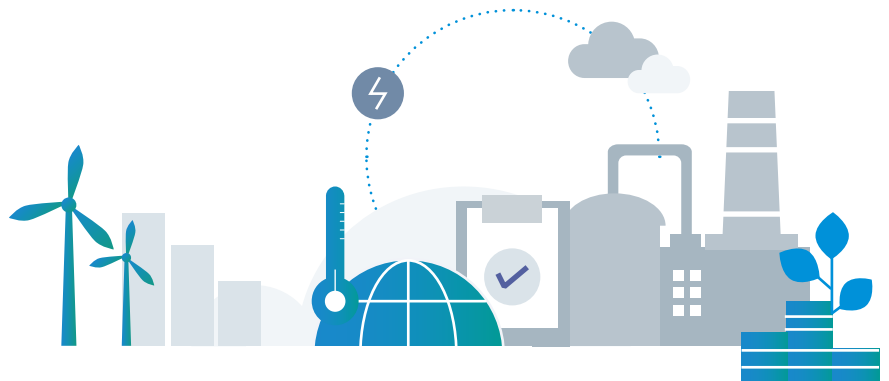
It evaluated the potential risks of 471 aboveground/underground environmental protection facilities that store oil and chemicals to address potential risks of environmental accidents, and established monitoring methods and cycles for each evaluation grade. Monitoring was improved through visual inspection (R&R, periodic work-book entries), sensors, water level fluctuation measurements, and flow checking. Equipment that could not be installed on the ground was cleaned, coated or double-structures to prevent environmental accidents.

## Investment in the Environment



\* Based on all domestic business sites

\* The criteria for target business sites were changed due to split-off, etc



## Social—Customer Satisfaction Management

### Customer Communication Channels

Doosan Corporation strives to strengthen the management of customer satisfaction by expanding communication channels with customers and reflecting customers' opinions.

The Electro-Materials BG proactively handles quality issues to ensure customer satisfaction. Whenever a quality issue arises, the contents are identified and registered in the "Voice of the Customer (VOC)" system and shared with all employees. We take steps to disseminate information on specific issues across all of our workplaces, including those overseas, in a bid to apply internal criteria in an equal manner. Our Production Center holds a "Q-Day", an activity that checks quality problems from causes to improvement measures, on a regular basis to identify and correct the causes of issues so as to improve product quality.

The Industrial Vehicle BG conducts two surveys on quality and service satisfaction each year (in the first & second halves of the year) using an external research agency. Targeted at forklift consumers of the BG in each region, e-mail and mobile surveys assess overall opinion of the products (price, trade convenience, durability, design, etc.), product satisfaction for each item compared to similar products from rival companies, customer service quality and expertise, and purchase & rental preferences, among others, in order to communicate with customers and use the results as reference indicators for improving the quality of products and services. In addition, the Industrial Vehicle BG has opened the Industrial Vehicle YouTube channel to reinforce its online communication with customers by providing various product contents, including information on new products, maintenance and rental services, as well as the Industrial Vehicle BG's vision. Customers can view virtual, 360-degree images of the BG's forklifts and find out about the special features and strong points of each product. In particular, as it is difficult to hold face-to-face customer consultations due to the COVID-19 situation, this YouTube channel has been actively used as an excellent contact-free communication tool for introducing its new vehicles, the LOGIPIA and the unmanned forklift.

Meanwhile, the Fuel Cell Power BU has established a pre- and post-service management system with the aim of achieving the best possible service delivery by greatly expanding customer communication. The pre-service minimizes customer inconvenience by responding proactively and preemptively to product abnormalities based on the remote monitoring system (RMS), while the post-service provides a 24-hour call center and immediate response system for major component failures. The BU also conducts the "Happy Call Satisfaction Survey" to improve customer satisfaction, and continues enhancing quality of service by improving the service guidelines based on the A/S results.

### Customer Feedback Throughout the Development Process

Throughout the development process, Doosan Corporation has made it possible to improve both customer satisfaction and product value.

The Industrial Vehicle BG holds a monthly Quality Conference at which the departments in charge of sales, quality assurance, and R&D meet to discuss how to provide the best products to satisfy customer requirements. In addition, the group reflects on customers' opinions in its products by hosting a quarterly Product Advisory Group, which is composed of the sales and dealer councils of the headquarters, as well as a service manager meeting and a meeting of senior sales personnel. In particular, the BG conducts quality evaluation of vehicle prototypes with excellent salespeople and maintains high customer contact throughout the development stage of new products through activities such as the delivery VOCs (voices of customers) to the R&D team to reflect customer needs in product development activities. To this end, Industrial Vehicle BG operates user tests, and has established a prosumer system and diversified channels for listening to VOCs. Since 2019, it has been developing and implementing a QRN (Quick Response Network) platform to accurately and quickly provide the services desired by customers.

The Fuel Cell Power BU strives to satisfy the needs of various customers required in the market in response to the government's policy for vitalizing the hydrogen economy and the 2050 Net-Zero goals. As it has adopted the roadmap to the vitalization of the hydrogen economy announced by the government in 2019, as well as the enactment of the Hydrogen Law in 2020, as its main drivers of long-term growth, the BU plans to secure an extensive production line in response to the government's mid-to-long-term spreading and expanding policy through not only currently mass-produced PEMFC but also highly efficient SOFC product development. The BU is also promoting the development of H<sub>2</sub> fuel cell at various capacities to cope with the full-fledge use of hydrogen energy in the net-zero era. In addition, the Fuel Cell Power BU is developing customized products for each country through the search for the opportunity of global markets. Accordingly, the BU is trying to enter not only the Korean market but also global markets of major developed nations, which have a high need for eco-friendly distributed power generation. The BU is responding through the locally customized model development based on a thorough market analysis.

The Digital Innovation BU, which aims for open communication, has introduced a "Design thinking" methodology across the enterprise to provide customer-oriented digital services. This methodology enables us to identify customer demands and reflect them in the development and improvement of systems in order to realize customer satisfaction. Such efforts have led to Doosan Infracore's newly organized homepage, which has won a number of awards, including at the A.N.D. Award 2020 (in the large business category) from the Ministry of Science and ICT, and at the Web Awards Korea 2020 (best brand innovation prize) led by the Korea Internet Professional Association. The BU annually measures customer satisfaction through a CSI (customer satisfaction index) and an NPS (net promoter score), and has introduced a global survey platform, Qualtrics, to analyze factors affecting customer satisfaction using analysis dashboards and objective data, as it's more systematic and accurate than conventional surveys.

# Social—Health and Safety Management

## EHS Leadership Activities

Doosan Corporation has strengthened voluntary EHS management among the heads of its organizations based on the top management's deep interest in and support for EHS. All leaders personally perform diverse EHS leadership activities, including EHS field inspections, safety dialogues, and EHS meetings. Through these measures, there has been an effective increase in the safety awareness of all our employees, thus contributing to the prevention of safety accidents at our worksites.

In addition, the top management conducts an EHS Session each year to listen to the workers' opinions on health and safety and to share the results and future plans on the topic, thereby increasing the corporate ability for EHS management. On the extension of this effort, the management will review and approve the safety and health plan scheduled to be implemented from 2021 onward.

### Summary of the Safety and Health Plan (subject to approval)

	Basic policy on safety and health management
	Composition, manpower and roles of the safety and health unit
	Budget and facilities
	Activities and results of the previous year and the plans for the next year

## Creating Safe Worksites Together

Doosan Corporation has deployed a mutual cooperation system with our suppliers in order to establish safe and healthy worksites. In 2020, Electro-Materials BG's Gimcheon plants, and Industrial Vehicle BG participated in the "Win-Win Safety and Health Cooperation Program", which is systematically operated for a total of 12 suppliers, and includes safety- and health-related education and support for hazard assessment.

## Response to ISO 45001 Certification

Doosan Corporation carries out systematic safety and health management activities based on its occupational health and safety management systems (ISO 45001:2018). We are preparing to change our existing OHSAS 18001 certification to ISO 45001. Thus far, Electro-Materials BG Jeungpyeong, Gimcheon and Iksan plants, and Industrial Vehicle BG have already completed the certification transition.



ISO 45001 Certification

## Expansion of Prevention Program for Musculoskeletal Disorders

Doosan Corporation operates musculoskeletal disease prevention program for health of its employees at workplaces and investigates the Potential hazards of musculoskeletal systems. Electro-Materials BG conducted measurement and consultation on musculoskeletal Potential hazards for 425 people, including employees of its Suppliers, and provided a pain management program that prescribed individual exercise methods.



Prevention Program for Musculoskeletal Disorders

## Social—Quality Management

### Enhancement of Quality Management Systems

Doosan Corporation strives to acquire the necessary quality certifications and conducts various support activities to satisfy the quality requirements of its domestic and global customers.

Electro-Materials BG operates its quality management system from the design stage based on IATF-16949<sup>1)</sup> certification. The BG has strengthened its 4M change point quality verification system for when changes are made to the 4M system (man, machine, material, method; in other words, the 4 main elements of the production process). In addition, it conducts co-work activities such as technical meetings with suppliers and visiting suppliers to provide quality guidance during the evaluation of their samples to improve the quality of raw materials supplied.

As for the Industrial Vehicle BG, it has redesigned and improved its existing TQC system into an ISO 9001 QM system and implemented customer-oriented quality management policies to boost customer satisfaction. Due to the effective execution of its customer-oriented quality management, all Korean business units and overseas factories have obtained ISO 9001 QM System certification, along with its main suppliers. The Industrial Vehicle BG will continue to carry out various guidance support policies to reinforce the quality competitiveness of its suppliers and ensure they acquire other relevant certifications.

The Fuel Cell Power BU conducts quality management based on the certifications it has acquired for its domestic and foreign quality management systems, such as ISO 9001 and KS. The BU is increasing the number of its quality management items by enhancing the competitiveness of its suppliers, conducting preemptive quality management, and tallying up quality expenditure. Above all, the BU aims to focus on securing reliable quality by adopting the PPAP (Production Part Approval Process) for its production system.

The Digital Innovation BU has established and operates its quality management system based on ISO 9001 and ISO 20000 (International Standard for IT service). The BU has established DevOps<sup>2)</sup>, an advanced method of software development and operation, and has introduced it to certain areas, and plans to expand its use to major systems in order of precedence. The BU is also concentrating on strengthening the competitiveness of its agile IT service by changing its traditional service method, which has struggled to respond rapidly to the fast-changing business environment, so that it can be provided to customers on time.

1) IATF-16949: The latest TS 16949 certification, a Quality Management System to which special requirements for automotive areas have been added, under ISO 9001.

2) DevOps: With the new software development methodology that combines development and operation, communication, collaboration, integration, and automation between development and operation experts are stressed. This methodology that is best matched with agile applications, which is essential in agile software development. It has been adopted by major IT companies thanks to the rapid development of related technologies.

### Thorough Quality Management

The Industrial Vehicle BG carries out quality innovation projects for all domestic and foreign workplaces in order to upgrade quality control activities. First of all, the BG endeavors to eliminate waste from the cost perspective through continuous management of the Q-Cost system ("Q-Cost" refers to loss costs incurred by quality issues. It is conducted by setting 64 internal and external failed cost items, and then improving and monitoring them). Based on the MES (Manufacturing Execution System), the BG registers major quality issues occurring throughout the entire value chain, from design to customers, in order to manage their improvement and create a database.

In addition, the Industrial Vehicle BG conducts education on SEN-X (Speed Engineering-X), which is the BG's unique problem-solving technique, and other tasks in order to improve the company's capability in solving endemic problems. Starting this year, the BG has adopted its own Master Black Belt-led coaching method, rather than relying on consultation by external experts, contributing to the establishment of the SENX Tool. It is hoped that these tools will become embedded in the daily work culture of the company and move beyond a project. Furthermore, under its motto of "Quick & Smart Service", the Industrial Vehicle BG adopted the GPS-based mobile application in 2019, allowing customers to report quality issues directly to the company in Korea, in order to strengthen the system for providing a rapid service within 24 hours. As of 2021, the BG is preparing to expand its mobile-based services to overseas direct dealers.

The Fuel Cell Power BU is striving to enhance its quality capability by conducting the approval test for the mass production of parts and the data management of various quality tests, and is also operating the Cross Functional Team to solve problems in the field. In addition, through KPI trend management for each quality area, the BU is making efforts to achieve quantitative quality control and is committed to improving the integration of customer feedback and satisfaction into the Remote Monitoring System.



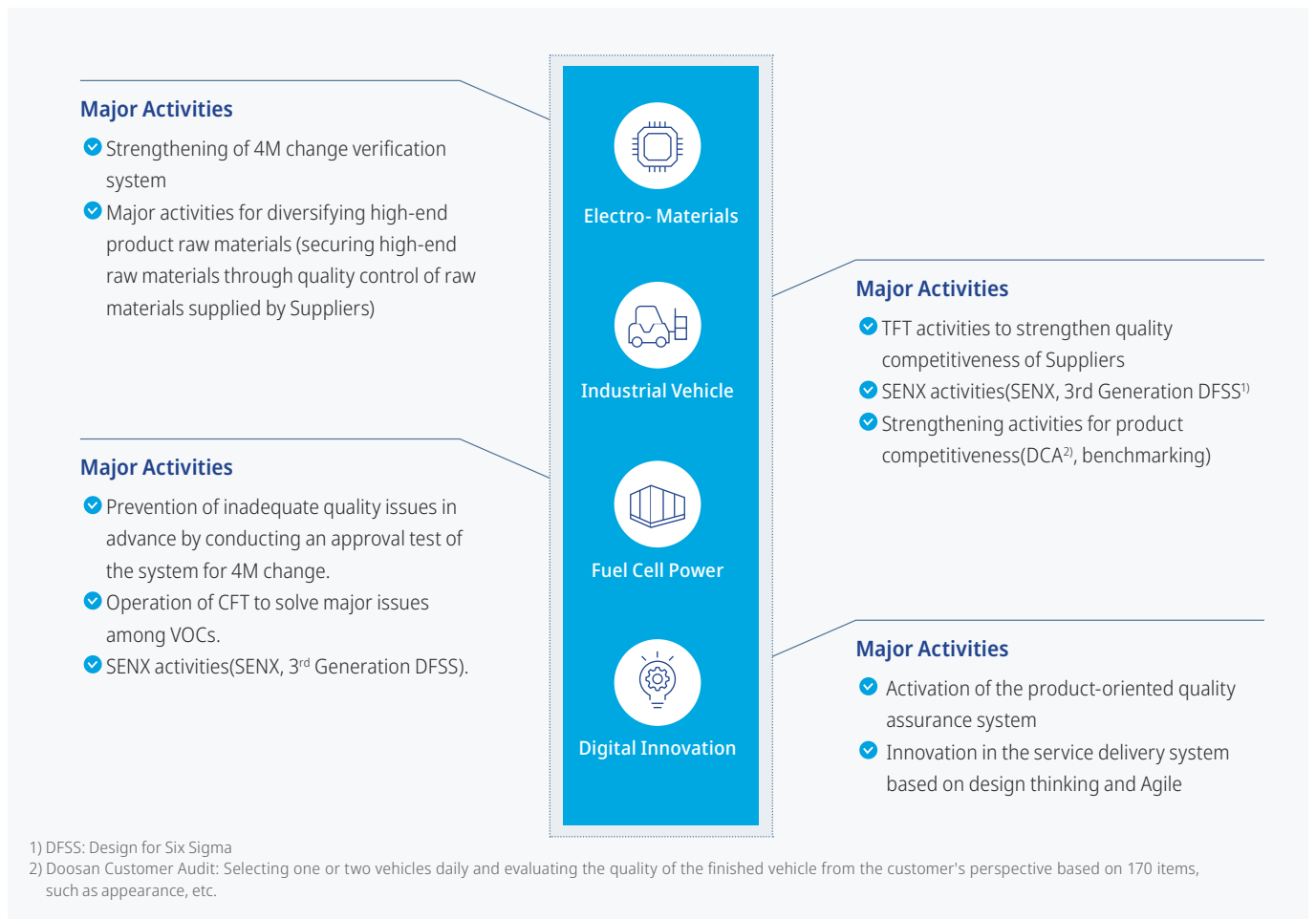
# Social—Quality Management

The Digital Innovation BU applies the product-oriented quality assurance system at the company level, which includes performance testing, operational control, code static analysis, and open-source software verification for its IT Systems under development.

The BU has secured quality verification techniques and cases for Microservices, the Internet of Things (IoT) and Embedded Software, whose importance is increasing markedly, and continues to seek ways of improving both productivity and quality. It has also adopted the RPA (Robotic Process Automation) system to minimize repetitive manual tasks at work and aims to expand its adoption to customer companies with the aim of further improving quality by eliminating human errors. The BU has

also organized the Value Review Board to identify and eliminate business risks at the early stage, and it plans to reorganize the Project QA system to respond rapidly to risks arising during business operations in order to improve quality.

## Key Quality Management Activities



## Social—R&D

### Enhancement of Technological Competitiveness

#### Market-Based Technological Competitiveness

Doosan Corporation practices technology-oriented management to drive innovation in technologies, products, and solutions based on market and customer requirements and analysis of rapidly changing technology trends. Doosan steadily explores and pre-emptively secures innovative technologies in order to develop, in a timely manner, market-leading products according to its mid- and long-term business strategies. All of Doosan Corporation's BGs/BUs regularly establish a PRM<sup>1)</sup> and TRM<sup>2)</sup> with specific action plans, and have reoriented their mid- and long-term growth objectives towards rapid growth and a highly profitable business portfolio, based on an analysis of changes in the markets and the technological environment.

1)PRM: Product Roadmap

2)TRM: Technology Roadmap

#### Enhanced Ability to Practice Technology-Oriented Management

To enhance its ability to practice technology-oriented management, Doosan Corporation operates various assemblies organized and managed by the CEO. Mid- and long-term technological strategies based on market and technology trends are established through PRM/TRM sessions, which is our core system of technology-oriented management. Discussions at an executive level for the execution of growth strategy and inspections on the performance of key tasks are conducted in the Growth Task Deliberation Committee. Furthermore, the periodic R&D Project Review Session inspects new projects and the progress of ongoing R&D projects. In addition, sustainable growth is promoted at our Technology Management Summit through the sharing of division-wide performance and future technology trends.

#### Technology-Oriented Management System

PRM·TRM	<ul style="list-style-type: none"> <li>· Analysis of market and technology trends</li> <li>→ Development of mid- to long-term technological strategies</li> </ul>
Review of Growth Project	<ul style="list-style-type: none"> <li>· Review of core task achievements and risks to achieve the mid- to long-term goals for new business growth</li> <li>→ Strengthening the executive ability of new project promotion tasks and securing new technology</li> </ul>
Review of New Product·Technology Development	<ul style="list-style-type: none"> <li>· Application and enhancement of new development processes</li> <li>→ Preemptive development of products and technologies</li> </ul>
Technology Management Summit	<ul style="list-style-type: none"> <li>· A forum for discussing technology-oriented management and business innovation, guided by Doosan Corporation's vision and the pursuit of sustainable growth</li> <li>→ Presentation of innovation examples of leading companies and brainstorming to find directions for technology-oriented management</li> <li>→ Sharing of the execution processes and outcomes of technology innovation</li> </ul>

#### Establishment of an Enterprise-Wide Integrated IP Strategy

Doosan Corporation has established an enterprise-wide IP strategy in connection with its mid- and long-term R&D road map (PRM/TRM), and secured an IP-based system to enhance R&D. It releases new market-leading products by first analyzing the patents of competitors and clients during the R&D planning stage and then pioneering differentiated technologies and strategic IP.

### Development of Environment-Friendly Products

#### Initiatives for the Development of Eco-Friendly Products

Electro-Materials BG is focusing its efforts on developing eco-friendly materials in the field of electronic products. It has created an eco-friendly product portfolio in its R&D road map to develop products based on eco-friendly materials (lead-free, halogen-free, dust-free materials, EV batteries, low-power display materials, etc.). In addition, products are designed to use fewer hazardous ingredients in the development stage, avoid the use of toxic solvents and manage environmental factors according to the EHS impact assessment (hazardous raw materials, raw material MSDS, etc.).

As a major achievement in the development of eco-friendly materials, products made from halogen-free materials have been produced. These can be used in high-capacity, high-speed, and high-functional network equipment, which is required in the 5G era, and Bisphenol A-free (BPA-free) products used in fingerprint recognition modules for electronic products. In addition, securing the base technology of materials for electric car batteries began in 2020, and it is expected that the contribution to the spread of eco-friendly electric cars that protect the air environment through commercialization in the future will be significant.



## Social—R&D

Industrial Vehicle BG develops eco-friendly products by enhancing energy efficiency and fuel economy, minimizing emissions of harmful gases, and increasing the replacement cycle of consumable parts. It plans to develop new products that meet the strengthened European emissions regulations (EU Stage-V), and launched a 4-ton diesel product in August 2020, and launched a 2.5 ton class product in January 2021. In addition, it will sequentially release 7-ton and 16-ton diesel products in the second half of 2021. These new products minimize resource use and waste discharge by increasing the change intervals of engine oil (from 500 to 1,000 hours) and powertrain oil (from 1,000 to 2,000 hours)<sup>1)</sup>.

The BG has completed its feasibility study on the development of a Permanent Magnetic Motor System technology and plans to establish the mass production plan in the future. By developing the HEPS(Hydraulic Electronic Power Steering System) technology, it has developed the B35X-7, which is expected to have high energy efficiency, and completed the preparations for its launch. In addition to such technology developments, the Industrial Vehicle BG is striving to improve the competitiveness of its eco-friendly electronic forklift by continuously enhancing its energy efficiency and performance.

Moreover, the BG has developed the EFB(Electric Foot Brake) system by switching from a hydraulic to an electronic braking system to improve efficiency. Accordingly, the battery's efficiency has been improved through energy regenerative breaking, while the axle brake disks have been removed to eliminate the need for brake oil, thereby eliminating oil wastage and the oil replacement period. In addition, the oil life cycle has been extended from 500 to 2,000 hours due to the decrease of the axle oil temperature. The BG launched the BT/BX (1-ton) in 2020 and plans to release the 2-ton BT/BX in the second half of 2021.

1) For diesel 2.5-ton class

As an eco-friendly company, Fuel Cell Power BU has developed 1 to 10kW PEMFCs (proton-exchange membrane fuel cell) using various fuels, including natural gas, liquefied gas, and auxiliary gas, and has developed 25 to 100kW medium PEMFCs using hydrogen fuel to expand its domestic and overseas market share. In addition, it signed a joint development agreement with Ceres Power of the UK in 2019 to develop high-efficiency 10kW SOFCs. The biggest benefit of SOFC is that it can secure approximately 60% power generation efficiency, which is 15 % more than those of the PEMFCs produced by Fuel Cell Power. Improved power generation efficiency will significantly reduce fuel costs and CO<sub>2</sub> generation. Korea has limited land and renewable energy resources, and Fuel Cell Power expects that distributed power generation using hydrogen fuel cell, a new energy source, will continue to grow.

### Global Environmental Regulatory Response

The industrial vehicle BG will not only work to increase fuel efficiency through 16-ton Closed Center Load Sensing (CCLS) systems and Variable Remote Fan Control systems, but also apply next-generation 16-ton Stage V to cope with global environmental regulations.

The CCLS system utilizes a variable piston pump to block the flow path and selectively open the flow path only if necessary, which is expected to increase fuel economy by up to 15%. The introduction of the Variable Remote Fan Control System, a system that increases energy efficiency by driving the Fan with a hydraulic pump rather than an engine direct connection, to operate only when cooling is required, is expected to increase fuel efficiency by up to 5%.



## Social—Talent Management

### Human Rights Management

Doosan Corporation respects the human rights of not only its employees but of all stakeholders engaged with its management activities, and advises third parties, including suppliers, to practice human rights management at the same level. The human rights policy of Doosan stipulates that basic human rights be guaranteed, regardless of a person's origin, gender, ethnicity, or other conditions. As a member of the UN Global Compact, we abide by the 10 principles of Global Compact in the areas of human rights, labor, the environment and anti-corruption, establish and practice human rights management and due diligence based on internationally-recognized principles of human rights that, such as the Universal Declaration of Human Rights and the UN Guiding Principles on Business and Human Rights: Ruggie Framework. Doosan Corporation applies the following principles equally to the employees of suppliers such as dispatching, subcontracting, and trading parties. We have established a human rights management system, and take remedial steps in the event of human rights violations. We aim to become a business that grows together with its local communities by pursuing activities aimed at improving human rights.

01



#### Ensuring Employment Non-Discrimination, and Freedom of Association and Collective Bargaining

We strive to avoid any unjust discrimination regarding employment based on gender, religion, disability, age, social status, region of origin, etc. Furthermore, we recognize workers' freedom of association and collective bargaining, and do not pursue any punitive action against workers for labor union activities.

02



#### Prohibition of Forced Labor and Child Labor

We do not accept any form of forced labor that may occur in business activities, and abide by the minimum age for employment set by the country of business. We follow the minimum employment age prescribed by laws of the country of business and in the case that we find we have hired a minor, we take immediate remedial measures to prevent all wrongful labor practices that damage human dignity.

03



#### Securement of Industrial Safety and Management of Responsible Supply Chains

We strive to maintain a safe working environment and follow environmental, health and safety laws and standards that apply to our workplaces. In addition, we adopt separate safety and health measures for pregnant women, the disabled and other vulnerable workers. We establish and continuously check policies and guidelines related to the ESG risks of our supply network. We also monitor all business partners. We will stop engaging in transactions with supply networks that fail to take corrective steps against human rights infringements.

04



#### Protection of Human Rights and Environmental Rights of Local Residents


We respect local residents' rights to life and freedom of relocation, as well as their individual rights related to safety and property ownership. In addition, we adhere to a principle of preventive approach to environmental issues and systematically implement plans to prevent, mitigate, and control serious environmental damage and environmental disasters.

05



#### Protection of Customers' Human Rights

We pay careful attention to marking design and manufacturing conditions and other indications on products in accordance with legal standards in order to prevent product defects from causing damage to the life, health, or safety of customers. In the case that damage is detected after a product is launched in the market, we notify customers of the risk and recall the product immediately. Moreover, we take necessary measures to protect all personal information collected by our company based on our policy of respecting the privacy of customers and employees.

Doosan Corporation operates an  **online whistle-blowing center** on our website to prevent possible human rights violations occurring in business processes. We protect whistle blowers through confidentiality principles and handle all issues quickly and fairly.

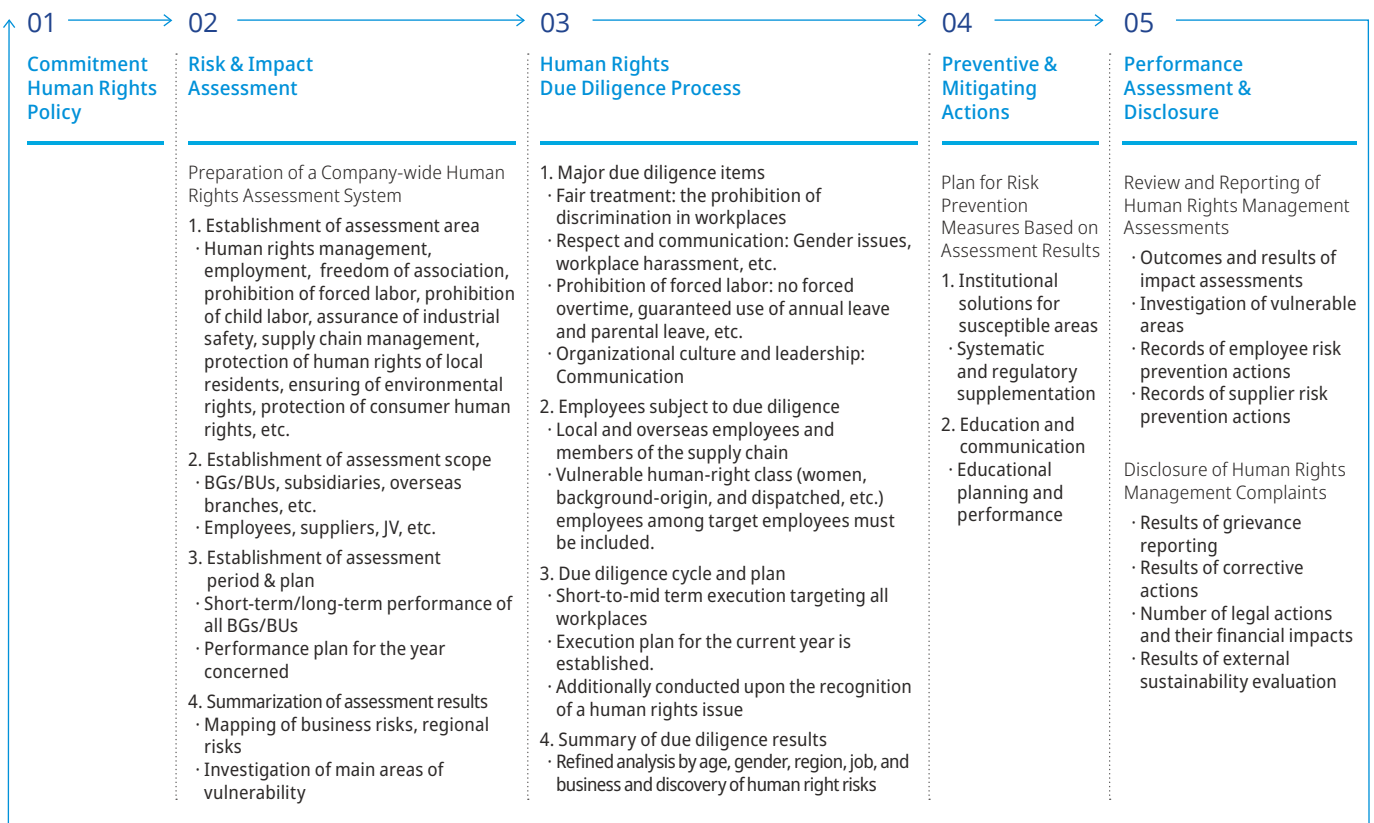
Doosan Corporation will take the lead in supporting and respecting human rights principles as a Proud Global Doosan.

# Social—Talent Management

## System for Implementation and Review of Human Rights Management

Doosan Corporation operates a human rights management system to prevent human rights violations that may occur in business processes, including the supply chain, as follows. Through human rights impact assessments, we actively identify potential human rights violation issues in the areas of grievance mechanisms, discrimination, forced labor, wages, working hours, child labor, freedom of association, consumer human rights, information security, and privacy, and strive for continuous improvement.

### System for Implementation and Review of Human Rights Management



## Human Rights Impact Assessment

Doosan Corporation subjects all its workplaces to human rights impact assessments/due diligence in order to shed light on human rights violations and key risk areas. In accordance with our priorities, we conduct human rights impact assessments to analyze the risks and criticality of each of the countries and areas in which we conduct our business activities. Over the past 3 years, 80.2% of our employees have undergone such an assessment. Since 2020, and due to the COVID-19 crisis, we have been unable to conduct such assessments of our workplaces in the Americas and Europe. We plan to assess one hundred percent of our workplaces outside South Korea by the end of 2021, on the assumption that the COVID-19 situation will be under control within the first half of the year.

### Employees



### Suppliers



## Social—Talent Management

### Preventive & Mitigating Actions

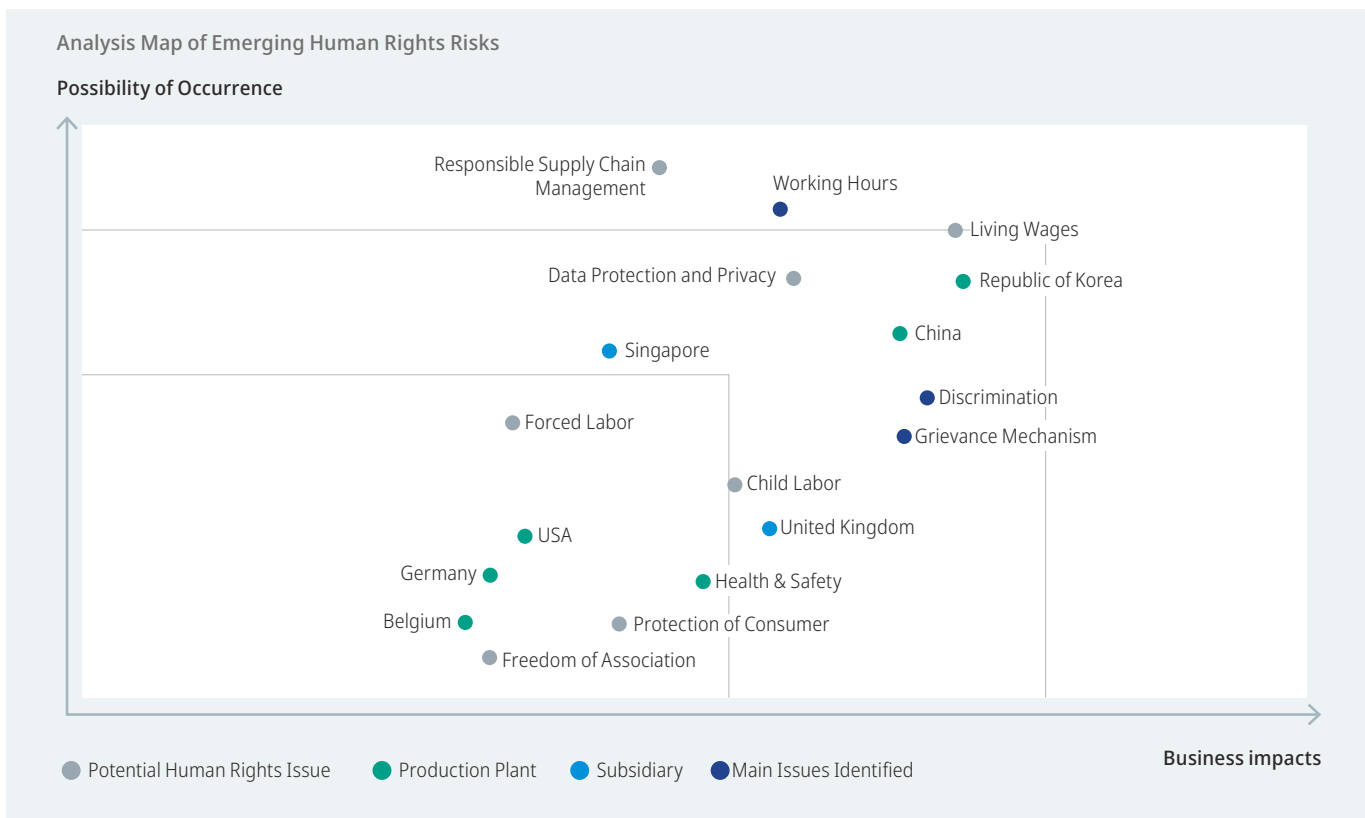
Measures for preventing major potential risks identified by the human rights impact assessment are taken based on the risk matrix. In addition, various preventive and mitigating actions are conducted through different programs, including institutional solutions for vulnerable areas, education, campaigns, and so on.

Since introducing the PC-OFF system in 2019, we have improved our employees' autonomy in their choice of working hours and are striving to cultivate a spirit of mutual respect by conducting education and briefing programs related to workplace bullying for all employees and for distributing the CEO's messages. Moreover, human rights due diligence, which previously concerned only office workers at our domestic business sites and Chinese Corporations, was conducted for both office and technical workers in order to identify potential human risks and implement corrective actions in 2020.

The leaders of Doosan's business groups create and implement the LAP(Leader's Action Plan) each year in order to lead changes in our ways of working. In 2021, to minimize potential risk to staff members' human rights caused by their leaders, they have established the LAP by strengthening the "attitude" perspective in an effort to improve leaders' relationships with staff members.

### Grievance Process

Doosan Corporation collects information on human rights issues through a grievance system established and operated as a kind of early warning system. We operate an Ombudsperson program and various grievance channels to provide necessary assistance through counseling on complaints raised by employees. Each program provides an opportunity for members to make appeals based on our three principles of grievance redressal: protection of anonymity, prevention of disadvantage and feedback. In 2019, Doosan expanded the organization of its grievance system. It improved grievance mechanisms and provided guidance to employees at its China corporation. In human rights due diligence in 2020, a VOS was received, which requested the advertisement of the grievance process program and reinforcement of the process. As regards the improvement measures, Doosan plans to diversify its communication channels to raise awareness of the grievance process program and improve accessibility. Especially, in 2021, Doosan Corporation plans to integrate all complaints-handling procedures operated at each workplace into one unified procedure, and to hold a workshop for training grievance counselors in Q3.



## Social—Talent Management

### Employee Communication

#### Review on the Employees' Psychological Stability

Doosan Corporation's Business Groups conduct the biennial "Leaders Meeting for Change and Innovation" in order to encourage the leaders of the BGs to reflect on their commitment to the Doosan Credo and strive to align their vision and leadership with the Credo. During the 2020 meeting, which was held on the theme of "How leaders should work to meet the demands of the changing business environment", they discussed and shared their opinions about the changes required in their work methods and styles in order to promote psychological stability among their employees and respond to the changing environment in terms of generation gaps and methods of communication.

The company plans to conduct activities designed to help employees improve their levels of concentration on their work, including their psychological stability, by holding "Credo Time" between July and December 2021. During the first half of 2021, we are sending out a letter containing a definition of and information on psychological stability and how to improve it.

In addition, the "diagnosis of employee engagement and improvement activities of obstacle factors" will be conducted every two years, targeting all employees in Doosan Corporation.

#### Conference for Acknowledging Achievements and Sharing Exemplary Cases

Doosan Corporation organizes the annual Credo Awards to acknowledge achievements and share exemplary cases and lessons learned during the year. The Credo Awards were first held in 2016 and has grown into an annual event. Awards for fundamental competitiveness (R&D, business growth), advancement and science (OE advancement, innovation at manufacturing sites), Corporate Social Responsibility, Credo Value, and Doosan talent fostering (executive, team leader, team member, CA<sup>1)</sup>) were presented. The conference is an opportunity to motivate members and work toward the better performance of the organization.

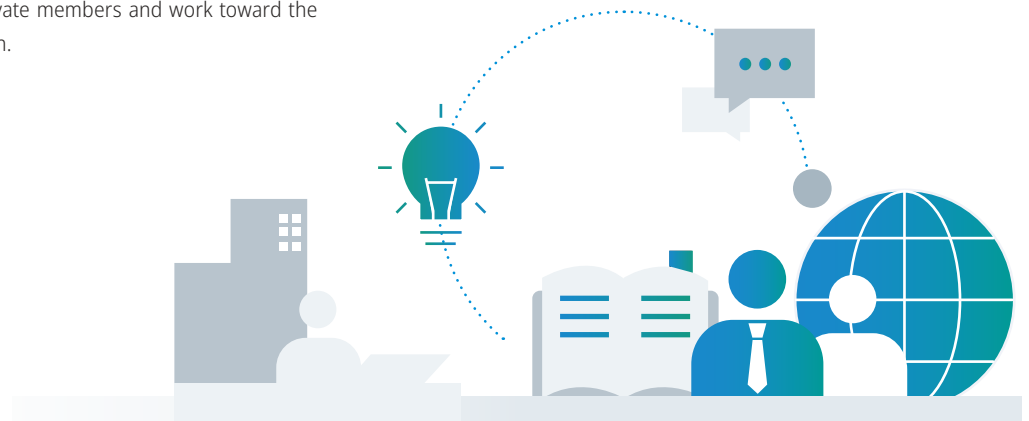
1) CA: Change Agent

#### Education for Overseas Corporations

Doosan Corporation conducts education for overseas subsidiaries in order to establish ways of working based on the Doosan Credo. This education strengthens our employees' sense of belonging by linking the strengths of individuals to the organization and ensuring the involvement of participants in discussions on the future image of the organization. Doosan Corporation will continue its efforts to build its future through cooperation with members by overcoming regional boundaries.

#### A Labor-Management Culture Based on Mutual Trust

Doosan Corporation has established a harmonious labor-management culture for mutual growth based on truthful communication, the Doosan Credo, and a cooperative relationship with labor unions. As such, we listen to our employees' opinions on a regular basis through diverse communication channels including Doosan Credo Time, joint labor-management conferences, and surveys, and reflect their opinions in our management activities and organizational operations. By operating periodic internal human rights due diligence, an ombudsman system, and a grievance process system, we raise awareness of human rights violations and strengthen the proactive prevention of potential human rights issues. Moreover, we promote an organizational culture in which all our employees participate in the growth of the company through quarterly management briefings.



## Social—Talent Management

### Leadership Education

#### Doosan Corporation's Junior MBA

Since 2013, Doosan Corporation has held the Junior MBA Course to broaden the business perspectives and strategic thinking of the employees, assistant managers, and managers who are destined to become its future leaders. Notably, this course comprises lectures by renowned professors and specialists on strategy, financing, accounting, DT, marketing, and personnel organization. The participants gain a broader view of business and cultivate their financial insight through team-based and individual tasks related to the business strategies of Doosan Corporation. In the 7th term of 2020, the course was attended by 18 employees from 5 companies under Doosan Corporation, who evaluated it as an extremely useful opportunity to enlarge their perspective of the organization and business and to deepen their professional knowledge. Doosan Corporation will continue running the Junior MBA Course in 2021.



Junior MBA

#### Courses for Promoted Personnel of Chinese Corporations

In November 2020, Doosan Corporation ran a course for newly-promoted general managers and assistant managers at the Electro-Materials BG Changshu Corporation and Industrial Vehicle BG Yantai Corporation. Due to the COVID-19 pandemic, the one-day course was conducted contact-free in real time. Sixteen employees attended the course for new general managers, while fourteen participated in the course for new assistant managers. Each course was designed to help newly promoted employees learn about their new roles and cultivate the appropriate mindset. In addition, there was feedback that education through real-world case analysis would improve the understanding of participants and help them in their future work. Doosan Corporation has also operated annual promotion courses for newly promoted employees at its Chinese corporations since 2018 and will continue to provide training based on various methods.

#### Leadership Program for Continuous Performance Management (Practice on One-to-one Meeting)

The Digital Innovation BU has introduced a CPM (Continuous Performance Management) system whereby the performance of its members is carefully managed to support effective management of their business performance

in the rapidly changing business environment. This system enables one-on-one meetings to share feedback between leaders and staff members in order to promote mutual growth and development. In particular, the HR Team provides training materials from the feedback and coaching perspectives, identifies the actual difficulties experienced by leaders through interviews and conversations with them, and provides a support plan for leaders' effective performance management. In 2020, 49 leaders attended this leadership program.

### Job Education

#### Production Academy to Strengthen Manufacturing Competitiveness

Doosan Corporation has implemented a production academy for office workers engaged in manufacturing in order to strengthen their competitiveness. Twenty-eight employees participated in the three-day production academy, which consists of four courses: understanding of manufacturing, site improvement, productivity improvement, and digital transformation. In-house experts developed and lectured on a practical, case-oriented curriculum aimed at enhancing site operations.

In 2020, the Academy designed a non-contact curriculum and offered education programs featuring content that workers can instantly use at their workplace, based on the cases from Doosan and Shenzhen City. The programs proved to be highly satisfying among workers at different workplaces. In 2021, the content of the programs will be further improved and more cases will be added before the curriculum will be offered to the first group of trainees.

#### Education on Strategic Problem-Solving

Administrative and specialized employees of Fuel Cell Power BU that are responsible for new businesses received education on how to strategically solve problems. A total of 67 employees have completed the education in five different groups. They applied the problem-solving methods they learned when dealing with real issues that they encountered in the course of performing their job.

#### Education Programs for Specialists and Administrative Support Employees New to the Company

Doosan Corporation has been offering an introductory program customized for specialists and administrative support employees, who are recruited all year round, in order to help them gain a better understanding of the company and acquire the basic knowledge and skills they might need at their workplaces. The program is designed to help new employees of the younger generation learn business etiquette and effective approaches to getting their job done, which can lead to enhancing their professional competences.

## Social—Talent Management

### Business PT Program

Electro-Materials BG provides a 3-month intensive language program tailored to Business PT, in order to help overseas sales staff improve their sales and communication skills. In the program, they learn the basic vocabulary and PT skills, make actual presentations, and work on their weaknesses, based on the feedback they receive.

### Competence-Enhancing Program for Sojourning Employees

Doosan Corporation has designed and developed a program to help sojourning employees successfully conduct their roles and speed up their transition to their new life as sojourning employees. The program, which is offered to employees who are going to work overseas, focuses on the roles of sojourning employees, the cultures of the target areas where they are going to work, and language skills. The first session of the program has been completed.



Competence-Enhancing Program for Sojourning Employees

### Procurement Academy Advanced

Procurement Academy Advanced was first launched in 2018 and it consists of 5 classes designed to increase the procurement-related knowledge and skills of employees, including procurement negotiation skills, cost analysis, supply network management, imported materials management, and fair trade. The content of the four classes, except imported materials management, was developed by in-house instructors, who also teach the four classes. Imported materials management is taught by outside instructors who are customs brokers. The program includes both theory and practice and actual cases of BG of Doosan Corporation are used for students' practical training. A total of 5 sessions have been conducted so far and 31 employees finished the program in two different sessions in 2020.



Procurement Academy Advanced

### Introduction to Digital CoE Competence Enhancement

Digital Innovation BU has opened more than 50 online classes in different areas, including data science, programming, marketing, and creative, to help its employees strengthen the basic digital competences they are required to have as members of the group's Digital CoE(Center of Excellence). The classes are taught by professional instructors from large companies and start-ups and they focus on digital and IT knowledge and skills that Digital CoE need to have in order to cope with the fast-evolving business environment. The program is structured like an encyclopedia, so employees can access the content they need anytime, anywhere. The lectures are provided in the form of micro learning, as each lecture is only around 10 minutes long, allowing employees to learn their desired content quickly.

As many as 150 employees benefited from the program last year alone. The program received the feedback: "It was helpful for working on individually-prepared digital projects and actual cases involving digital technologies were particularly useful".

### Other Programs

#### Human Rights Education

Industrial Vehicles BG conducted human rights education for leaders and staff of the administration team and the entire technical staff. The program deals with major human rights topics, ranging from the importance of human rights, and legal knowledge for prevention of sexual harassment and workplace bullying to actual cases that occurred in the company and the White Paper of Doosan Group. Offline education programs have also been created to meet the legally-required hours of education and to clearly communicate the values of human rights, respect, tolerance, and cooperation.

## Social—Supply Chain Management

### Supply Chain Management

Doosan Corporation is strengthening the sustainability of its supply chain through two strategies: increasing the competitiveness of the entire supply chain through shared growth with suppliers, and identifying and improving sustainability risks in the supply chain in advance.

#### Establishment of a Shared Growth System

Doosan Corporation clearly identifies building a virtuous partnership with partners as part of its vision. Under the partnership, Doosan shares with its partners its unique style of business and quality management, as well as technology systems, including technological competences and business systems, and integrates partners into a single, extended system, with the ultimate goal of creating win-win opportunities in the market.

To achieve these goals, Doosan Corporation has progressed these various programs, which are currently hosted by the Shared Growth Team, and further integrated the activities of competitiveness enhancement for partners, which were conducted before by each business unit separately.

#### Doosan Corporation's Philosophy of Shared Growth



##### Value of Shared Growth

Building a "Virtuous Suppliership" with suppliers to strengthen global competitiveness



##### What is a "Virtuous Suppliership"?

- All technology/quality/management systems are operated as part of a single system that includes suppliers.
- Doosan's technological capabilities, business systems, and other unique management qualities, along with its technology systems, are shared with its suppliers to enhance their competitiveness and seek mutual growth in the global market.

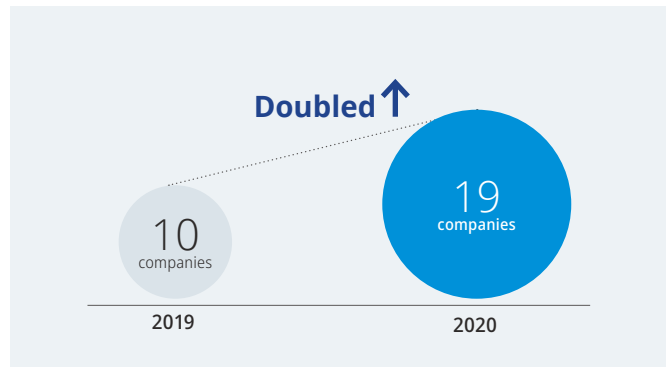
#### Diffusion of Shared Growth Culture

Doosan is working to promote the spread of the shared growth culture across the voluntarily observing the rules of fair trade and thus proactively manage risks associated with the Fair Trading Act. In addition, Doosan is also actively involved in volunteer activities to help its suppliers become more competitive. Doosan strengthens communication through regular meetings with suppliers, conducts supplier visits by Doosan's CEO and executives, listens to the difficulties and suggestions of suppliers and reflects their opinions in its management. We also promote shared growth, not only for our primary suppliers, but for our secondary suppliers as well.

#### Mutual Growth Through Support to Strengthen the Competitiveness of Suppliers

Doosan also provides its suppliers with free professional business consulting to help them become globally competitive. Furthermore, it is encouraging shared growth by working closely with the government to build smart factories and participating in education projects to help improve workers' skills. Our management consulting program provides innovative solutions for cost reduction, inventory management, quality improvement, and process management, supporting nineteen suppliers in 2020. A smart factory construction project is provided to four suppliers based on worksite needs such as MES and PLC. 2,500 employees of suppliers completed Doosan's training programs on finance, EHS, leadership, and others to strengthen their capabilities.

#### Professional Business Consulting for Suppliers



#### Continuous Operation of Programs for Closing the Gap

Since 2017, Doosan Corporation has carried out a program designed to bridge the gap between large businesses and SMEs. As part of this program, we pay KRW 100,000 per month to the employees of secondary suppliers, internal subcontractors, and suppliers in charge of environmental cleaning/security. To the employees of our primary suppliers, we provide benefits such as gift certificates on special holidays, a health checkup service, and a mutual-aid service. In 2020, we spent a total of KRW 2.2 billion (KRW 0.8 billion to bridge the gap, and KRW 1.4 billion on welfare) on suppliers' employees enrolled on such programs.



# Social—Supply Chain Management

## Fair and Transparent Selection in the Supply Chain

Doosan considers not only price, quality, and financial conditions, but also sustainability when choosing suppliers to work with. Sustainability assessments are carried out transparently in accordance with the registration procedures on the Doosan website. They are carried out based on internal regulations that reflect the terms of compliance announced by the Fair Trade Commission. Doosan Corporation strives to ensure that these regulations are applied fairly to all companies that wish to do business with Doosan. We conduct a regular evaluation of quality, delivery date, price, and other sustainability factors for suppliers with a transaction volume above a certain amount. Key suppliers are selected based on their strategic importance and transaction size. Field diagnosis and improvement plans are carried out on key suppliers. Doosan Corporation supports shared growth activities for the capacity-building of suppliers.

### Supplier Registration Evaluation

Financial information + item inspection (quality test, etc.) + capacity evaluation (examples, etc.) + sustainability assessment for labor/human rights, health/safety, environment, etc.

### Regular Evaluation

Price, delivery date, quality performance evaluation (determination of unqualified suppliers) + sustainability assessment for labor/human rights, health/safety, environment, etc.

### Key Suppliers

- Selection of key suppliers based on purchasing strategy
- Improvement of in-depth diagnosis of sustainability risks
- Operation of support programs to improve competitiveness and sustainability

## Management of a Sustainable Supply Chain

Doosan Corporation introduced guidelines for a sustainable supply network in 2015 and has been sharing the guidelines with its suppliers to increase the sustainability of the supply network. These guidelines include contents related to labor and human rights, safety and health, the environment, ethics and fair trade, general management, posting of guidelines and compliance, and others. It is up to Doosan's Suppliers to agree to and apply the guidelines. The full text of the guidelines can be found on the Doosan e-procurement website.

Doosan Corporation has devised and implemented conflict mineral management policies in order to participate in the international community's efforts concerning conflict minerals. Based on our conflict mineral management policies, we identify products that may include 3TG (tantalum, tungsten, tin and gold). We request our suppliers to verify places of origin based on BOMs<sup>1)</sup>, and we were able to confirm that no conflict minerals have been used in our verified product group (application components of industrial vehicles, casting materials, etc.). Doosan will continue to carry out monitoring for the possible presence of 3TG through BOMs from the R&D stage and reinforce the process of verifying the place of origin.

1) BOM: Bill of Material

## Definition of Doosan's High-Risk Worksites



Worksites with a high possibility of causing environmental accidents/pollutions or violating environmental regulations



Worksites with a high possibility of employees or stakeholders causing/suffering legal/physical damage through issues/accidents related to human rights/safety/ethics



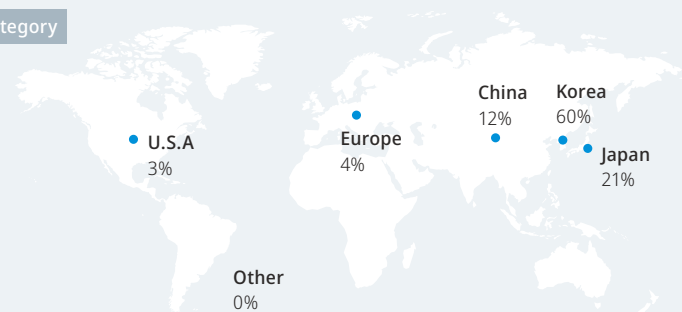
Worksites that cannot carry out normal operations due to sanctions or punishments

## Purchase Status

Description	Number of suppliers	Purchasing ratio
Total	1,206	100%
Manufacturing	637	53%
Service	569	47%
Key suppliers	121	73%

\*For China, Hong Kong and Taiwan are included.

## Geographical category



## Social—Supply Chain Management

### Sustainable Procurement Strategies

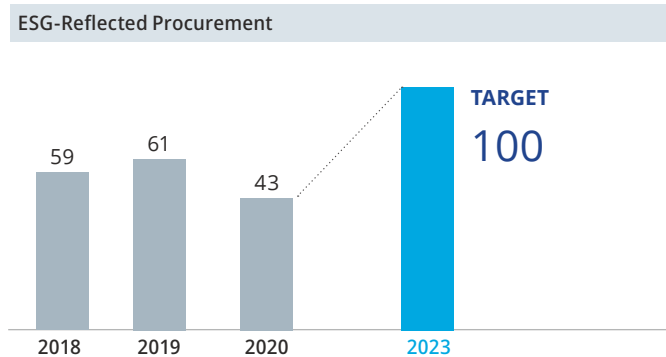
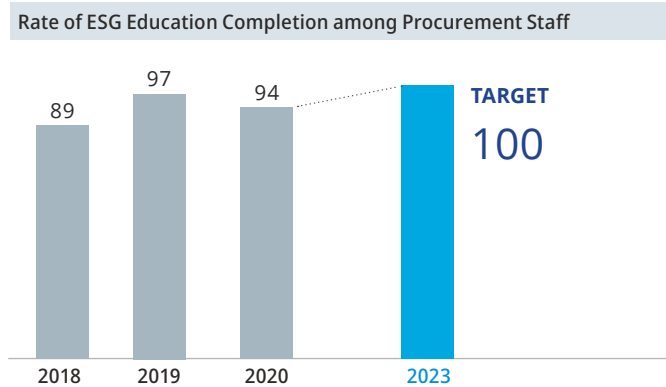
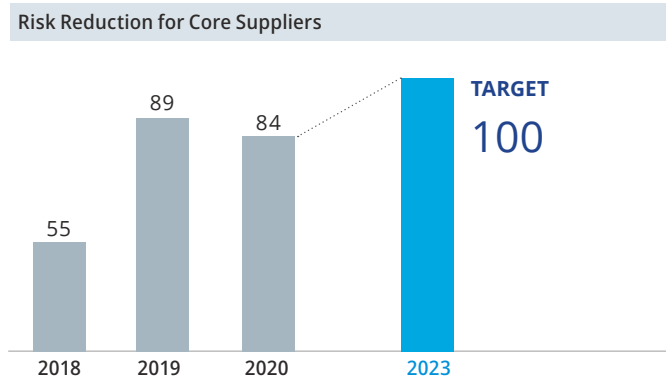
Doosan Corporation is increasing its sustainability by reducing high-risk business. Doosan is constantly striving to improve its sustainability by implementing procurement strategies that can reduce high risks in the workplace.

Our sustainable procurement strategies are based not only on traditional factors such as price, quality, and delivery schedules, but also on ESG elements. We are improving the soundness of the supply network for sustainable procurement. For this, we listen to our suppliers and try to identify and address issues across the entire supply network. Specifically, a survey is conducted each year on major stakeholders of the supply network to review their compliance with the ethics code and to increase the ethical awareness of the entire supply network. In addition, we collect opinions from our suppliers on issues that can arise in their transactions with Doosan and reflect the opinions in designing our procurement policy. Finally, we operate a hotline (080-850-3398) to facilitate open and direct communication with our suppliers, and we personally visit our major suppliers to listen to what they have to say.

Doosan views creating a safe working environment as one of the most important strategic goals. To make our working environment safe, Doosan is increasing the safety of the entire supply network by reducing quality cost incurred due to accidents and improving the demand and supply imbalance, with the ultimate aim of increasing the sustainability of the entire supply network. If the sustainability evaluation shows that a supplier has areas that require improvement, Doosan employees visit the particular workplace and help the supplier improve the working environment. In addition, Doosan offers practical education programs on labor issues and EHS to suppliers to help them improve the working conditions for their employees.

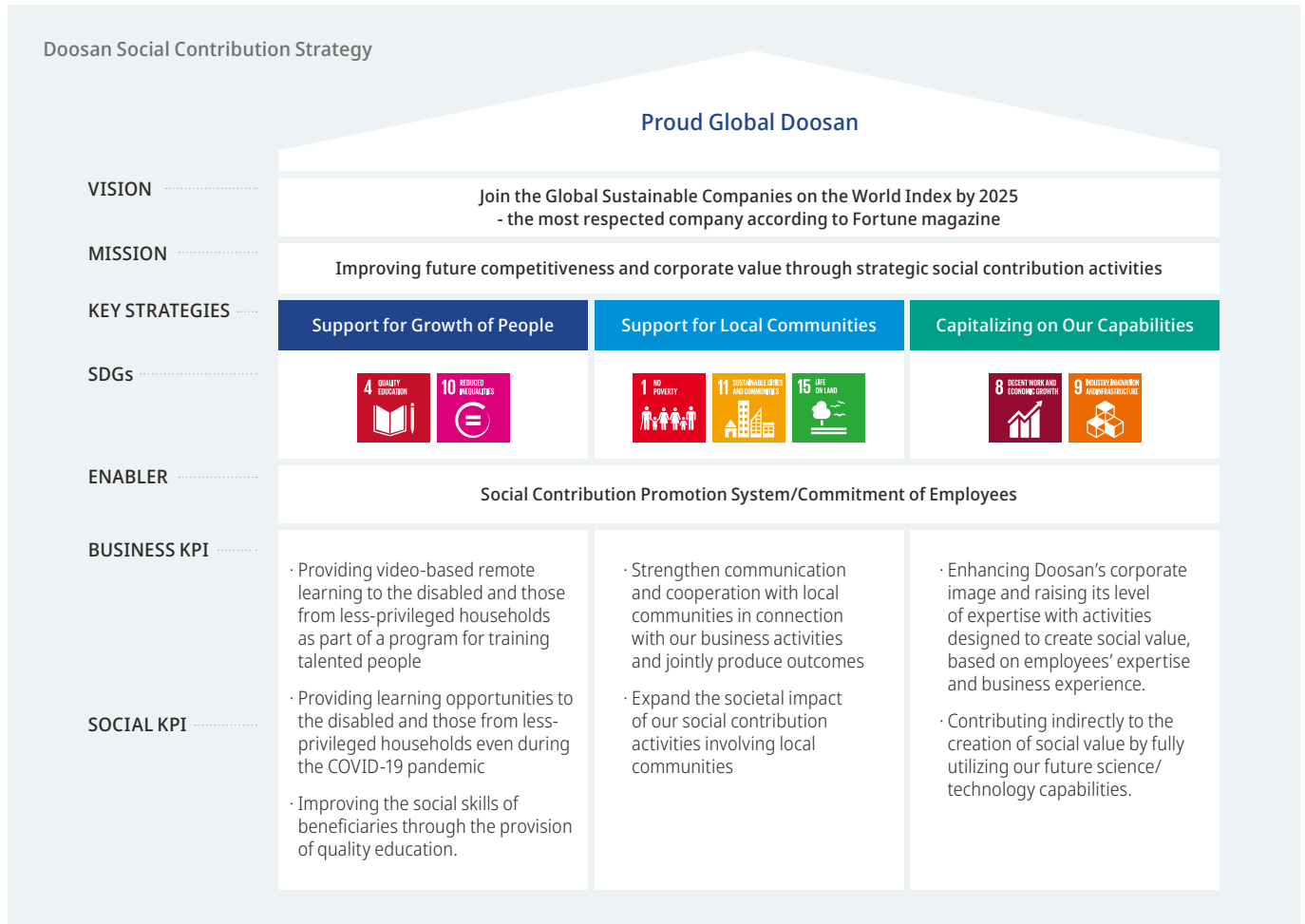
Doosan is further tightening its sustainability evaluation on its supply network, in order to provide comprehensive support for all of the sustainability-related activities. For example, core suppliers are subject to in-depth sustainability evaluation and we plan and implement support measures to help them improve their competitiveness and sustainability, based on the results of the evaluation. The accumulated coverage for the recent 3 years hovers above 90%. Of the 40 companies that have implemented an improvement plan for the last 3 years, 22 companies have seen their risk drop and 11 out of 13 companies have experienced a fall in their risk.

KPI for Suppliers (Unit: %)



# Social—Social Contribution

Under its vision of becoming a “Global Sustainable Company of the World Index by 2025,” Doosan Corporation is carrying out social contribution activities to enhance the competitiveness and corporate value of the community.



## Support for the Growth of People

Under its vision of “commitment to people,” Doosan Corporation is contributing to fostering talent for the future so that socially vulnerable groups (children, adolescents, single mothers, etc.) can grow as members of society even in COVID-19 situations.

### Mental Healthcare for Families of Firefighters

The program, which has been in place for the past five years, aims to provide up to KRW 4 million a year for families of firefighters who have been killed or injured in the line of duty, or have taken their own lives to help them take care of their children until their preschool children graduate from elementary school. In addition, psychological tests and counseling programs are also available to those children and their primary care-providers as necessary, and psychotherapy is also provided if long-term care is necessary.

### Youth Start

Doosan Corporation provides aid to new students from less-privileged households who are entering college, which includes a scholarship fund and employee mentoring activities. Each year, we pay KRW 5 million each in scholarship funds to 40 students. In addition, regular meetings are held to share information about school life, and various activities such as volunteering are provided.

## Social—Social Contribution

### Mental Health of Infants

Customized education programs have been offered to childcare providers and parents of school-age children, in order to promote healthy emotional development of children. Initially, the programs were available to daycare facilities operating at Doosan workplaces and daycare centers in the communities near Doosan’s major business sites, but they have been gradually expanded in scope to include parenting skills. Recently, however, online or mobile parenting classes have been developed and made available to parents who find it hard to attend classes due to COVID-19.

### Time Travelers

Time Travelers is a program designed to help disadvantaged youth with their emotional development through photography, video production, the humanities, and character-molding education. Since it was first launched in 2012, around 800 youth have joined the program. In 2020, we began operating a curriculum of regular classes in connection with the newly adopted free semester system for middle school students. We also set up a program consisting of on/offline classes so that classes could be run without interruption during the COVID-19 pandemic.

### Didim Seed

Doosan sponsors children of foster care facilities via a bank account called the Seeds for the Stepping Stone, and its employees volunteer as their mentors in order to help them become financially and emotionally independent. Since 2018, Doosan has been sponsoring over 300 children at the partner foster care facilities located in the areas where it is conducting business. In 2020, Doosan employees who were volunteer mentors for these children sent letters and gifts to them, as they cannot visit the children personally due to the social distancing rules.

### Dadok-Georim

Doosan also supports the intellectual and social growth of children of foster care facilities and helps them avoid getting addicted to the Internet by sending reading coaches to help them read books and by doing other activities to promote reading.

### Support for Local Communities

Doosan Corporation is committed to strengthening communication and cooperation with local communities through its business activities and promoting their future growth through its social contribution programs so that corporations and local communities can grow together.

### Walk to Share

Employees joined the Walk to Share campaign in a non-contact way that allows them to practice social distancing, as face-to-face volunteer activities are largely limited due to COVID-19. We delivered our donation (calculated in proportion to the number of steps taken by the employees who participated in the campaign) to less-privileged households located close to our workplaces.



### Sharing Tea with Love

Since 1991, Doosan has been sending teas to military officers and soldiers to boost their moral and express appreciation for serving for the country. Specifically, we are sending coffee and money to military men serving at the army bases with which we have set up a sister relationship.

### Mugunghwa Planting Project

The campaign was first launched in 2016, starting with Nam Gung-uk Memorial in Hong Cheon city to let more people know about the beauty of our national flower. Under the campaign, we created parks of Mugunghwa in Gungjeong-dong Mugunghwa Park and Seoul Botanical Garden and donate the flowers to other parks and places. The target areas where we donate the flowers are places that ordinary citizens can easily access in the hopes that those places can serve as a venue for members of the local communities to learn more about our national flower and appreciate the value and symbolic significance.



Mugunghwa Garden in Seoul Botanical Park

## Social—Social Contribution

### Capacity Utilization

Employees of Doosan Corporation seek to share with society their professional knowledge and skills, business experiences and resources, and the values of our businesses through voluntary participation, and to contribute to creating value for the society by faithfully fulfilling their roles as members of the society.

#### Doosan Tomorrow Lab

The program allows youths to gain hands-on experience with different future technologies and learn the scientific principles behind them.

Since it started in 2018, selected middle and high schools across the country have benefited from the program to help their students develop critical thinking skills and problem-solving abilities, with the goal of nurturing future scientists.

#### Donations by Employees

Doosan employees are donating to charity each year on a voluntary and regular basis. The company contributes the same amount that matches the employee donations to build a fund dedicated to social contribution activities. Since 2013, some KRW 200 million of funds have been collected and used to help the financially disadvantaged class and pay for local community projects. In 2018, new fund-raising projects were launched to encourage more employees to join the campaign. The projects have added considerably to the social contribution fund, the total amount of which has reached more than KRW 2.3 billion so far. Employees are participating in decision-making on how and where to use the funds through the “Fund Committee”, consisting of employees and dealing with issues related to donations by employees.

### Principles of Charitable Contribution and Sponsorship

Doosan Corporation operates its Social Contribution Committee to promote transparent and appropriate donations based on the following principles.

#### Donation



The company defines “donation” as an amount that it provides to an individual, group or institution, regardless of whether it is called a support payment or sponsorship money.

#### Social Contribution Committee



The company has established and operates its Social Contribution Committee as a body to deliberate and decide on all matters related to donations.

The Committee consists of the Chairperson of CSR Committee, the CFO, and the Legal Affairs Officer, and it deliberates and decides on how to use, where to use, and amounts, etc. comprehensively the donations of more than KRW 10 million. It also deliberates and decides upon the purpose, type of charitable foundation, amount and use of donation money.

#### Disclosure



Donations made by the company are disclosed to the public through the business report and ESG report.

#### Prevention of Risk



The company avoids risks that may arise from donations through the Social Contribution Committee by:

- Ensuring corporate contributions are not used as bribes.
- Identifying the justification and assessing the appropriateness of new charitable foundations.
- Preventing donation and sponsorship risks that can be perceived as political contributions.

# Governance—CSR Strategy System

## CSR Value Structure

Doosan Corporation is striving to become “Proud Global Doosan”. To this end, we have developed our CSR governance and strategy system based on Doosan Credo, our unique corporate philosophy and business approach, and we are conducting CSR management according to this system. The CSR Value Structure of Doosan Group consists of CSR goals, missions, 4 core areas and 10 priorities, and we report our CSR management vision and performance to our stakeholders based on the framework.

### Declaration of ESG Management

Doosan declared this year 2021 as the beginning of ESG management. In this context, we will make extra efforts to internalize the realization of social values in corporate management by creating a long-term road map for ESG management based on environmental, social, and governance criteria and by implementing ESG management strategies with a focus on core tasks.

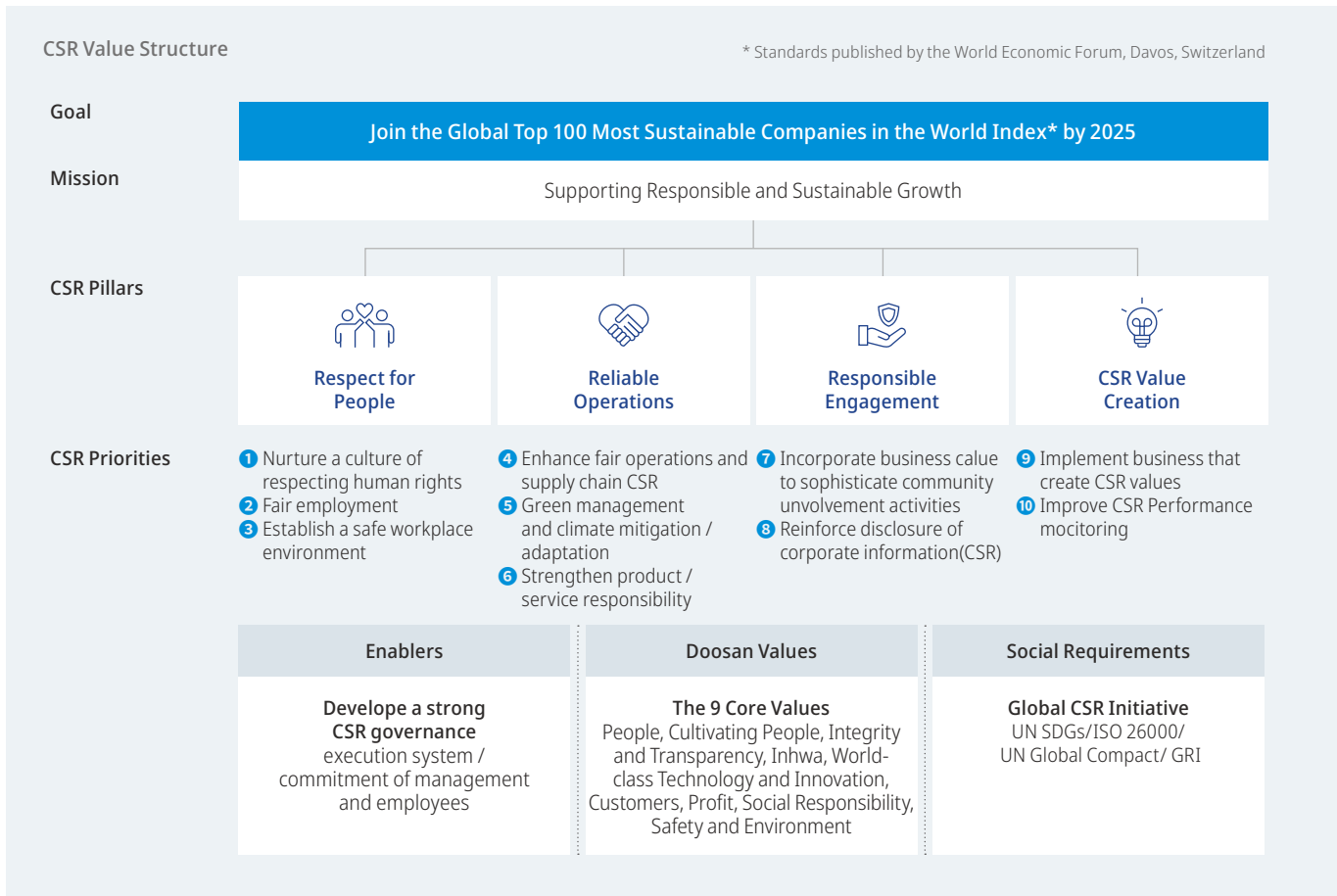
## ESG Governance

### Establish ESG governance and develop strategies

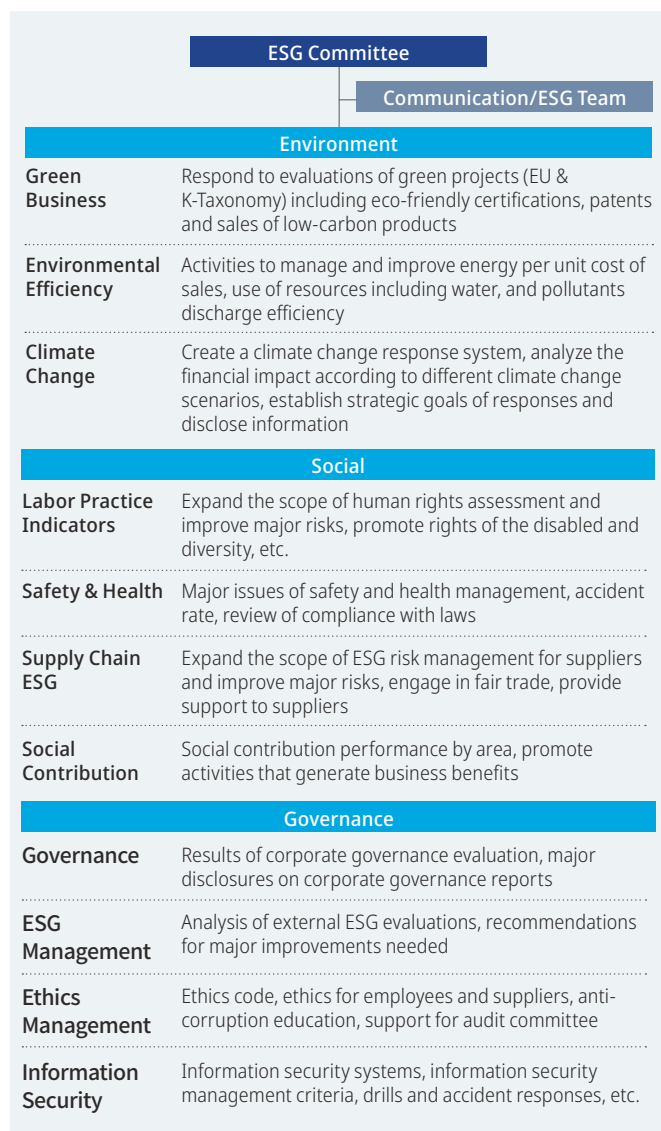
At the beginning of this year, Doosan reorganized the CSR Committee into the ESG Committee and established a governance structure to develop strategies for sustainable growth. The ESG Committee has three subcommittees for environment, society, and governance, respectively, and is responsible for discussing various ESG indices and issues and deciding on response strategies.

### ESG Committee

The CSR Committee was renamed the ESG Committee to further improve the decision-making system for ESG management. As the top decision-making body on issues of ESG management, the ESG Committee meets at least twice a year. The committee is chaired by the CBO (or CEO) and made up of the heads of BG/BUS and key directors in charge of different business domains. Main responsibilities include setting the direction of CSR management, reviewing ESG management activities, and assessing outcomes of improvement tasks and future plans.



# Governance—CSR Strategy System



## Subcommittees and Working Groups

Corporations are required to manage a variety of indicators across all of the three areas including environment, society, and governance, and it has become necessary to reorganize the subcommittees and re-establish the roles of different business units in order to respond properly.

To this end, Doosan has formed 11 working groups under the three subcommittees to be responsible for green projects, environmental efficiency, climate change, working indices, safety & health, suppliers' ESG, social contribution, governance, ESG management, ethics management, and information security in order to set long-term goals and KPIs for the company and manage major indices from a long-term perspective.

## BG/BU ESG Steering Session

Steering sessions are held separately of other meetings to review and discuss, on a regular basis, ESG materiality indices for industries where individual BG/BUs operate, and key ESG issues that need to be examined closely, and to make decisions. The sessions are chaired by the heads of BG/BUs, and officers and heads of related teams meet to discuss issues on a quarterly basis. BG/BU ESG Committees will meet to discuss their roadmap and ESG vision. The outcomes will be reported to the ESG Committee.





## Major ESG Activities

### A Team Dedicated to ESG Management

Doosan has set up a team that is responsible exclusively for ESG management to increase the effects of ESG management. The team conducts a sustainability diagnosis developed especially for Doosan in order to identify economic, environmental, and social risks and opportunities, and lists improvement tasks for each subcommittee and BG/BU based on the results. In addition, the team sets the direction of ESG management at the company level, analyzes latest ESG trends as necessary, and shares the outcomes with management and the subcommittees.

### Communicate ESG Performance with Stakeholders

We publish an ESG report each year to disclose and communicate our CSR performance and plans to our internal and external stakeholders transparently. The report is available on our website. In addition, Doosan is responding to Dow Jones Sustainability Indices, which represent an integrated evaluation of social and environmental performance of global corporations, as well as their financial performance. Doosan has been included in the DJSI Asia Pacific, which represents the performance of the top 20% of corporations operating in Asia for 7 consecutive years. Furthermore, Doosan has been steadily rated A or higher since 2011 in the ESG evaluation by the Korea Corporate Governance Service. In 2020, Doosan disclosed the social value for the entire company and individual products in a report as part of its activities to expand external communication on CSR management. Based on these efforts, Doosan's ESG report has garnered outstanding recognition at sustainability report awards. In 2020, the CSR report published by Doosan Corporation won an award in the area of innovation reporting at CRRRA (Corporate Register Reporting Awards) and it was also recognized with a platinum award at Spotlight Awards held by LACP (League of American Communications Professionals).

Item	2018	2019	2020
<b>DJSI Indices</b>	 Included in DJSI Asia Pacific for 7 straight years		
<b>Evaluation</b>	 A+	 A	 A

# Governance—CSR Strategy System

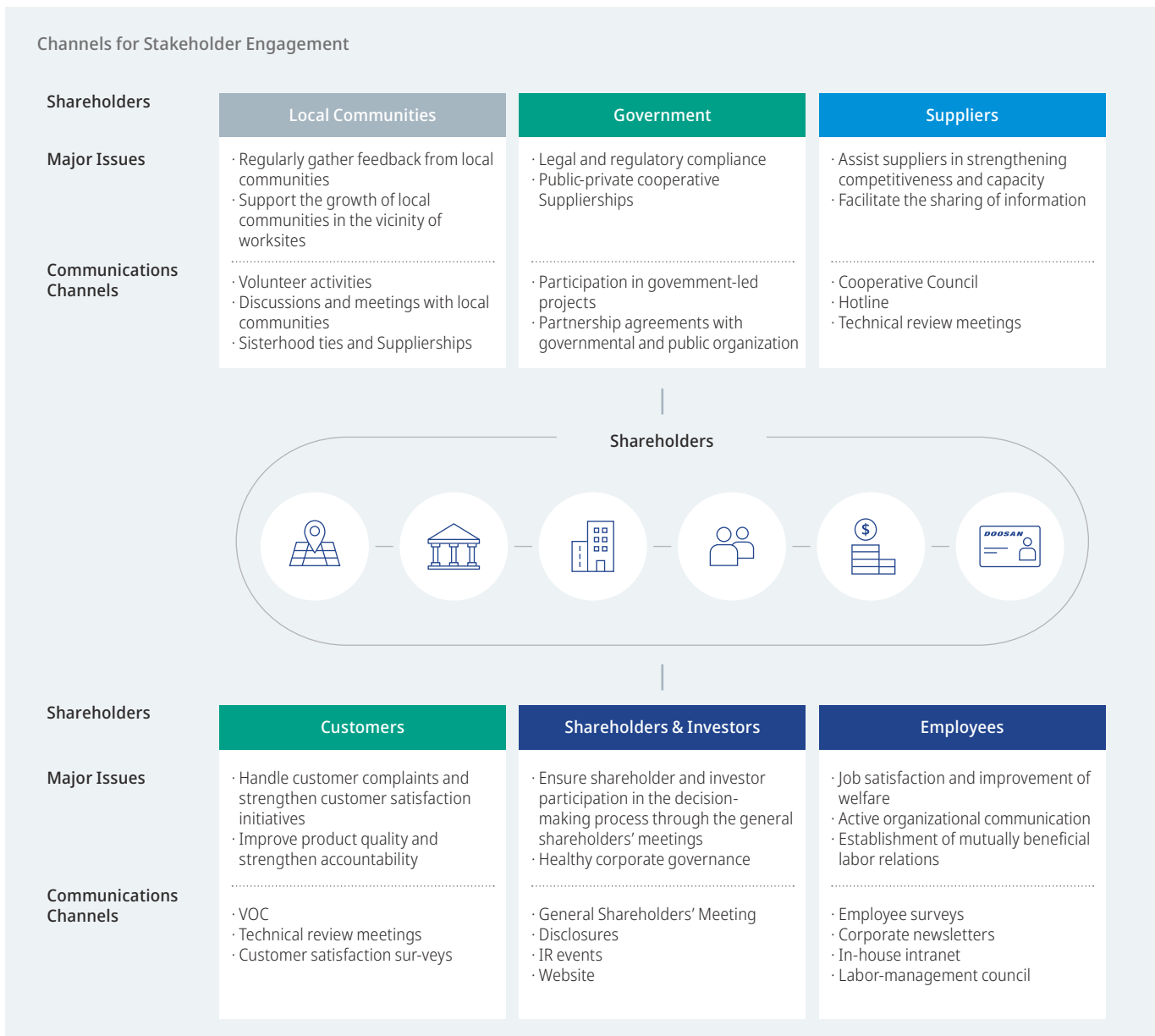
## Collection of Stakeholder's Opinions

### Stakeholders

Doosan Corporation defines its stakeholders as those who wield either direct or indirect influence on its business activities. Based on this definition, key stakeholders include shareholders, investors, customers, employees, suppliers, local communities, and government agencies. Based on our classification system, we are carrying out various activities to expand stakeholder communication.

### Activating Communication with Stakeholders

Doosan Corporation consistently employs diverse communication channels to listen to the opinions of stakeholders and reflect them in its management. The outcomes of stakeholder participation are reflected in Doosan's management activities. Furthermore, the achievements of our major activities are disclosed transparently in our annual CSR Report. In addition, Doosan Corporation conducts a materiality test every year with the participation of its stakeholders in order to identify essential key issues for sustainable management.

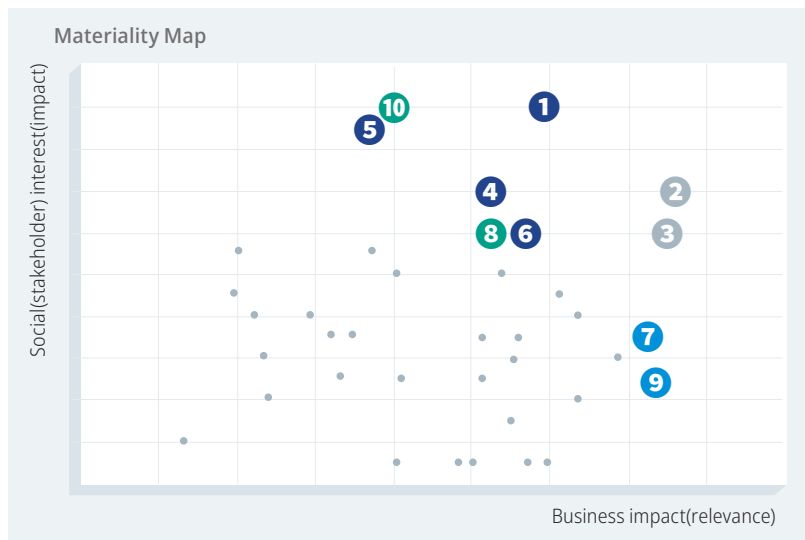




# Governance—CSR Strategy System

## Materiality Test

Doosan Corporation conducts a materiality test every year with the participation of its stakeholders in order to identify essential key issues for sustainable management in terms of the economy, the environment, and society. The materiality test for the 2020 ESG Report was conducted in a four-step process: Building ESG issue pool, Prioritizing issues, Identifying issues, Communicating issues. Doosan Corporation has identified a pool of 38 issues based on the results of media research, global benchmarking, and an analysis of our internal materials with respect to ESG-related international standards (i.e. the GRI Standards, SASB, DJSI, KCGS, ISO 26000, UNGC) for materiality assessment. Doosan Corporation has also identified key issues based on priority and core issues based on the 3Ps(People, Planet, Partners), which constitute the group's ESG disclosure method and cover a process of grouping and categorizing similar issues.



### Core Issues from Materiality Test

Issue Pool
1 Secure future growth engines(R&D Investments/ New Growth Engines)
2 Attraction of key talents and enhancement of employee competencies
3 Organizational Culture(HRD/Human Rights/Safety)
4 Develop eco-friendly products and services
5 Create economic results and increase financial stability
6 Implement top-rated quality control
7 Efforts to reduce greenhouse gas emissions and energy use
8 More support for suppliers
9 Increased resource circulation and recycling
10 Alignment of CCI activities with business

● Management ● People ● Planet ● Partners

## Report of Core Issues

Core issues selected by the Materiality Test are disclosed in the Doosan Corporation ESG Report in the categories of People/Planet/Partners.

2021 Key Issues(3P based)	Business Connectivity	Major Stakeholders	Page
<b>Future Business</b> · Secure future growth engines (R&D Investments/New Growth Engines) · Develop eco-friendly products and services	Regarding the need to address climate change, companies must now consider the impact of their future business on the environment, and the connectivity between their future business and eco-friendliness. They must increase their R&D investment to secure eco-friendly technologies and advance into new markets ahead of their rivals.	Government/ Investors (including shareholders)	8-9 54-55
<b>Current Business</b> · Create economic results and increase financial stability · Implement top-rated quality control	Businesses must also continue demonstrating steady economic performance to ensure a smooth transition to the future. They need to strengthen the continuity of their existing operations by enhancing the quality of their existing products, while creating new opportunities to reinforce their foundation of management.	Customers/ Suppliers	10-19 52-53
<b>PEOPLE</b> · Attraction of key talents · Enhancement of employee competencies · Organizational Culture (HRD/ Human Rights/Safety)	Amidst changing market situations and a system of unending competition, business competitiveness lies in the expertise of an organization's employees. Businesses must ensure their future sustainability by training talented people, fostering an organizational culture that aims to create a great workplace, creating a safe working environment, and realizing the goals of human rights management.	Employees	26-31
<b>PLANET</b> · Efforts to reduce greenhouse gas emissions and energy use · Increased resource circulation and recycling	As a result of carbon-centered industrial activities, humankind is now faced with serious environmental problems - including air pollution and climate change. Recently, the importance of reducing waste through resource circulation has become an urgent issue. Stakeholders view a business's efforts to reduce its environmental impact as a major concern, and environmental management systems have become a core part of businesses' risk management.	Local communities	32-37
<b>PARTNERS</b> · More support for suppliers · Alignment of CCI activities with business	Collaboration among stakeholders within a value chain is an essential element of sustainable management amid the rapidly changing global management environment. It has become very important to meet the requirements of our diverse stakeholders, such as customers, suppliers, and local communities, and to find ways to coexist with them in harmony.	Customers/ Suppliers/Local communities	38-43

## Governance—Governance

### Transparency of Governance

The Board of Directors (BOD) is responsible for deliberating and voting on major business issues and making decisions on matters stipulated by laws and corporate by-laws, matters delegated by the general shareholders' meeting, and other important matters related to the company's basic management policies and operations. Doosan selects its independent directors from among professionals who can supervise company management objectively from an external perspective. As of the end of 2020, the Board consists of seven directors, of which three are internal directors and four are outside directors. There are three committees established under the Board, which are composed entirely of independent directors: the Audit Committee, the Internal Transaction Committee, and the Independent Director Candidate Nominating Committee. The average tenure of a director is 5.2 years.

#### BOD Operations

Doosan Corporation makes decisions on major agenda items and integrates shareholders' feedback into the decision-making process through the BOD for more careful deliberation. Pursuant to law, Doosan allows all directors to participate in the decision-making process by means such as real-time voice communication, whereby directors are deemed present at the relevant BOD meeting. The BOD can host ad-hoc meetings when deemed necessary, and can also delegate a portion of its authority to the BOD committees to ensure swift and efficient decision-making, in which cases through reviews are performed and details on deliberations and outcomes are reported to the BOD. Meetings of BOD are convened when a majority of the directors are present, and decisions are made based on the concurrence of the majority of directors. When a quorum with weighted voting is required by law and regulations, such a quorum is held. Directors cannot vote by proxy, and any director with personal interest in certain agenda items cannot vote when that agenda is raised for voting. In 2020, the BOD met 16 times with an average attendance rate of 94%.

#### Independence of the BOD

Our goal is to keep outside directors making up the majority of the Board, and currently there are more than three outside directors, thereby meeting the goal and keeping the Board independent. In this way, balanced and objective decision-making is facilitated, while the checking function of the BOD is reinvigorated. Directors who have interest in specific matters are restricted from voting on such matters. There are three committees under the BOD (including the Audit Committee), each of which is composed solely of independent directors so as to ensure independence and transparency. For the Audit Committee to perform audits effectively, the committee may request a report of the company's operations or an investigation into the status of its corporate assets. If deemed necessary for auditing, the committee may also request relevant employees or external auditors to attend meetings while seeking expert advice at the company's expense.

#### Procedure and Standards for the Appointment of Outside Directors

To fully enable the BOD's role in promoting checks and balances, Doosan preserves the independence of its directors pursuant to the stringent requirements set forth by commercial law. Independent director candidates are nominated by the Independent Director Candidate Nominating Advisory Group, which is composed of three external experts, and the total number of candidates is maintained at less than two times of the number of independent directors to be selected at the general shareholders' meeting. Further, the nominated candidates are recommended to the Independent Director Candidate Nomination Committee. The Independent Director Candidate Nominating Committee, consisting of three independent directors, reviews the candidates' suitability based on considerations such as establishing transparent corporate governance and enhancing the expertise of the BOD, and selects the most qualified persons from among the independent director candidates nominated by the Independent Director Candidate Nominating Advisory Group. The selected candidates are appointed as independent directors after approval at the general shareholders' meeting.

#### Approval of Key Matters

The BOD approves key management issues, including the disposal or transfer of important assets and the borrowing of assets worth large amounts pursuant to the relevant statutes or internal regulations. In 2020, the BOD approved 51 cases that were referred to it, including the 83rd Annual Financial Statement and the Business Report. The details of such issues are disclosed in the Business Report and other related documents to ensure transparency.

#### Diversity of Outside Directors

In the past, Doosan Corporation appointed two Americans - Jeffrey D. Jones as an external director from 2004 to 2010, and James B. Bemowski as the CEO from 2007 to 2010. Additionally, Myeong-ja Kim, a female external director, served from 2009 to 2012 in consideration of the diversity of gender, ethnicity, and nationality. Although currently no foreign or female directors are included on the BOD, Doosan is constantly striving to improve the expertise and diversity in the recommendation of director candidates and the appointment process.

The incumbent external directors are Hyoung-joo Kim for in information and communication technology, Doo-hee Lee for in marketing in business administration, Bok-hyeon Baik for in financial accounting in business administration, and Sung-gwan Chun as a legal expert.

## Governance—Governance

### Evaluation and Compensation

Directors' compensation is determined within the director compensation limit approved by the general shareholders' meeting. Only basic fixed wages are paid to outside directors, but compensation consisting of salaries, performance-based bonuses, and severance pay is paid fairly and transparently to executives and disclosed in accordance with relevant laws.

### Stakeholder Communication

The Board operates multiple communication channels, including public disclosure and IR activities, to actively communicate with stakeholders at domestic and overseas. In addition, decisions made at a general shareholders' meeting and important business decisions are promptly disclosed in an effort to provide shareholders and stakeholders with business information in a timely manner.

#### Directors

Description	Name in Full	Major Career	Duties	Date of First Appointment	Term of Office
Internal Directors	Jeong-won Park	(Present) Chairperson of Doosan Corporation	CEO, President of Board of Directors	2016	5years
	Sang-chul Kwak	(Present) President of Doosan Corporation	CEO	2021	-
	Min-chul Kim	(Present) President of Doosan Corporation	CEO	2018	3years
Independent Directors	Hyoung-joo Kim	(Present) Professor at Seoul National University, Engineering College (Former) Senior Director of Development Fund at Seoul National University (Former) Head of Informatization Division at Seoul National University	· Audit Committee · Internal Transaction 2017 Committee · Outside Director Candidate Nominating Committee	2017	4years
	Doo-hee Lee	(Present) Professor at Korea University Business School (Former) Dean of Korea University Business School	· Audit Committee(Chairman) · Outside Director Candidate Nominating Committee(Chairman)	2018	3years
	Sung-gwan Chun	(Present) Advisor to Kim & Chang Law Firm,(Former) Director of Seoul Central District Prosecutor's Office	· Audit Committee · Internal Transaction Committee (Chairman)	2019	2years
	Bok-hyeon Baik	(Present) Professor at Seoul National University Business School, (Present) Vice Chairperson of Korea Accounting Information Association	· Audit Committee · Internal Transaction 2019 Committee · Outside Director Candidate Nominating Committee	2019	2years

#### BOD Committees

Description	Audit Committee	Internal Transaction Committee	Outside Director Candidate Nominating Committee
Members	Doo-hee Lee, Seong-gwan Cheon, Hyoung-joo Kim, Bok-hyeon Baik	Seong-gwan Chun, Hyoung-joo Kim, Bok-hyeon Baik	Doo-hee Lee, Hyoung-joo Kim, Bok-hyeon Baik
Responsibilities	Audit the company's accounting and business operations and review the operational status of the internal accounting management system	Deliberate on and approve internal transactions pursuant to fair trade law	Nominate independent director candidates
Description of Activities	Review the outcomes of accounting audits performed by external auditors, provide consultations on non-audited services, review the operational status of the internal accounting management system, etc.	Approve inter-affiliate transactions, etc.	Nominate independent director candidates, etc.

## Governance—Risk Management

Doosan Corporation carries out risk management for all business activities at all its worksites across the world. Risks are classified into financial and non-financial categories for more systematic enterprise-wide risk management.

Risk Management System	
Financial Risk	Non-Financial Risk Management
<ul style="list-style-type: none"> <li>· Risks related to the market, credit, liquidity, exchange, etc.</li> </ul>	<ul style="list-style-type: none"> <li>· Risks related to sales, costs, quality, investment, customers, industry, banking, etc.</li> <li>· Risks related to climate change, the environment, health and safety, supply chains, compliance, ethics, human rights, reputation, taxes, etc.</li> </ul>

### Risk Management System

#### Management of Financial Risk

Doosan Corporation focuses on financial risk management with the aim of improving its financial structure and enhancing efficiency in the use of funds in order to facilitate stable and continuous management in conditions where risks are likely to arise in connection with the market, credit, liquidity, and exchange rates. In particular, the company focuses on improving its financial structure and enhancing its fund management efficiency. Financial risk management is primarily led by the Treasury Team, which sets financial risk thresholds and management policies by working closely with other teams, while identifying, evaluating, and hedging financial risks. In addition, Doosan aims to minimize the impact of potential financial risks through regular monitoring.

#### Internal Control System

Doosan Corporation operates internal control assessment systems to secure the transparency and reliability of information. In 2018, strengthened by revisions to the 'the Act on External Audit,' it conducted a full redesign of its internal accounting management system with external auditors in response to the external auditor's audit of the operation of the internal accounting management system. The internal accounting management system, which reflects the revised best practices, has further strengthened the level of management of accounting transparency and risk.

Doosan Internal Control Assessment System (DICAS) includes as risk factors failure to comply with the business processes, and errors and distortion of information as well as non-compliance with accounting rules, and it performs assessments on the entire business systems of the company including finance, sales, procurement, and inventory. All of Doosan's BG/ BUs conduct mid-term and final assessments and subsequently have the assessment results certified by outside auditors for assurance. The results of the assessments are reported first to the CEO and then the Audit Committee and the Board and finally to the general shareholders' meeting according to the Internal Accounting Management System and Act on External Audit of Stock Companies.

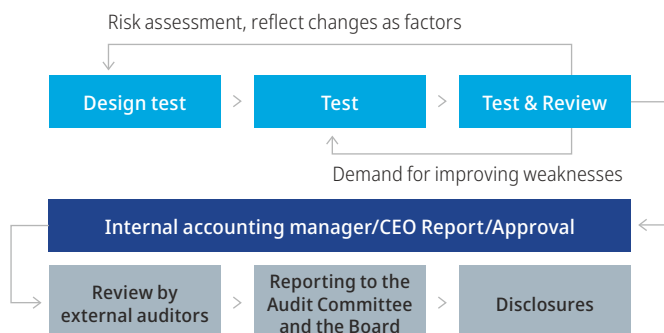
In 2020, Doosan Corporation prepared a management system to diagnose/ evaluate corruption risk level by BG and to identify the initial signs of risks before they occur by defining core risks that affect the overall company.

#### Management of Non-Financial Risks

Non-financial risks are managed by dividing them into business and sustainability risks. Each of Doosan's BGs/BUs manages business risks in-house, while sustainability risks are managed by the ESG team at the Corporate Center which oversees all BGs/BUs in collaboration with the relevant departments. Also, Doosan Corporation's ESG Committee sits twice a year. At the ESG Committee, the CEO of Doosan Corporation, the heads of the BGs/BUs and the directors of subcommittees inspect enterprise-wise activities and achievements related to sustainability risks and identify and manage factors requiring improvement.

Doosan Corporation completed an upgrade of its internal accounting management system by reflecting internal and external changes in the DICAS. Doosan Corporation is strengthening its internal control assessment systems not only in Korea but also at overseas businesses. In 2021, Doosan plans to create an internal accounting management system based on the consolidated financial statements and redesign the accounting systems for its invested companies and overseas subsidiaries in order to keep them abreast of the domestic systems. This way, local risks can be proactively identified and dealt with and further enhance the transparency and reliability of financial information.





#### Internal Control Assessment Procedure and Structure of Executive Authorization



# Governance—Risk Management

## Emerging Risk

Emerging risks entail risks with high uncertainty that can occur over the long term. These emerging risks must be identified and managed pre-emptively, as they can have a significant impact on business. We have put in place an emerging risks management system to increase our long-term business stability. For this, we have analyzed the political, economic, social, technological, legal, regulatory, and environmental factors of the macro environment that affects our businesses in order to identify emerging risks facing us. In addition, we analyzed when emerging risks can possibly arise and how they may affect our businesses. Based on the analysis, those risks have been prioritized and a risk mitigation plan is being implemented while the risks are constantly monitored.

	 Changes in Technology	 Fluctuations in Markets and Business	 Procurement of Raw Materials	 Climate Change and Environmental Risks
<b>Key Emerging Risks</b>	<ul style="list-style-type: none"> <li>Market changes attributable to new technological trends</li> </ul>	<ul style="list-style-type: none"> <li>Global economic downturn and slow growth of existing main markets</li> <li>Intensified price competition due to excessive supply, Emergence of new competition elements</li> </ul>	<ul style="list-style-type: none"> <li>Supply imbalance of imported raw materials (if the export of raw materials is limited by supplying countries based on the prioritization of domestic industries)</li> </ul>	<ul style="list-style-type: none"> <li>Strengthening environmental regulations</li> <li>Depletion of fossil fuels/ unstable supply</li> <li>Change of business/product/ technical regulations</li> </ul>
<b>Potential Impact on Business</b>	<ul style="list-style-type: none"> <li>Business falling behind in the market as it fails to capture new growth opportunities in a timely manner</li> </ul>	<ul style="list-style-type: none"> <li>Decreased sales of existing main products</li> <li>Decreased profitability due to decline in selling prices and competition to secure supply volume</li> <li>Decrease in market share</li> </ul>	<ul style="list-style-type: none"> <li>Disruption of production due to shortage of raw materials</li> <li>Customer dissatisfaction and damage to corporate image due to failure to deliver ordered products in a timely manner</li> </ul>	<ul style="list-style-type: none"> <li>Loss of market opportunities due to failure to comply with environmental regulations</li> <li>Loss of product utility due to depletion of fossil fuels/ unstable supply</li> <li>Unsustainable product/ technology development or business due to changes in regulations</li> </ul>
<b>Risk Mitigation Activities</b>	<ul style="list-style-type: none"> <li>Analysis of market opportunities for technological changes</li> <li>Introduction of the Product Development Roadmap and Technology Development Roadmap</li> </ul>	<ul style="list-style-type: none"> <li>Reshuffle of product portfolio: Focus on high-performance, high value-added products</li> <li>Expansion of business lines: Provide total solutions across the entire value chain, veering away from existing business lines</li> <li>Focus on increasing sales in overseas/emerging markets</li> </ul>	<ul style="list-style-type: none"> <li>Diversification of supply channel of raw materials</li> </ul>	<ul style="list-style-type: none"> <li>Update of the Product Development Roadmap and Technology Development Roadmap to reflect environmental impacts</li> <li>Promotion of product innovation using alternative energy sources</li> <li>Continuous pre-monitoring of business/product/ technical regulations</li> </ul>



# Governance—Information Security

## Establishment of an Information Security System

### Information Security System

Doosan Corporation acquired ISMS(Information Security Management System) certification, which is nationally authorized, for the first time in 2013 to protect information assets and information and communication networks and has been reviewed annually and maintained the certification. In addition, we regularly hold a “Security Diagnosis Day” in which our employees perform a “self-inspection” as a means of establishing a culture of information protection and security-accident prevention in their daily lives. Every year, we conduct online education, information protection campaigns, and simulation training, and distribute security newsletters to promote and spread security regulations, accident prevention methods, and major cases. Doosan Corporation has also appointed an executive-level CISO(Chief Information Security Officer) tasked with managing information security and reporting the related activities and performance to the management.

Security control is a type of IT service that entrusts security experts with efficiently carrying out the company's IT information security operations. Doosan Corporation conducts 24-hour monitoring, security solution policy setting, detection, analysis, and response to intrusion attempts based on its strong computer security system. In 2019, as part of a drive to upgrade security controls, we established and implemented the Korean threat intelligence system called C-TAS(Cyber Threat Analysis and Sharing) in collaboration with KISA(Korea Internet & Security Agency). The system systematically collects cyber threat information (information on malicious codes; command control server, vulnerability and infringement analysis) and subjects it to a comprehensive analysis in order to strengthen automated information sharing and the preemptive prevention of threats.

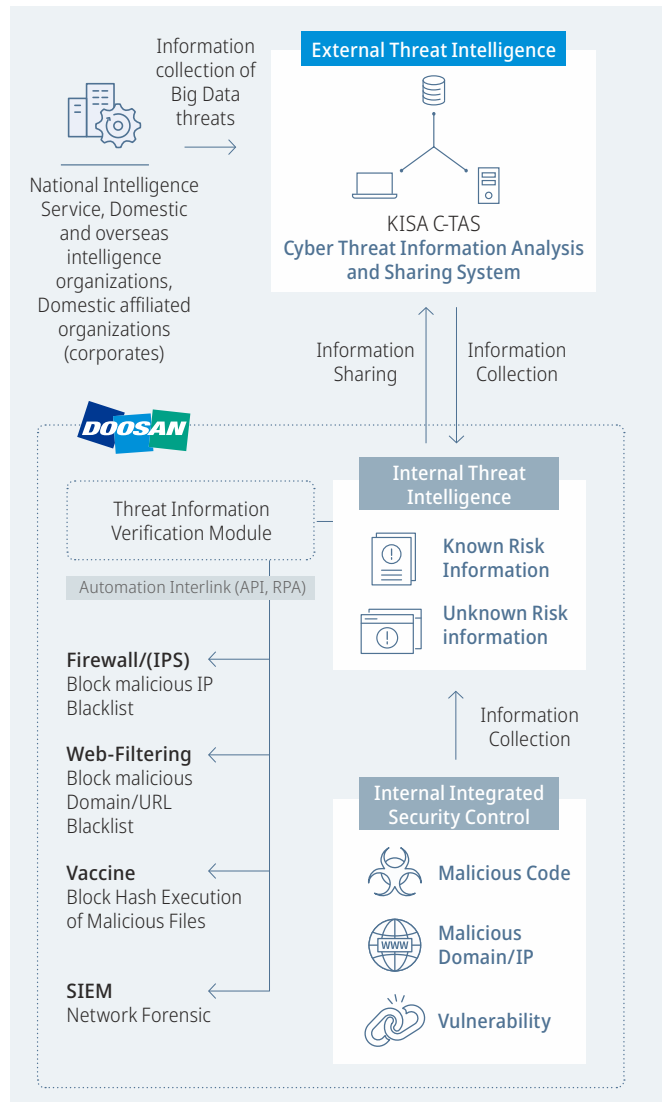
### Doosan's Security Control Management Area

	<b>Hacking detection and monitoring</b> <ul style="list-style-type: none"> <li>· 24 X 365 security event monitoring</li> <li>· Notification of signs of infringement</li> </ul>
	<b>Support for infringement incidents</b> <ul style="list-style-type: none"> <li>· Analysis of cause and damage in case of a hacking accident</li> <li>· Support for recovery of infringement accidents and establishment of measures to prevent recurrence</li> <li>· Support for cooperative response with external agencies (KISA, National Cyber Safety Center, etc.)</li> </ul>
	<b>Report</b> <ul style="list-style-type: none"> <li>· Daily inspection report on security control operation status and security system</li> </ul>
	<b>Help Desk</b> <ul style="list-style-type: none"> <li>· Emergency reports, such as reports on data infringement accidents</li> </ul>

### Security Diagnosis Day Checklist

Security Diagnosis		
Security Diagnosis/ Measure	PC/VDI/Life Security	Personal
	Information System	Department
	Trade Secrets/Documents	
	Facilities/Regions/Entry	Security Officer
Enhancement of Information Security Awareness	Critical Security Management	
	Security Newsletter	

### Doosan's Threat Intelligence Architecture



## Governance—Information Security

### Protection of Customers' Personal Information

Doosan Corporation regularly supplements its internal management plan and personal information protection regulations by continuously monitoring the legal and regulatory enactments and amendments in order to secure its customers' personal information and comply with the domestic and foreign laws and regulations on personal information protection.

In particular, Doosan Corporation ensures compliance and prevents information leakage by applying strong technical and administrative protection measures at all life cycle stages. In addition, we conduct an annual analysis, performance inspection and audit of our personal information system, and strive to improve and manage the identified vulnerabilities. In the last seven years, Doosan Corporation has experienced no customer data loss or personal information leaks. During the last seven years, Doosan Corporation has not been sanctioned with even a single administrative penalty for breaches of the law by a governmental agency, nor has it experienced any loss of customer data or leakages of personal information.

### Internalization of a Culture of Personal Information Protection

Online training is provided to all employees, while advanced training is provided to personal information protection managers. In addition, Doosan conducts various activities such as putting up posters or card news, distributing newsletters, and PC screen savers to spread the culture of personal information protection.



PC Screen Saver

# Governance—Anti-Corruption·Ethical Management·Fair Trade

## Anti-Corruption and Ethical Management

### Doosan's Code of Conduct

Doosan Corporation established the ethics code for all employees to follow to ensure transparency in its business activities and fulfill its social responsibility. Doosan's Code of Conduct comprises Inhwa, a customer-centered business philosophy, and transparent management. Doosan encourages its suppliers as well as all its employees to comply with the Code of Conduct. Doosan Corporation has also enacted detailed regulations and adhered to the Code of Conduct so as to embed the code in the daily work and life of its employees.

\*Click the following link for further details concerning  Doosan's Code of Conduct

### Anti-Corruption and Ethics Education

To enhance the ethical business mindset of its employees, Doosan Corporation conducts ethical business education each year and collects sworn statements from all of its employees and other interested parties requiring them to observe the Code of Conduct. In 2020, group education and remote online education were conducted side by side for newly-recruited employees, including entry-level and senior-position employees. In addition, online education for administrative staff and group education for technical staff were offered in 7 different languages - including English, Chinese, French, Vietnamese, German, Czech, and Korean.

Employees in charge of new business are educated on ethics and challenging areas, including procurement and inventory management on an as-needed basis. In addition to Doosan employees, Doosan takes advantage of shareholders' meetings and other meetings held by suppliers to educate external stakeholders on ethics code all year round. Doosan will continue to share its commitment to ethics management with as many stakeholders as possible.

### Corruption Risk Management System

Doosan introduced a corruption risk management program in 2019 and assessed the corruption risk for each of its business divisions in 2020. The level of compliance management has been strengthened through comprehensive consideration of the possibility of occurrence and business impact of corruption items and the preparation of improvement plans for vulnerable areas. In addition, Doosan Corporation prepared a management system for diagnosing/evaluating core risks for each BG and to identify the initial signs of risks before they occur by defining core risks that affect the overall company. These core risks will be managed by team members, team leaders, and executives.

In 2020, a third-party evaluation was conducted on Doosan's ethics management, and we are going to use the outcomes as the indicators to assess where we stand in terms of ethics management and address our weaknesses, thereby laying a solid framework for ethics management and obedience to law.

### Anti-Corruption for Suppliers and Employees

Each year, Doosan Corporation conducts a survey on its employees and suppliers to review ethics management status. In 2020, 2,164 employees and 466 suppliers responded to the survey. The survey findings were used to assess the status of ethics management, come up with anti-corruption measures, and find ways to cope with weaknesses. Furthermore, we carried out activities for improving leader awareness (spreading cases of social issues, etc.), delivering ethic letters (special days, such as holidays), and opening a supplier communication channel (hotline), to ensure that our ethical business policies are reflected throughout the value chain.

### Whistleblowing System

Doosan Corporation has set up an internal confidential reporting system to establish transparent and ethical management. By keeping the details of reports confidential, Doosan protects informants and ensures that they do not suffer any disadvantages. Major issues are investigated and reported to the CEO and the Audit Committee. Doosan Corporation operates a cyber whistleblowing center through its website, where anyone can file a report either anonymously or under their real name.

### Violations of Ethics Management and Follow-Up Actions

In 2020, ten reports were filed and four of them were found to deal with situations that constituted violations of the ethics code. Follow-up disciplinary actions were taken, including a dismissal, a suspension of employment and a warning. The violations were concerned mainly with the procurement rules and process and verbal abuse. Doosan discloses cases of unethical behavior excluding personal information via the "White Paper Program", publication and sharing of successful ethics education cases, and the Ethics Management Letter to share useful information and prevent similar violations from happening, according to the Personal Information Protection Guide of the Ministry of Employment and Labor.

#### Cyber Reporting Guidelines

- 01 Doosan Cyber Reporting Center is open to all including employees and non-employees, and violations of internal rules including Doosan Credo and the ethics code, and other unethical behaviors are subject to reporting.
- 02 Individuals who report violations can do so either anonymously or in real name. However, if specific evidence is not presented, an anonymous report may not be investigated.
- 03 The company shall keep the identity of the reporter and details of the report confidential and shall be banned from doing bona-fide reporters any harm as a consequence of reporting a violation.
- 04 Reports by Doosan employees are subject to the rules of the internal reporting system, and the rules can be obtained from Duderim or the relevant teams.
- 05 Reports can be filed via a number of different channels including mail, phone, fax, email or personal visit to the relevant team, in addition to the Cyber Reporting Center.



# Governance—Anti-Corruption·Ethical Management·Fair Trade

## Fair Trade

### Program for Compliance with Fair Trade Regulations

Since 2004, Doosan Corporation has operated a compliance program for fair trade regulations in order to promote transparent and legitimate business activities and foster a culture of compliance with fair rules while also fulfilling its corporate social responsibility. In 2020, as part of its ongoing self-compliance activities, Doosan strived to fulfill its social responsibility toward its stakeholders including suppliers. The number of employees who received the fair trade training declined from the previous year, as the number of employees eligible for such education dropped as a result of spin-offs and sales of certain businesses. Nevertheless, non-contact education programs were expanded despite COVID-19 to provide education<sup>1)</sup> for core manpower.

Doosan introduced the “4 Implementation Tasks for Fair Trading<sup>2)</sup>” as recommended by the Fair Trade Commission in 2019 and tried to implement fair trade through fair trade agreements with key suppliers. For main subcontract trades, the Subcontract Deliberation Committee was established and self-inspection on subcontract trades has been autonomously conducted by the committee. Fair trade announcements are sent out via email to employees to keep them informed of new laws, revisions to existing laws, and other relevant issues. Doosan will continue its efforts to remain fair and seek mutual growth in its dealing with suppliers by engaging in self-compliance activities on an ongoing basis.

1) Target laws to learn about: Fair Transactions in Subcontracting Act, Fair Agency Transactions Act, Act on Fair Transactions in Large Retail Business etc.  
2) 4 Implementation Tasks for Fair Trading: Actions for fair selection (registration) of suppliers, actions for desirable contracts for reciprocity and cooperation between large corporations and SMEs, actions for setting up and operation of the Internal Subcontracts Review Committee, actions for desirable document issuance and storage in subcontracting

### Fair Trading Activities for Suppliers

Doosan Corporation has introduced the “Suppliers Information Request System<sup>1)</sup>” and discloses the entire process of making and registering information requests to suppliers, as well as using and disposing of the information in an attempt to fundamentally prevent misuse of technical data owned by SMEs, a social issue that remains unsolved. Uses of suppliers’ technical data by Doosan employees are constantly monitored. In order to protect technical data of suppliers, we highly recommend that suppliers use the “technical data deposit program<sup>1)</sup>” and we pay the entire amount of the deposit fee for our suppliers upon request.

Doosan Corporation is steadily reducing the wait time before the payments are made to suppliers as part of our efforts to establish a fair trade culture. By revising and improving the payment process, we were able to cut the wait time by 14 days in 2019 from previously 20 days and in 2020, it was reduced to 9 days. Doosan is going beyond obeying the law and trying to create a fair and transparent trading environment by viewing suppliers as a true business partner.

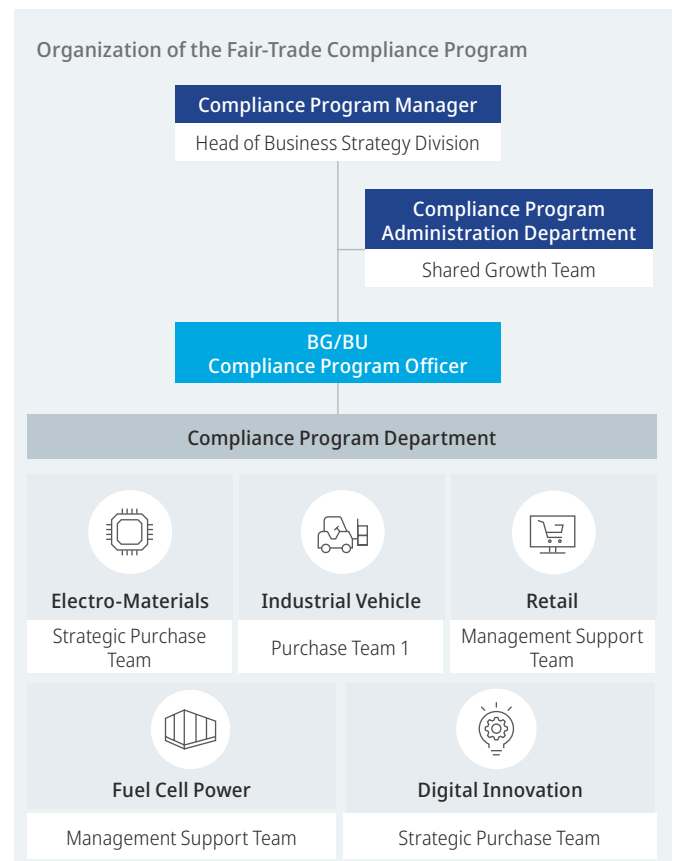
1) Suppliers Information Request System: Core technology and business information of SMEs can be held in a deposit safe as set forth by law to protect the rights of SMEs.

### Publication of the Revised Guide on Compliance with Fair Trading Rules

The Guide on Self-Compliance with Fair Trading Rules has been revised and updated since 2004 to effectively implement the Compliance Program and provide employees with guidance in complying with the code of conduct in relation to fair trade and in conducting their work.

The sixth edition of the Guide that was revised in November 2020 reflects changes in Doosan’s business domains and recent revisions to laws including details. Particularly, the Guide offers detailed information including recent cases of disciplinary actions taken and useful tips for working staff, as well as explanatory notes on legal provisions, especially when it comes to recent controversial issues such as “misuse of technical data”, “request of business information”, and “abuse of power against agencies”. Questions frequently asked by related teams were grouped into the Q&A section by law to help better understand complicated legal issues. The Guide is available on our website so that not only our employees but also other stakeholders can easily access it. Doosan will remain committed to creating a transparent fair trade culture.

\* You can view the contents of the Code of Ethics at [Doosan Corporation’s Code of Ethics website](#).



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## Economic Performance

### Financial Performance

	Category	Unit	2017	2018	2019	2020
Balance Sheet	Total assets		3,950,029	4,734,223	4,752,376	5,413,829
	Current assets		980,974	1,176,134	921,195	1,259,205
	Non-current assets		2,969,055	3,558,089	3,831,181	4,154,624
	Total liabilities		1,750,271	2,428,715	2,607,723	2,760,522
	Current liabilities		1,319,120	1,404,103	1,705,581	1,648,874
	Non-current liabilities		431,151	1,024,613	902,143	1,111,648
	Total equity	KRW	2,199,759	2,305,508	2,144,653	2,653,306
	Capital stock	million	34,846	134,846	123,738	123,738
	Capital surplus		80,215	734,169	797,120	792,396
	Other capital adjustments		(395,601)	(343,557)	1,146,809	(1,147,970)
	Accumulated Other Comprehensive Income		48,546	137,013	201,356	37,298
	Retained earnings		1,731,753	1,643,037	2,169,247	2,847,845
	Total liabilities and equity		3,950,029	4,734,223	4,752,376	5,413,829
	Income Statement	Operating revenue		2,624,829	2,919,401	2,060,705
Sales			2,530,569	2,822,149	2,038,497	1,540,403
Dividend profits			94,260	97,252	22,208	8,933
Operating expenses			2,348,072	2,666,038	1,898,783	1,440,469
Cost of sales			1,932,771	2,163,103	1,633,647	1,210,487
Selling, general and administrative expenses		KRW	415,301	502,935	265,135	229,983
Operating profit		million	276,757	253,363	161,921	108,866
Non-operating profit			90,329	45,221	51,806	182,975
Non-operating expenses			114,347	115,898	117,642	48,921
Income before income taxes			252,739	182,686	96,086	1,152,045
Income tax expense			47,638	24,073	17,190	88,221
Income from continuing operations			205,100	158,613	78,896	26,984
Income/Loss from discontinued operations			-	-	554,907	153,236
Net income			205,100	158,613	633,803	180,220

## Credit Rating

Category		Unit	2017	2018	2019	2020
Credit Rating	Korea Investors Service Inc.	Class	A-	A-	BBB+	BBB
	Korea Ratings Corporation		A-	A-	BBB+	BBB
	NICE Information Service Co.		A-	A-	BBB+	BBB

## Distribution of Economic Outcomes (as of December 31 of the year)

Category		Unit	2017	2018	2019	2020
Investor	Interest expenses	KRW 100 million	423	566	737	793
Shareholders	Dividend		1,004	1,771	1,024	233
Customers	Sales(excluding dividend payouts)		25,305	28,221	20,385	15,404
Suppliers	Purchasing expenditures		14,415	14,623	15,527	8,906
Employees	Salary, severance pay, benefits, etc.		2,856	3,079	2,735	2,194
Government	Taxes and utility charges, corporate tax expenses		515	334	233	916
Local Community	Donations, expenses related to corporate community involvement		72	57	75	59
Total			44,594	48,652	40,716	28,506

## R&D

Category		Unit	2017	2018	2019	2020
R&D	R&D investments	KRW 100 million	876	875	865	647
	R&D ratio of investment to sales	%	3.7	3.3	3.4	3.4

## Customer Satisfaction

Category		Unit	2017	2018	2019	2020
Electro-Materials BG		Points	3.5	3.9	3.6	3.6
Industrial Vehicle BG <sup>1)</sup>			N/A	N/A	3.3	3.7

1) Customer satisfaction related with the Industrial Vehicle BG has been surveyed since the second half of 2019.

\* Result of customer satisfaction survey applied after conversion on a scale of one to five

## Sustainable Supply Chain

Category		Unit	2017	2018	2019	2020
Sustainability of Supply Chain	No. of Key Suppliers	Companies	237	180	247	121
	No. of Suppliers Subject to Sustainability Assessment		123	127	178	254
	Total Purchases from Suppliers	KRW 100 million	14,416	14,623	15,527	8,906
	Purchases from Key Subcontractors		9,679	6,942	9,651	6,527
	Total Purchases from SMEs		9,475	7,093	7,648	3,699

## Environmental Performance

### Environmental Investment (Domestic/Overseas<sup>1)</sup>)

Category		Unit	2017	2018	2019	2020
Environmental Investment and Expense	Total	KRW 100 million	88.1	110.7	120.8	93.2
	Domestic		61.8	70.3	105.1	92.5
	Overseas		26.3	40.3	15.6	0.6

1) Scope of overseas data collection in 2020: Changshu, DLE, and DIVC

### Air Pollutants (Domestic/Overseas<sup>1)</sup>)

Category		Unit	2017	2018	2019	2020
NOx Emissions		Tons	141.6	140.1	142.3	37.9
SOx Emissions			1.0	2.0	1.5	3.2

1) Scope of overseas data collection in 2020: Changshu, and DIVC

\* There is a difference in the value from that of last year due to split-off, etc.

### Water Use (Domestic/Overseas<sup>1)</sup>)

Category		Unit	2017	2018	2019	2020
Total Water Use			1,013	1,064	1,091	526
Domestic	Total	Thousand Tons	514	525	540	430
	Water supply <sup>2)</sup>		457	441	451	367
	Groundwater		57	83	89	63
	All Other Sources		0	0	0	0
Overseas	Total		498	539	551	96
	Water supply		419	443	469	96
	Groundwater		0	0	0	0
	All Other Sources		79	95	81	0

1) Scope of overseas data collection in 2020: Changshu, DLE, and DIVC

2) Including industrial water in domestic water supply range

### Discharge of Wastewater (Domestic/Overseas)

Category		Unit	2017	2018	2019	2020
Discharge of Wastewater	Total	Thousand Tons	413	432	513	219
	Domestic		179	183	208	193
	Overseas		234	248	305	26
Chemical Oxygen Demand(COD <sup>1)</sup> )			21	31	23	14
Biological Oxygen Demand(BOD <sup>1)</sup> )		ppm	16	17	8	10

1) Based on domestic business

\* There is a difference in the value from that of last year due to split-off, etc.

## Resource Consumption

Category		Unit	2017	2018	2019	2020
Consumption of Key Raw Material	Total		65,097	80,788	63,672	28,952
	Copper foil		5,634	5,062	4,195	4,316
	Glass Fabric		18,042	16,920	14,711	16,955
	Epoxy resin		9,679	11,441	6,047	3,370
	Steel Plate		4,178	5,120	5,103	4,122
	Casting materials <sup>1)</sup>		27,230	41,943	32,977	0
	Egg yolk powder <sup>1)</sup>	Tons	124	92	111	0
	Ethanol <sup>1)</sup>		56	41	161	0
	Acetone <sup>1)</sup>		106	78	200	0
	SUS Plate		21	41	77	87
	SUS Tube		6	11	20	23
	Steel sheet		21	38	69	78
Consumption of Recycled Materials			141	104	318	0

1) 2020 data collection scope changed due to coverage changes such as split-off, etc.

\* Based on domestic business

## Waste Generation (Domestic<sup>1)</sup>/Overseas<sup>2)</sup>)

Category		Unit	2017	2018	2019	2020
Waste Generation			16.7	17.2	17.3	13.1
Waste Generation by Type	Domestic total		13.6	13.9	13.2	10.8
	Domestic general waste		6.3	6.7	5.9	4.9
	Domestic hazardous waste		7.2	7.2	7.3	5.9
	Overseas total		3.1	3.3	4.0	2.3
	Overseas general waste		2.0	2.0	2.4	1.0
	Overseas hazardous waste	Thousand Tons	1.1	1.2	1.6	1.2
Waste Generation by Discharge Method	Domestic recycling		10.3	10.9	9.9	8.1
	Domestic landfill		0.2	0.3	0.3	0.09
	Domestic incineration		3.0	2.6	2.8	2.5
	Overseas recycling		2.8	2.6	3.1	2.1
	Overseas landfill		0.1	0.1	0.1	0.0
	Overseas incineration		0.2	0.4	0.5	0.1
Percentage of Recycling	Total		78.1	78.7	76.1	78.0
	Domestic	%	75.8	78.3	75.2	75.0
	Overseas		88.0	80.0	78.7	91.8

1) The figures for waste emissions at domestic may differ from the figures reported in the past due to a change in the method of calculating emissions by Doota/Yonkang Bldgs.

2) Scope of overseas data collection in 2020: Changshu, DLE, and DIVC

Greenhouse Gas Emissions (Domestic/Overseas<sup>1)</sup>)

Category		Unit	2017	2018	2019	2020
Greenhouse Gas Emissions			181.4	178.7	183.6	93.6
Direct/Indirect Greenhouse Gas Emissions	Domestic total		86.0	83.4	84.3	62.9
	Domestic Scope 1		25.1	23.3	25.0	21.0
	Domestic Scope 2	Thousand tCO <sub>2</sub> eq	60.8	60.1	59.3	41.8
	Overseas total		95.4	95.3	99.3	30.7
	Overseas Scope 1		8.8	8.3	7.4	10.2
	Overseas Scope 2		86.6	87.0	91.8	20.5
	Carbon Intensity		Total	6.1	5.6	7.8
	Domestic	3.4	3.0	4.1	4.1	
	Overseas	21.5	24.8	30.2	12.3	
Greenhouse Gas Emissions by BG	Electro-Materials	Thousand tCO <sub>2</sub> eq	151.1	147.4	147.1	78.7
	Industrial Vehicle		5.7	5.8	5.8	4.7
	Digital Innovation		4.5	3.9	3.8	3.5
	Retail		4.1	3.5	10.7	5.2
	Fuel Cell Power		0.1	0.1	0.1	0.4
	All other sources <sup>2)</sup>		1.5	1.4	1.2	1.0

1) Scope of overseas data collection in 2020: Changshu and DIVC

2) Including business sectors and the Administration Center

\* Calculation in accordance with Ministry of Environment guidelines

## Energy Consumption (Domestic/Overseas)

Category		Unit	2017	2018	2019	2020
Energy Consumption			2,460	2,459	2,493	1,467
Energy Consumption by Type	Domestic Total		1,723	1,643	1,695	1,269
	Domestic Electricity		1,189	1,185	1,212	858
	Domestic Fuel		479	399	432	373
	Domestic Others	TJ	55	58	51	37
	Overseas Total		738	816	798	198
	Overseas Electricity		555	563	597	105
	Overseas Fuel		183	252	201	82
		Volume of grid electricity consumption <sup>1)</sup>		N/A	N/A	N/A
Energy Intensity	Total	TJ/ KRW billion	0.83	0.77	1.05	0.82
	Domestic		0.68	0.58	0.83	0.82
	Overseas		1.65	2.13	2.43	0.79

1) Based on overseas Electro-Materials DIVC

Grid electricity consumption data: From 2020.

### Product Life Cycle Management

Category	Unit	2017	2018	2019	2020
Rate of Sales of Products Including Substances That Need to Be Reported Under IEC 62474	%	N/A	N/A	N/A	43
Proceeds from Recyclable Energy and Products Related to Energy Efficiency <sup>1)</sup>	KRW 100 million	N/A	N/A	N/A	710

1) Based on sales

\* Based on overseas Electro-Materials Changshu  
Product life cycle management data: From 2020.

### Toxic Material Emissions

Category	Unit	2017	2018	2019	2020
No. of Cases of Emission	Number	N/A	N/A	N/A	N/A
Amount of Emissions		N/A	N/A	N/A	N/A
Amount Collected	Tons	N/A	N/A	N/A	N/A

### End of life Cycle Responsibility

Category	Unit	2017	2018	2019	2020
Percentage of Products Sold That Can Be Reused or Recycled		8.6	12.5	20.9	26.2
Percentage of Products and Materials That Were Actually Reused or Recycled	%	43.3	43.5	43.5	43.5
Financial Benefits From The Product Recovery Programs	KRW 100 million	31.3	50.5	87.9	115.1



## Social Performance

### Composition of Human Resources

Category		Unit	2017	2018	2019	2020
No. of Employees	Total		5,614	5,639	4,984	3,980
	Domestic		3,692	3,893	3,385	2,666
	Overseas <sup>1)</sup>		1,922	1,746	1,599	1,314
Domestic by BG/BU	Electro-Materials		1,279	1,315	1,210	1,207
	Industrial Vehicle		553	585	565	541
	Digital Innovation		455	453	479	467
	Retail	Persons	252	287	224	59
	Fuel Cell Power		78	83	100	106
	Holding company/CC/ Administration center		279	280	291	286
	Overseas					
	Asia		786	705	785	664
	Europe		490	680	419	248
	Americas		646	361	395	402
By Employment Type	Total		3,692	3,893	3,385	2,666
	Full-time	Persons	3,564	3,779	3,306	2,604
	Contract		58	114	79	62
By Gender	Total		3,692	3,893	3,385	2,666
	Male	Persons	3,122	3,242	2,809	2,242
	Female		570	651	576	424
By Age <sup>2)</sup>	Total		N/A	N/A	N/A	2,666
	Under 30	Persons	N/A	N/A	N/A	268
	30 to 49		N/A	N/A	N/A	1,966
	50 or older		N/A	N/A	N/A	432
By Nationality <sup>2)</sup> (overseas employees included)	Total		N/A	N/A	N/A	3,980
	Asia		N/A	N/A	N/A	3,324
	Europe	Persons	N/A	N/A	N/A	249
	Americas		N/A	N/A	N/A	407
	Other		N/A	N/A	N/A	0

1) Overseas DFCA workplaces were excluded in 2019 and 2020.

2) Data by age and nationality: From 2020.

\* Human resources data in 2020 were calculated based on those subject to tax payment as of the end of the year and thus may differ from the figures given in the business report.

There is a difference in the value from that of last year due to split-off, etc.

\* Data by employment type, gender, and age are based on domestic employees

## Employee Diversity

Category		Unit	2017	2018	2019	2020
Ratio of Female Employees			14.81	16.32	17.02	15.87
Ratio of Female Managers	Total	%	9.42	17.41	18.07	18.85
	Senior manager		0.00	0.00	1.27	1.56
	Middle manager		10.15	11.36	12.77	15.42
	Junior manager		18.65	36.90	40.45	43.88
	Manager of a sales-generating department <sup>1)</sup>		N/A	N/A	N/A	20.68
	Manager of a STEM department <sup>1)</sup>		N/A	N/A	N/A	17.80

1) Data related to managers of sales-generating departments and STEM departments: From 2020.

\* "Senior managers" refers to executive officers or higher. "Middle managers" refers to employee positions from section chiefs up to departmental managers.

"Junior managers" refers to assistant manager.

## New Recruits

Category		Unit	2017	2018	2019	2020	
By Employment Type	Full-time	Persons	122	286	296	86	
	Contract		74	118	84	31	
By Gender <sup>1)</sup>	Male		N/A	N/A	N/A	88	
	Female		N/A	N/A	N/A	29	
By Age <sup>1)</sup>	Under 30		N/A	N/A	N/A	43	
	30 to 49		N/A	N/A	N/A	65	
	50 or older		N/A	N/A	N/A	9	
By Position <sup>1)</sup>	Senior manager		N/A	N/A	N/A	2	
	Middle manager		N/A	N/A	N/A	39	
	Junior manager		N/A	N/A	N/A	76	
By Nationality <sup>1)</sup>	Asia		N/A	N/A	N/A	114	
	Europe		N/A	N/A	N/A	0	
	Americas		N/A	N/A	N/A	3	
	Other		N/A	N/A	N/A	0	
Employment Diversity	Disabled			42	47	48	34
	National merit recipients			44	38	37	31

1) Data related to gender, age, position, and nationality: From 2020.

\* Data by employment type, gender, age and nationality are based on domestic employees

## Employee Turnover

Category		Unit	2017	2018	2019	2020
By Employment Type	Full-time	Persons	166	231	204	345
	Contract		142	150	21	26
By Gender <sup>1)</sup>	Male		N/A	N/A	N/A	216
	Female		N/A	N/A	N/A	155
By Age <sup>1)</sup>	Under 30		N/A	N/A	N/A	70
	30 to 49		N/A	N/A	N/A	218
	50 or older		N/A	N/A	N/A	83
By Position <sup>1)</sup>	Senior manager		N/A	N/A	N/A	15
	Middle manager		N/A	N/A	N/A	125
	Junior manager		N/A	N/A	N/A	231
By Nationality <sup>1)</sup>	Asia	N/A	N/A	N/A	368	
	Europe	N/A	N/A	N/A	3	
	Americas	N/A	N/A	N/A	0	
	Other	N/A	N/A	N/A	0	
Turnover Rate(Full-time)			4.7	6.1	5.3	7.3
Voluntary Turnover Rate(Full-time)		%	4.2	5.0	4.3	4.7

1) Data related to gender, age, position, and nationality: From 2020.

\* Data by employment type, gender, age and nationality are based on domestic employees

## Labor Practices

Category	Unit	2017	2018	2019	2020
Union Membership Rate	%	79.1	78.8	78.6	92.5

\* Basis of calculation: Percentage of employees who have joined the Labor Union = No. of employees who have joined the Labor Union/No. of employees eligible to join

## Performance Evaluation

Category	Unit	2017	2018	2019	2020
Rate of Employees Subject to Performance Evaluation	%	99.7	100.0	99.5	100.0

\* Based on office workers

## Health and Safety

Category		Unit	2017	2018	2019	2020
Rate of Occupational Accidents	Employees	%	0.25	0.26	0.06	0.27
LTIFR <sup>1)</sup>	Employees	Rate of occupational accidents per million hours	1.38	1.29	0.28	1.30
	Suppliers		0.00	0.67	0.00	0.88
TRIR <sup>2)</sup>	Employees	Frequency of business-related injuries * 200,000/ Accumulated work hours of all employees	0.33	0.17	0.34	0.35
	Suppliers		0.00	0.00	0.00	0.00
NMFR <sup>3)</sup>	Employees	(No. of near-misses * 200,000)/Accumulated work hours of all employees	N/A	N/A	N/A	29.26
	Suppliers		N/A	N/A	N/A	18.24
OIFR <sup>4)</sup>	Employees	Disease rate per million hours	0.00	0.13	0.14	0.00
	Suppliers		0.00	0.00	0.00	0.00
No. of Deaths	Employees	Persons	0	0	0	0
	Suppliers		0	0	0	0

1) LTIFR (Lost Time Incidents Frequency Rate): Total no. of lost time incidents / Total work hours \* 1,000,000

2) TRIR (Total recordable incident rate): Frequency of work-related injuries \* 200,000 / All employees' work hours (Work hours: No. of employees \* Fixed work hours)

3) NMFR (Near Miss Frequency Rate): (No. of near miss cases \* 200,000) / All employees' work hours (Work hours: No. of employees \* Fixed work hours)

4) OIFR (Occupational Illness Frequency Rate): Total number of work-related illness cases / Total work hours \* 1,000,000

\* TRIR/NMFR are confined to the business sectors of the domestic Industrial Vehicle BG. Relevant date: Disclosed since 2020

\* Based on domestic employees

## Development of Employee Capabilities

Category		Unit	2017	2018	2019	2020
Total No. of Trainees		Persons	3,564	3,779	3,385	2,666
Total Training Expenses		KRW million	4,728	4,802	5,838	3,351
Total Training Hours		Hours	103,487	118,301	108,086	56,126
Total Expenses per Capita		KRW 1,000/Persons	1,327	1,271	1,725	1,257
Training Hours per Capita		Hours/Persons	45.7	49.2	44.4	31.4
By Gender <sup>1)</sup>	Male	Persons	N/A	N/A	N/A	40,449
	Female		N/A	N/A	N/A	15,677
By Age <sup>1)</sup>	Under 30	Persons	N/A	N/A	N/A	16,530
	30 to 49		N/A	N/A	N/A	34,090
	50 or older		N/A	N/A	N/A	5,506
By Position <sup>1)</sup>	Senior manager	Persons	N/A	N/A	N/A	4,493
	Middle manager		N/A	N/A	N/A	26,024
	Junior manager		N/A	N/A	N/A	25,609
Education Status <sup>2)</sup>	General education	Hours/Persons	34.6	32.3	40.5	17.9
	Compliance program education		1.4	0.3	0.6	0.3
	Information security education		4.6	8.8	0.7	0.4

1) Data related to gender, age, and position: From 2020.

2) The total amount of educational hours per person of Education Status is the value including duplicate participation hours

## Equal Compensation for Males/Females

Category		Unit	2017	2018	2019	2020
Position of Management Level	Average basic salary for females		67,967,872	70,183,000	70,926,727	68,632,655
	Average basic salary for males		70,538,720	73,183,000	74,916,769	74,588,268
	Average compensation for females (Basic salary + Other cash incentives)		N/A	N/A	N/A	81,081,599
	Average compensation for males (Basic salary + Other cash incentives)		N/A	N/A	N/A	108,079,777
	Median value of basic salary for females		N/A	N/A	N/A	63,355,105
	Median value of basic salary for males	KRW	N/A	N/A	N/A	63,672,000
	Median value of compensation for females(Basic salary + Other cash incentives)		N/A	N/A	N/A	75,886,954
	Median value of compensation for males(Basic salary + Other cash incentives)		N/A	N/A	N/A	77,024,854
Position of Non-Management Level	Average basic salary for females		37,588,780	40,860,000	49,900,156	48,557,635
	Average basic salary for males		48,737,469	51,860,000	52,379,065	52,633,307
	Median value of basic salary		N/A	N/A	N/A	49,500,000

\* Data related to the median value of each item and average compensation: Disclosed from 2020.

## Childcare Leave and Pension Support

Category		Unit	2017	2018	2019	2020
Childcare Leave	No. of employees on childcare leave		39	56	51	55
	No. of employees returning to work after childcare leave	Persons	29	35	36	20
	Continue to work rate for 12 months after childcare leave		20	21	27	13
Retirement Pension <sup>1)</sup>	Fund under management	KRW million	128,396	150,250	171,265	152,077
	Defined benefits(DB)	Persons	2,828	3,346	3,052	2,410
	Defined contributions(DC)		39	36	121	141

1) Calculate the amount of pension operations in accordance with IFRSs, the Ministry of Employment and Labor, and bylaws

## Human Rights

Category		Unit	2017	2018	2019	2020
Human Rights Education <sup>1)</sup>		No. of hours	2,968	6,180	4,407	4,757
Employees Participating in Human Rights Education		%	100	100	100	100
Suppliers Subject to Human Rights Assessment			6	6	10	21

1) Based on domestic office worker

\* Education aimed at improving employees' perceptions of the disabled and eliminating workplace bullying in addition to existing education on the prevention of sexual harassment.

## Anti-Corruption/Ethical Management

Category		Unit	2017	2018	2019	2020
Ethical Management Education	Education hours per capita	No. of hours	1.0	0.92	0.94	0.67
	Education participants	Persons	3,453	3,660	3,119	2,299

\* Based on office workers and technical workers

### Types of Social Contribution Activities

Category		Unit	2017	2018	2019	2020
Expenses for Local Community Contributions <sup>1)</sup>	Total		7,288(100)	5,747(100)	7,512(100)	5,937(100)
	Charity donation	KRW million, (%)	1,079(15)	660(11)	573 (8)	552(9)
	Investment in local communities		4,621(63)	4,505(78)	6,443(86)	4,619(79)
	Commercial initiatives (public good marketing, etc.)		1,389(19)	384(7)	283(4)	680(11)
Hours of Participation in Social Contribution by Employees	Hours	7,623	7,255	7,929	3,125	

1) There is a difference in the value from that of last year due to COVID-19.

### Methods of Investment in Social Contribution

Category		Unit	2017	2018	2019	2020
Total			7,288(100)	5,747(100)	7,512(100)	5,937(100)
Donations in Cash		KRW million, (%)	6,525(90)	4,462 (78)	6,168(82)	3,528(60)
Donations in Kind			86(1)	87(2)	11(0.1)	40(0.6)
Employees' Social Contribution Converted into Cost			200(3)	198(3)	213(3)	85(0.14)
Operating Cost			901(7)	1,000(17)	1,121(15)	2,284(39)

### Business Association Expenditure

Category		Unit	2017	2018	2019	2020
Total Expenses			675.8	828.7	608.9	885.8
Major Expenses in 2020 <sup>1)</sup>		KRW million	World Industrial Truck Statistics(WITS)			257.3
			Fuel Cell Industrial Development Association			116.0
			Korea Enterprises Federation			90.9
			Incheon Chamber of Commerce & Industry			80.0
			Seoul Chamber of Commerce & Industry			66.8

1) Top five items

### Amount Annually Spent in Relation to Politics

Category		Unit	2017	2018	2019	2020
Total			0	0	0	0
Amount Spent in 2020 in Relation to Politics	Political donations	KRW million	0	0	0	0
	Lobbying		0	0	0	0

\* Doosan makes it a rule not to provide political funds, election funds, or funds for political organizations' lobbying under the country's Political Funds Act, Article 31.

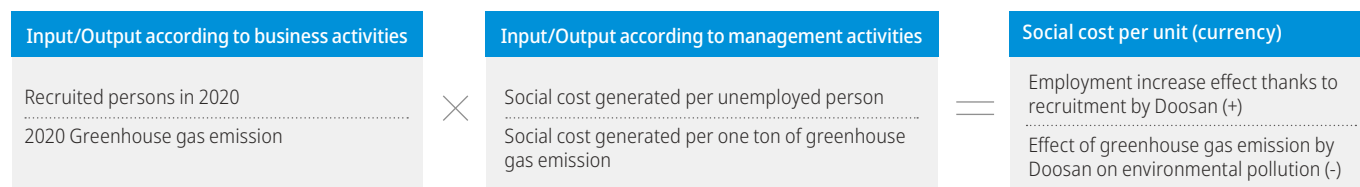
### Violations of Anti-Corruption Rules

Category		Unit	2017	2018	2019	2020
Cases of Anti-Corruption Violations		Cases	0	0	0	0

## Measurement of Social Value

### Social Value Measurement Method

Based on input and output data according to business activities and Korean and overseas statistics and research materials to convert the input and output data into currency value, the social and environmental impacts of this year were measured.



### Measurement Indicators

Category	Measurement Index	Impact	Measurement Results (KRW 100 million)	Main Details	
PEOPLE	Employee Welfare and Employment	Employee wage and welfare and benefits	+	1,294	Effect on individual income improvement through employee wage and welfare and benefits (Based on disclosed business report)
		Employment increase	+		Contribution to unemployment decrease through recruitment
	Impact on Safety Accidents	Employment increase	-	4	Generation of social cost due to industrial accidents
		Industrial accidents	-		
PEOPLE TOTAL			1,290		
PLANET	Greenhouse Gas Impact	Total emission	-	22	Generation of social cost due to greenhouse gas emission
		Water Impact	Water use	-	9
	Waste water discharge		-		
	Waste Impact	Incineration	-	4	Social cost according to waste treatment method generated due to business activities
		Landfill	-		
	Air Environmental Impact	SOx emission	-	25	Social cost according to various air pollutants emissions generated due to business activities
		NOx emission	-		
Fine dust emission		-			
PLANET TOTAL			60		
PATNERS	Contribution to Partners	Purchase amount from partners	+	457	Contribution to shared growth ecosystem through purchase from partners
		Support of shared growth	+		Shared growth support fund and direct support amount
		Inhibition of shared growth ecosystem due to unfair business practice	-	0	Inhibition of shared growth ecosystem due to the violation of the Fair Trade Act (penalties)
	Investment on Local Communities	Charitable donations	+	40	Social value contributed to local community education, infrastructure, and environments, etc. through social contribution activities and donation
		Investment on local communities	+		
		Commercial initiative	+		
	Shareholder	Dividends	+	1,024	Shareholder value increase through the payment of dividends (based on disclosed business report)
	Investor	Interest payment	+	525	Investor's value increase through interest payment (based on disclosed business report)
Government	Corporate tax cost	+	882	Contribution to securing government fund through fair tax payment (Based on disclosed business report)	
PATNERS TOTAL			2,928		
SOCIAL VALUE			4,158		

\* Social value is measured with KPC, a special institution for sustainable management. Quantitative social benefit and cost are divided into positive and negative impact based on statistics and research data from Korea and abroad

## GRI Standards Index

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## Other Disclosure

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<b>Protection of Customers' Personal Information</b>			
418-1	Number of violations of regulations for protecting customers' personal information and complaints concerning verified leaks of customer information	45	0 case

## SASB Index

Doosan Corporation aims to comply with the “SASB” standards from 2021 to manage corporate governance, environmental and social impacts throughout the whole cycle of business management and move forward to sustainable Doosan. According to the SASB standards by main industry, Doosan Corporation belongs to the electric, electronic equipment business sector. However, since the business characteristics of Doosan Corporation are not exactly conformed to one sector as a holding company that runs various BG affiliates, the industrial machinery, and equipment business sector is also included in the report.

### Disclosures crossing multiple Sector Standards

Topic	Code	Accounting Metric	Page
Energy Management	RT-EE-130a.1	(1) Total energy consumed	85
	RT-IG-130a.1		
	RT-EE-130a.1	(2) Percentage grid electricity	85
	RT-IG-130a.1		
	RT-EE-130a.1	(3) Percentage renewable	86
	RT-IG-130a.1		
Materials Sourcing	RT-EE-440a.1	Description of the management of risks associated with the use of critical materials	86
	RT-IG-440a.1		

### SASB – Electrical & Electronic Equipment, Industrial Machinery





Topic	Code	Accounting Metric	Page
Hazardous Waste Management	RT-EE-150a.1	(1) Amount of hazardous waste generated	84
	RT-EE-150a.1	(2) Percentage recycled	84
	RT-EE-150a.2	(1) Number and aggregate quantity of reportable spills	86
	RT-EE-150a.2	(2) Quantity recovered	86
Product Safety	RT-EE-250a.1	(1) Number of recalls issued	Doosan runs a material-oriented industry, but the recall is about equipment as a whole. Therefore Doosan is not applicable.
	RT-EE-250a.1	(2) Total units recalled	
	RT-EE-250a.2	Total amount of monetary losses as a result of legal proceedings associated with product safety	86
Product Lifecycle Management	RT-EE-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	5
	RT-EE-410a.2	Percentage of eligible products, by revenue, that meet ENERGY STAR® criteria	Doosan is not applicable.
	RT-EE-410a.3	Revenue from renewable energy-related and energy efficiency-related products	86
Business Ethics	RT-EE-510a.1	(1) Corruption and bribery	92
	RT-EE-510a.1	(2) Anti-competitive behavior	92
	RT-EE-510a.2	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	92
	RT-EE-510a.3	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulation	92
Employee Health & Safety	RT-IG-320a.1	(1) Total Recordable Incident Rate (TRIR) per 200,000 hours	90
	RT-IG-320a.1	(2) Fatality rate	90
	RT-IG-320a.1	(3) Near Miss Frequency Rate (NMFR)	90
Fuel Economy & Emissions in Use-phase	RT-IG-410a.1	Sales-weighted fleet fuel efficiency for medium- and heavy-duty vehicles	Doosan is not applicable.
	RT-IG-410a.2	Sales-weighted fuel efficiency for non-road equipment	N/A
	RT-IG-410a.3	Sales-weighted fuel efficiency for stationary generators	Doosan is not applicable.
	RT-IG-410a.4	Sales-weighted emissions of: (1) nitrogen oxides (NOx) and (2) particulate matter (PM) for: (a) marine diesel engines, (b) locomotive diesel engines, (c) on-road medium- and heavy-duty engines, and (d) other non-road diesel engines	N/A
Remanufacturing Design & Services	RT-IG-440b.1	Revenue from remanufactured products and remanufacturing services	86

## UN Global Compact

We at Doosan Corporation joined the UN Global Compact in 2014 and have been abiding by its 10 principles in the four areas of human rights, labor, the environment, and anti-corruption. We are committed to realizing corporate social values and continuing to grow sustainably by constantly challenging ourselves to create future value through innovation and by making sincere efforts as a global corporate citizen.



### 10 Principles

<p>1 2</p> <p><b>Human Rights</b></p> 	<p><b>Principle 01.</b> Businesses should support and respect the protection of internationally proclaimed human rights; and</p> <p><b>Principle 02.</b> make sure that they are not complicit in human right abuses.</p>	<p>27p, 56-58p</p>
<p>3 4 5 6</p> <p><b>Labour</b></p> 	<p><b>Principle 03.</b> Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;</p> <p><b>Principle 04.</b> the elimination of all forms of forced and compulsory labour;</p> <p><b>Principle 05.</b> the effective abolition of child labour; and</p> <p><b>Principle 06.</b> the elimination of discrimination in respect of employment and occupation.</p>	<p>27p, 56-58p</p>
<p>7 8 9</p> <p><b>Environment</b></p> 	<p><b>Principle 07.</b> Businesses should support a precautionary approach to environmental challenges;</p> <p><b>Principle 08.</b> undertake initiatives to promote greater environmental responsibility; and</p> <p><b>Principle 09.</b> encourage the development and diffusion of environmentally friendly technologies</p>	<p>32-37p, 48-49p, 54-55p</p>
<p>10</p> <p><b>Anti-corruption</b></p> 	<p><b>Principle 10.</b> Businesses should work against corruption in all its forms, including extortion and bribery.</p>	<p>78-79p</p>

## Independent Assurance Statement

### Dear Stakeholders of Doosan Corporation

KFQ has been requested by Doosan Corporation to conduct an independent assurance on the Doosan Corporation ESG Report 2020 (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 Corporation.

### 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
- Anti-Corruption: 205-1, 205-2, 205-3
- Anti-Competitive Behavior: 206-1
- Materials: 301-1, 302-2
- Energy: 302-1,302-2, 302-3, 302-4, 302-5
- Water and Effluents: 303-1
- Emission: 305-1, 305-2, 305-4, 305-5, 305-7
- Waste: 306-1, 306-2
- Employment: 401-1, 401-3
- Occupational Health and Safety: 403-2, 403-4
- Training and Education: 404-1, 404-3
- Diversity and Equal Opportunity: 405-1, 405-2
- Human Rights Assessment: 412-1
- Local Communities: 413-1
- Supplier Social Assessment: 414-2
- Customer Privacy: 418-1

### 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 Corporation, such as latest CSR 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. Validity of report descriptions and processes for materiality assessment, data collection and management, and report preparation are assessed through interview during on-site verification. It was confirmed that the findings from above steps such as error, inappropriate information and ambiguous expressions are properly complemented by Doosan Corporation.

### 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 Corporation 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 Corporation is actively identifying stakeholders and enabling their participation in establishing an organization's material sustainability topics, and the developing strategic countermeasures.
  - Doosan Corporation is collecting opinions from various stakeholders including local communities, government, suppliers, customers, shareholders & investors, employees through communication channels such as Meeting, Agreement, Hotline, Customer satisfaction survey, Homepage, Survey, Intranet. 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 Corporation conducted a materiality assessment in terms of social (stakeholders) impact and business relevance. They identified important issues, derived priorities, and reported sustainable management activities and performance without omission of major issues.
- **Responsiveness:** Whether Doosan Corporation has established a communication process with stakeholders to respond to the needs, interests, and expectations of stakeholders that affect sustainability performance
  - Doosan Corporation 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 Corporation has considered sufficient aspects of the impact of material topics based on its understanding of related stakeholder concerns.
  - KFQ confirms that Doosan Corporation 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 Corporation actively discloses mutual impact between newly established ESG committees and key stakeholder groups. The action allows stakeholders to fully understand Doosan Corporation's efforts for ESG Management.



June 29th, 2021  
Seoul, Korea  
Ji Young Song, CEO  
Korean Foundation for Quality (KFQ)

*Ji Young Song*

# Greenhouse Gas Verification Statement

## Introduction

Korean Foundation for Quality (hereinafter 'KFQ') has been engaged by Doosan Corporation to independently verify its 2020 Greenhouse Gas Emission & Energy Consumption Report (hereinafter 'GHG Inventory').

## Verification Scope

The verification covered all greenhouse gas emission facilities in 16 domestic businesses in Doosan Co., Ltd.

## Verification Criteria

Direct and indirect emission sources (Scopes 1, 2) were verified in accordance with the guidelines for greenhouse gas and energy target management, etc. (Environment Ministry Notice No. 2016-255) and the 2006 IPCC guidelines.

## Verification Procedure

Verification was planned and carried out in accordance with the procedures specified in the guidelines for greenhouse gas and energy target management, etc., and the level of verification was carried out to satisfy the level of reasonable guarantee..

## Verification Limits

Accuracy and completeness of emissions data in greenhouse gas statements have inherent limitations depending on the characteristics of the data and how it is determined, calculated and estimated.

## Verification Conclusion

Based on verification process according to the ISO 14064-3, KFQ obtained reasonable basis to express the following conclusion on the 2020 Company GHG Inventory.

- 1) Doosan Corporation 's 2020 Report on Quantity of emitted Greenhouse Gas was documented in accordance with "Greenhouse Gas and Energy Target Management Scheme" run by the government.
- 2) According to materiality assessment on the quantity of greenhouse gas emitted from every Company's places of business nationwide in 2020, material discrepancy is less than the criteria of 5.0% for an organization that emits under 500,000 tCO<sub>2</sub>-eq in accordance with "Greenhouse Gas and Energy Target Management Scheme"
- 3) Therefore, we present an appropriate opinion on greenhouse gas emissions for Doosan Corporation in 2020.

## Greenhouse gas emissions in 2020

(Unit : tCO<sub>2</sub>-eq)

Verification Scope (16 sites)	2020
Direct greenhouse gas emissions (Scope 1)	22,281
Indirect greenhouse gas emissions (Scope 2)	49,985
Total greenhouse gas emissions (Scope 1 + Scope 2)	72,266



May 7th, 2021  
 CEO Ji-Young Song  
 Korean Foundation for Quality (KFQ)

*Ji Young Song*



# Building Your Tomorrow Today

## Doosan Corporation ESG Report 2020

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# Building Your Tomorrow Today

Doosan Corporation ESG Report 2020

