



Our Integrated Report 2019 introduces sustainable management outcomes achieved by Hyundai Heavy Industries Group's listed companies. To provide relevant information to stakeholders, core issues derived from our materiality assessment are reported on the basis of our group's five management philosophies.

#### Reporting Principles

- GRI (Global Reporting Initiative) Standards (Core)
- International Integrated Reporting Council's (IIRC) integrated reporting framework

#### Reporting Boundary

- Sustainability Performance: listed companies only (HHI Holdings, HHI, Hyundai Electric, HCE and HMD)
- Business Review & 2018 HIGHLIGHTS: Hyundai Oilbank and Hyundai Global Service also included as subsidiaries of HHI Holdings
- Financial Highlights: consolidated basis with all affiliated entities of the Group included

#### Reporting Scope

Overall economic (under K-IFRS), social and environmental aspects of our sustainability management

#### Reporting Period

For the year ended Dec. 31, 2018 (with exceptions for some of the achievements: Jan 2016 to Mar 2019)

#### Reporting Frequency

Annual (last report issued in June 2018)

#### Reporting Assurance

Third party's independent assurance (overall sustainability management, GHG emissions and energy consumption separately verified)

# HHI GROUP INTEGRATED REPORT 2019

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# 2018 HIGHLIGHTS



## HHI Holdings

**Establishment of a smart factory for industrial robots** Hyundai Heavy Industries Holdings (HHI Holdings) signed an agreement with Chinese robot maker Jiangsu Hagong Intelligent Robot (HGZN) on the establishment of a joint venture that manufactures and sells industrial robots and provides after-sales service. The goal is to establish a smart factory by the end of 2019 producing four types of industrial robots, aiming at manufacturing and selling a cumulative total of 17,000 units by 2022.

**Inroads into medical big data business** HHI Holdings signed an agreement with Kakao Investment and Asan Medical Center to establish a company specialized in medical big data. Asan Kakao Medical Data, as Korea's representative medical data platform, will play a key role in driving the growth of Korea's medical data market.

**Strategic corporation system for robot business** HHI Holdings signed an agreement with Germany's KUKA Group, a global robot company, for joint R&D and sales of industrial robots. Utilizing its domestic sales network and after-sales technical support, HHI Holdings has set a goal of selling 6,000 units of small and large robots by 2021.

## Hyundai Oilbank

**Pre-IPO investment agreement with Saudi Aramco** Hyundai Oilbank signed a pre-IPO investment agreement with Saudi Arabia's state-owned oil giant Aramco, worth up to KRW 1.8 trillion. Responsible for 15% of the crude oil being produced globally, Aramco was attracted to the impressive growth potential of Hyundai Oilbank as demonstrated by its notable advancement ratio (40.6%) and profitability, both of which are the highest among Korean oil refiners.



## HGS

**Large volume of remodeling orders for greener ships** Hyundai Global Service (HGS) signed an agreement to install by 2020 exhaust gas cleaning systems (EGCS), often referred to as scrubbers, on a total of 16 ships owned by SK Shipping, including a 300,000-ton VLCC (very large crude carrier) and an 80,000m<sup>3</sup> LPG carrier. In 2018, Hyundai Global Service installed scrubbers on 105 vessels, posting a cumulative third-quarter sales record of USD 390 million. Due to tightening environmental regulations by the International Maritime Organization (IMO), the demand for onboard eco-friendly facility installation is expected to continue to grow in the future.



## HHI

**World's first SMR Pilot plant for LNG carriers** Hyundai Heavy Industries (HHI) completed a single mixed refrigerant (SMR) pilot plant that re-liquefies vaporized gas from LNG carriers and received its safety approval from Korea Gas Safety Corporation. The SMR system is capable of re-liquefying 100% of the evaporative gas generated from LNG tankers, and four LNG carriers requested by Greek and Russian shipping companies to be built will be the first set of vessels that this technology will go into.

**ESS Center to reduce energy costs** HHI established the world's largest-scale industrial energy storage system (ESS) center at its headquarters in Ulsan. Its 51.5MW capacity is approximately 20% of the Korean government's target (270MW per hour) for ESS expansion in 2017. It saved HHI as much as KRW 10 billion in energy costs over the past year by reducing peak power consumption and increasing energy efficiency.

**HHI-Scrubber for ships** HHI developed a proprietary scrubber system (HHI-Scrubber) that meets the requirement under IMO's regulations. Thanks to its all-in-one design, HHI-Scrubber requires 30% smaller in size than the other models, while equivalent in performance. With its easy installation and excellent space utilization, the goal going forward is to win orders for more than 50 units each year, focusing on both the new shipbuilding and retrofit market.

## Hyundai Electric

**Contract to supply electricity equipment to Kuwait substation** Hyundai Electric & Energy Systems (Hyundai Electric) signed a contract with Al-Ahleia, an EPC company of Kuwait, to supply equipment worth KRW 38.5 billion. Under this contract, Hyundai Electric is scheduled to supply gas insulated switchgears (GIS) and shunt reactors by December 2019 to be installed at the substation of the Public Authority for Housing Welfare of Kuwait.

**First Korean electric equipment company to open Reliability Assessment Center** Hyundai Electric became the first Korean electric equipment company to establish a reliability assessment center to research, improve and evaluate the quality of products. It is expected that the center will help expedite the product development process by conducting in-depth research on product durability, environmental resistance and stability, while also contributing to reducing the cost of testing via external agencies.

**Agreement on a new renewable project** Hyundai Electric signed an agreement with the city of Yeosu city to construct a KRW 20 billion photovoltaic power generation facility on unused land. A 6.5MW solar photovoltaic panel and a 20.5MWh energy storage system will be embedded in the bike path and nearby Namhan-gang river in Yeosu under this agreement. Some of the profits will be invested in fostering of talents in the new and renewable energy field.



## HCE

**Korea's first electric excavator** Hyundai Construction Equipment (HCE), in conjunction with US engine maker Cummins, developed Korea's first excavator that is 100% electrically powered, 3.5-ton compact model. While equivalent in performance to conventional excavators powered by diesel engines, electric excavators are emission-free. They also have a much lower noise level and are eco-friendly, cutting fuel costs by up to 60%. HCE's endeavors to proactively adapt to the changing market environment and cater to the needs of different customers will continue, which include increasing R&D for intelligent excavators.

**Donations for flood-hit India** HCE joined the international relief efforts for India's southern state of Kerala which was hit by the worst flooding in nearly a century, donating construction equipment (10 mid-sized excavators) and funds in the amount of KRW 50 million. The excavators were of great help in damage repairing, mainly used to demolish buildings that collapsed in the flood and restore the road network. HCE will continue to provide relief to areas affected by natural disasters.

**Opening of Technology Training Center** For systemic nurturing of professional technicians, HCE opened its Technology Training Center. The center is equipped with a parts exhibition room, meeting rooms and training rooms where a total of 20 training courses are available. It is expected to do much to improve quality in various fields, offering professional trainings on standard assembly methods of equipment and prevention of leakage and other frequently occurring types of accidents.



## HMD

**Two ships selected as RINA's 'Significant Ships 2018'** Two of Hyundai Mipo Dockyard's (HMD) vessels (31K RO-PAX ship and 7.5K LNG bunkering vessel) made the list of the Royal Institution of Naval Architects' (RINA) Significant Ships 2018. With this, HMD was officially recognized for 18 consecutive years for its excellence in quality. The RO-PAX ship is equipped with various safety facilities, such as a navigation satellite system and an automatic fire alarm. The LNG bunkering vessel adopted for the first time in the world the eco-friendly 'ballast free' technology which removes the need for ballast water treatment systems while still ensuring safe navigation, drawing attention from the global shipbuilding and shipping industries.

**A milestone of 1,000 new ships built** In a matter of 20 years since entering the newbuilding business, HMD has built a total of 1,000 ships for 182 owners in 39 countries around the world. The aggregate volume of ships delivered by HMD amounts to 17.35 million compensated gross tonnage (CGT), or about 75% of the world's total order volume of 23.22 million CGT in 2018. HMD will continue its innovative efforts to contribute to Korea's economic growth.

**Winner of Ulsan City Industrial Peace Award 2018** HMD is proud of its win-win labor-management relations, as evident in having zero disputes over the past 22 years. In recognition of its exemplary labor relations amidst of severe difficulties faced by shipbuilders, the Ulsan Chamber of Commerce and Industry granted HMD the Industrial Peace Award 2018. HMD's labor and management will make united efforts to navigate these times of uncertainty to solidify transparent management and take a bold leap forward.

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# Greeting from Group Vice Chairman



Vice Chairman & CEO of HHI Holdings

*Kwon oh gap*

Dear stakeholders,

I would like to extend my deepest gratitude for your continued support and interest in our group.

Last year, HHI Group experienced monumental changes that entailed a new management environment. The year 2018 witnessed our group's reorganization into a holding structure, which involved HSHI's split and merger and HMD's sale of its entire HHI shares in order to eliminate a web of circular shareholdings between companies in our group. Going forward, each entity will focus on their own areas of business and pursue an active dividend policy to ensure a greater shareholder value.

In 2019, Korea Shipbuilding & Offshore Engineering (KSOE) will be launched as a sub-holding company controlling the group's shipyards, KSOE will present mid- and long-term development directions and growth strategies of our shipbuilding and marine businesses as a company specializing in R&D and engineering, taking our technological competitiveness to the next level.

With HHI Holdings leading the efforts to discover future business opportunities and reorganize the group's existing business portfolio, we count on each entity in our group to establish more independent and responsible management practices under a professional management system to continue to evolve

as a global technology leader in their respective areas of expertise, and the group will spare no effort to provide support along the way.

To that end, we have three clear visions: a respected corporation with advanced technologies and high-quality products, a trusted corporation with fair and transparent management and an admired corporation with social contributions.

In doing so, HHI Group aims to solidify its position as a cutting-edge technology group and we are scheduled to break ground in the second half of this year to build a global R&D center to serve as the group's key driver and mechanism for growth. Also, our endeavors for sustainable growth in economic, environmental and social terms will not cease.

HHI Group has been assessing and mitigating environmental risks at its main business establishments for integrated environmental management, while continuing the investments to minimize negative environmental impacts, including reduction of greenhouse gas emissions. By developing core eco-friendly technologies, the group is also leading the market for green products that satisfy increasingly tightening international environmental regulations, such as IMO's regulations on air pollution and sulfur dioxide emissions.

We also believe safety is a top priority that cannot be compromised. Each entity has a safety management control tower under immediate supervision of the CEO, regularly convening the Industrial Safety and Health Committee with representatives of labor and management. Across all entities within the group, safety culture is in place that conforms to the basics and principles of safety, implementing a reward system for exemplary practices, setting the 'must' safety rules and operating a safety academy.

We will continue our activities for local community development and social contribution. Going forward, as a leader in corporate social responsibility, we plan to set up a group-level social contribution council and volunteer organization for our personnel, to enable systematic voluntary and contribution activities for our society and local communities.

Lastly, we are bolstering ethics and compliance management to nurture a transparent and sound corporate culture. We have revised the Fair Trade Compliance Program according to the trend of reinforced regulations related to fair trade and expanded on-site inspections to enhance preemptive response. In order to establish an ethical corporate culture, we have a reporting and reward system in operation, while also listening to the voice of our partner companies as well as our own employees working on various sites to diagnose and improve the level of ethical management.

Each and every one of us at HHI Group remains steadfastly committed to bold innovation to add further value for stakeholders to unlock a brighter future for all. We appreciate you joining us as we continue to strive to achieve such great missions.

Thank you.

# HHI Group at a Glance

With its creative pioneering spirit and indomitable will, HHI Group has grown into a global leader in heavy industries, encompassing comprehensive areas including shipbuilding, offshore, electrical and electronics engineering, robots and construction equipment.

## Hyundai Spirit

We firmly believe there is no challenge too great for us to meet with our dauntlessness and unwavering drive backed up by the infinite potential, no matter how impossible it may seem at the moment.



### Creative Wisdom

Wisdom to seek novelty and innovation to meet the needs of customers and our society



### Strong Determination

Attitude to take bold adventures with a strong sense of mastery



### Unwavering Drive

Power to achieve goals with a strong spirit and indomitable will

## Management Vision



A Respected Corporation with Advanced Technologies and High-Quality Products



A Trusted Corporation with Fair and Transparent Management



An Admired Corporation with Social Contributions

## Management Philosophy

We have five management philosophies in place that must be shared and practiced by all employees to fulfill our corporate social responsibility.

1

Enhancing Corporate Value through Continual Growth

2

Upholding Fair and Transparent Business Practices

3

Pursuing Safe and Environmentally Friendly Business Practices

4

Promoting Strong Labor Relations Built on Mutual Respect and Trust

5

Demonstrating Our Commitment to Global Corporate Citizenship

## Profile of HHI Group's Listed Entities

Corporate Name	Hyundai Heavy Industries Holdings Co., Ltd.
Foundation Date	April 3, 2017
CEO	Kwon Oh-gap
No. of Employees	367
Capital Stock	KRW 81.4 billion
Main Business	investments (holding), industrial robots, automation systems (operating)
Head Office Address	50, Technosunhwan3-gil, Yuga-myeon, Dalseong-gun, Daegu, ROK



\*For a breakdown of headcount, see pages 474-476 of HHI Holdings' annual report 2018.

Corporate Name	Hyundai Heavy Industries Co., Ltd.
Foundation Date	December 28, 1973
CEO	Han Young-seuk, Ka Sam-hyun
No. of Employees	14,884
Capital Stock	KRW 353.9 billion
Main Business	ships, marine EPCs, engines, etc.
Head Office Address	1000, Bangeoginsunhwan-doro, Dong-gu, Ulsan, ROK



\*For a breakdown of headcount, see pages 567-573 of HHI's annual report 2018.

Corporate Name	Hyundai Electric & Energy Systems Co., Ltd.
Foundation Date	April 3, 2017
CEO	Jung Myung-rim
No. of Employees	2,584
Capital Stock	KRW 101.8 billion
Main Business	electric equipment related to power generation, transmission and distribution
Head Office Address	75, Yulgok-ro, Jongno-gu, Seoul, ROK



\*For a breakdown of headcount, see pages 327-330 of Hyundai Electric's annual report 2018.

Corporate Name	Hyundai Construction Equipment Co., Ltd.
Foundation Date	April 3, 2017
CEO	Kong Ki-young
No. of Employees	1,475
Capital Stock	KRW 98.5 billion
Main Business	construction equipment, industrial vehicles
Head Office Address	75, Yulgok-ro, Jongno-gu, Seoul, ROK



\*For a breakdown of headcount, see pages 274-276 of HCE's annual report 2018.

Corporate Name	Hyundai Mipo Dockyard Co., Ltd.
Foundation Date	April 28, 1975
CEO	Shin Hyeon-dae
No. of Employees	3,133
Capital Stock	KRW 199.7 billion
Main Business	medium-sized ships
Head Office Address	100, Bangeoginsunhwan-doro, Dong-gu, Ulsan, ROK



\*For a breakdown of headcount, see pages 290-291 of HMD's annual report 2018.



# Global Network

## Businesses in Korea

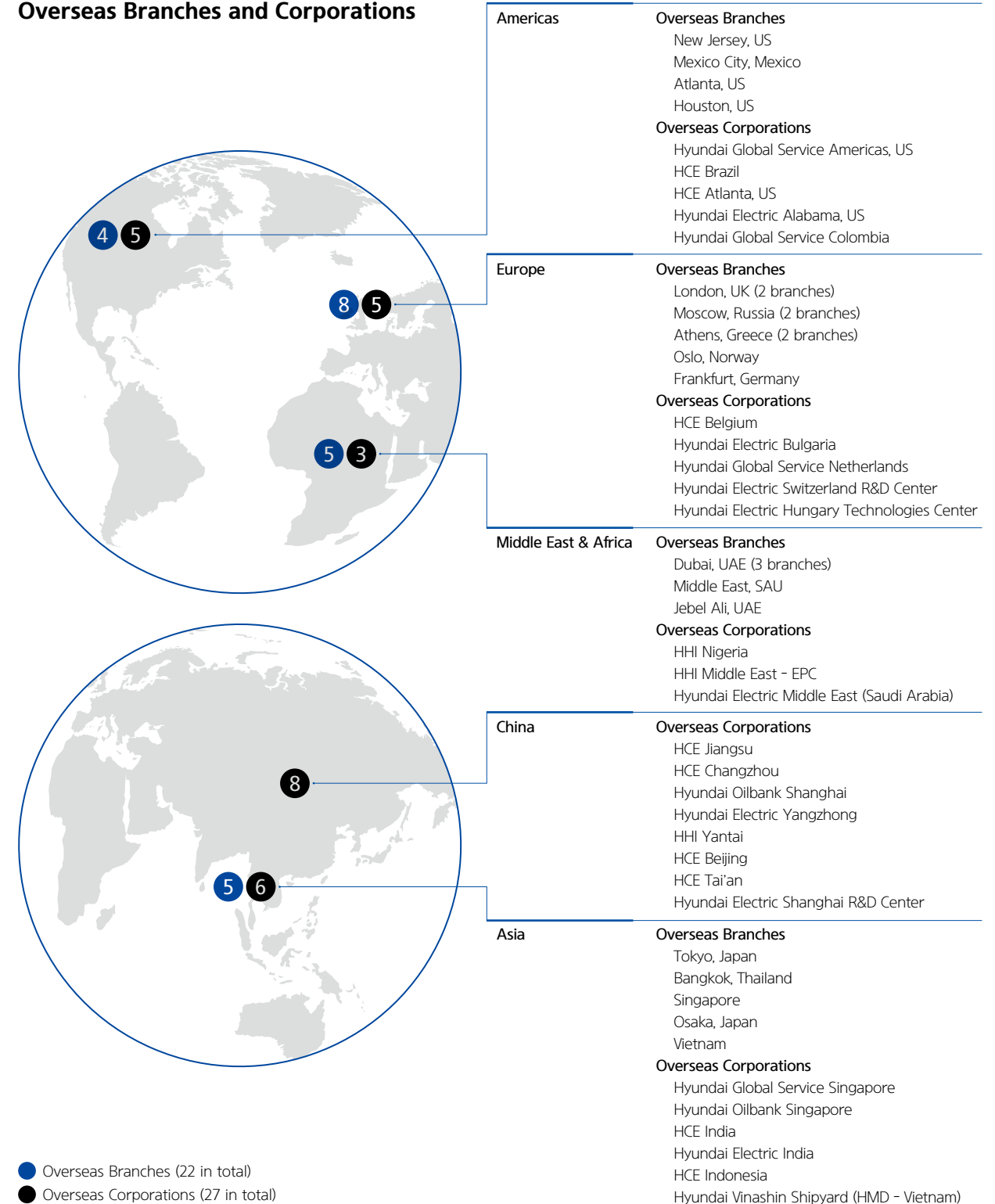
HHI Holdings was incorporated following the equity spin-off of HHI in April 2017, in the form of an operating holding company engaged in the robotics business. HHI Holdings is a holding company of the enterprise group of HHI Group, consisting of 27 domestic affiliates, under the Monopoly Regulation and Fair Trade Act of Korea. Of the 27, 5 including HHI Holdings are listed and the other 22 are non-listed.

	Business Type	Entity Name	No. of Entities
Listed	Shipbuilding, etc.	HHI	5
	Shipbuilding	HMD	
	Non-financial holding company	HHI Holdings	
	Manufacture of machinery for construction and mining	HCE	
	Manufacture of motors, generators and power conversion devices	Hyundai Electric	
Non-listed	Shipbuilding	SHSI	22
	Other engineering services	Hyundai E&T	
	Manufacture of ship components	Hyundai HYMS	
	Ocean freight shipping	KOMAS	
	Manufacture and sale of ship engines	Wartsila-Hyundai Engine	
	Crude oil refining	Hyundai Oilbank	
	Manufacture of chemicals and chemical products	Hyundai Cosmo	
	Warehouse and transport-related services	Hyundai Oil Terminal	
	Manufacture of petroleum refining products	Hyundai-Shell Base Oil	
	Crude oil refining and processing	Hyundai Chemical	
	Power generation	Taebaek Wind Power	
	Power generation	Taebaek Guynemi Wind Power	
	Power generation	Changjuk Wind Power	
	Sports club operations	HHI Sports	
	Manufacture of basic inorganic chemicals	Hyundai OCI	
	Manufacture of liquid pumps	HHI Turbomachinery	
	Business facility maintenance services	HHI MOS	
	Engineering services	Hyundai Global Service	
	Manufacture and sale of photovoltaic cells	HHI Green Energy	
	Wholesale of primary metal products	Yoobong	
	Architecture and landscape design services	HEA	
	Manufacture of boilers for power generation	HHI Power Systems	

### Key Changes in 2018

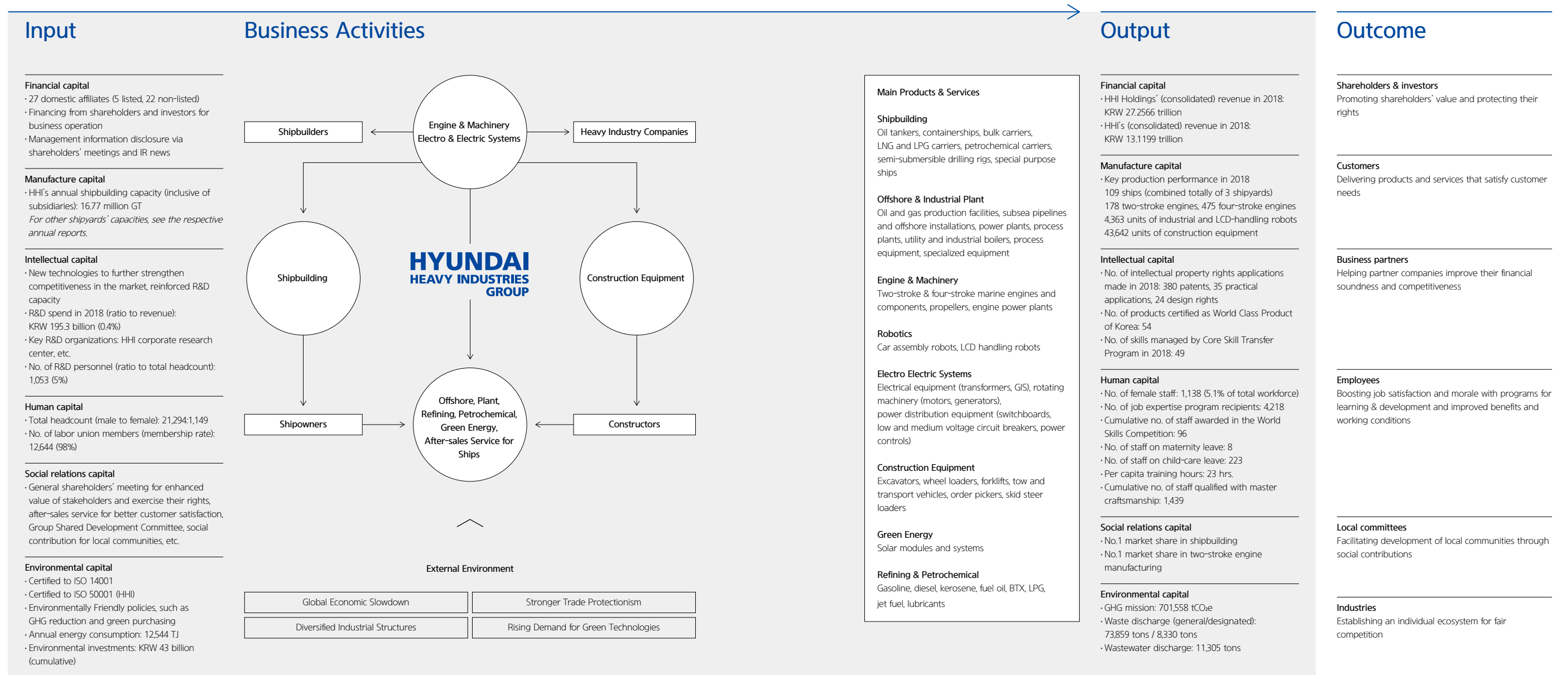
Hyundai Avancis was excluded from the affiliated companies on February 13, 2018 following HHI's sale of its shares and an application for exclusion filed with the Fair Trade Commission in December 2017. Yoobong and HEA were newly placed under the wing of HHI Group on March 1 and June 1, 2018, respectively. Also, Hyundai Robotics changed its corporate name to HHI Holdings as of March 30, 2018.

## Overseas Branches and Corporations



# Value Chain

HHI Group generates value with its outstanding resources and expertise. Each of the six categories of capital invested in our business activities plays a key role in creating economic, environmental and social outputs, which we distribute to stakeholders via our business models based on the group's management philosophy and visions.



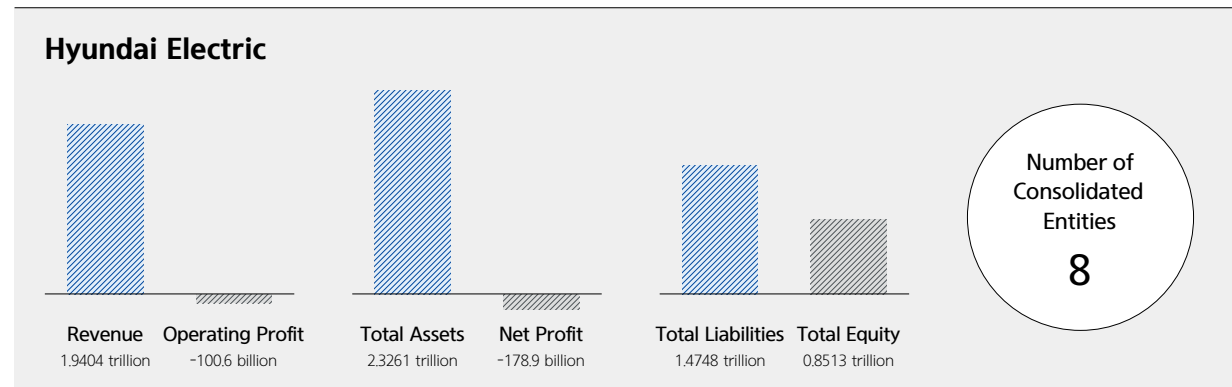
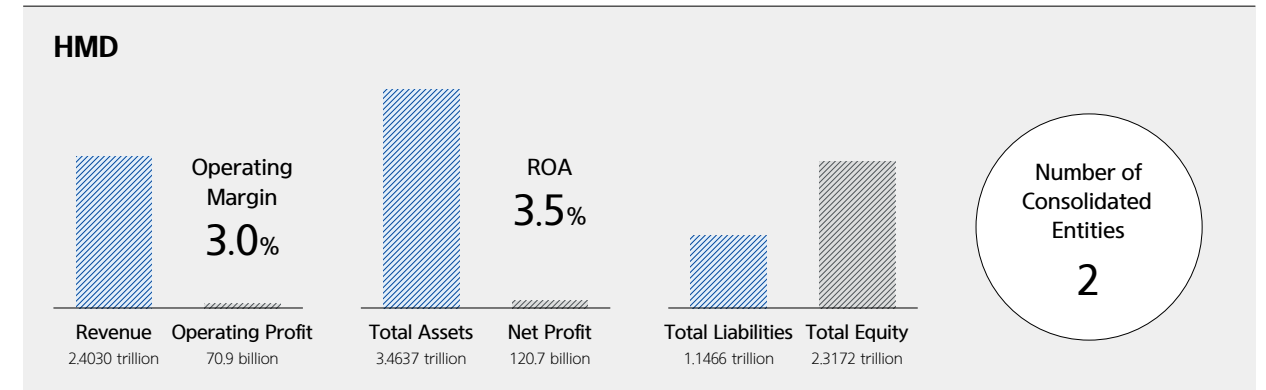
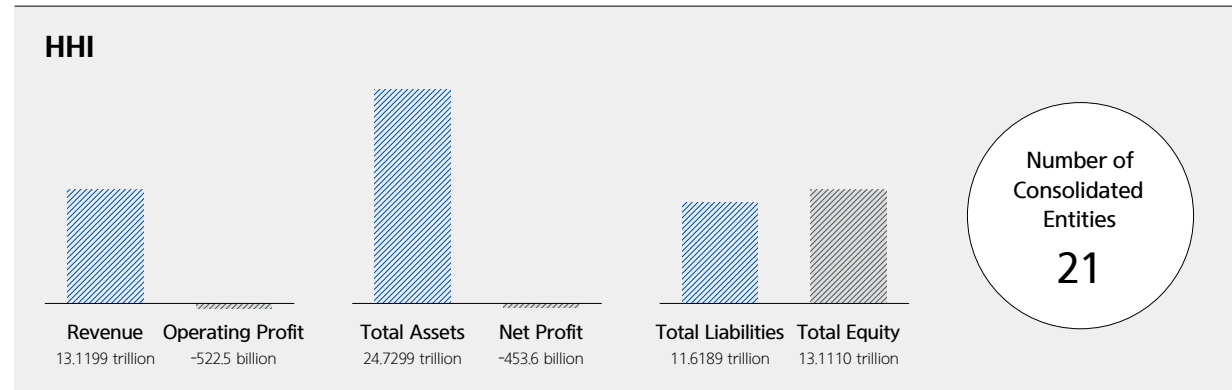
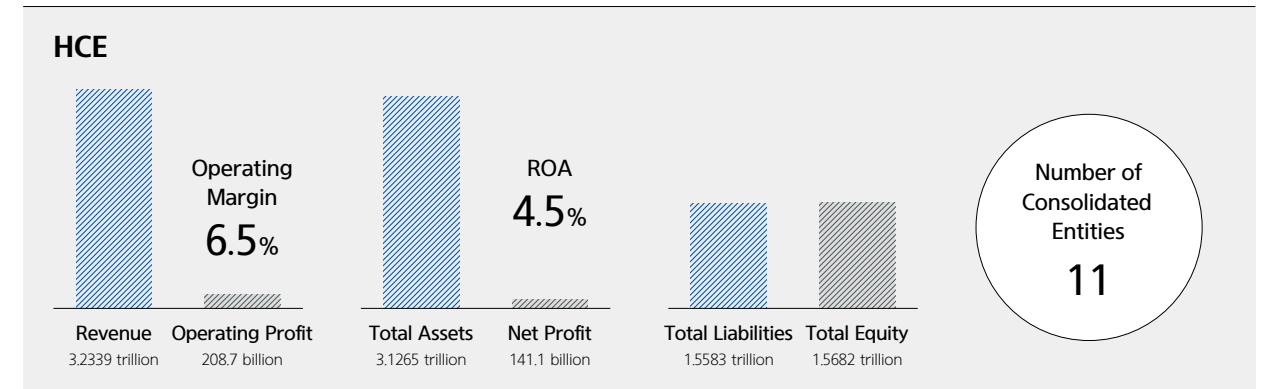
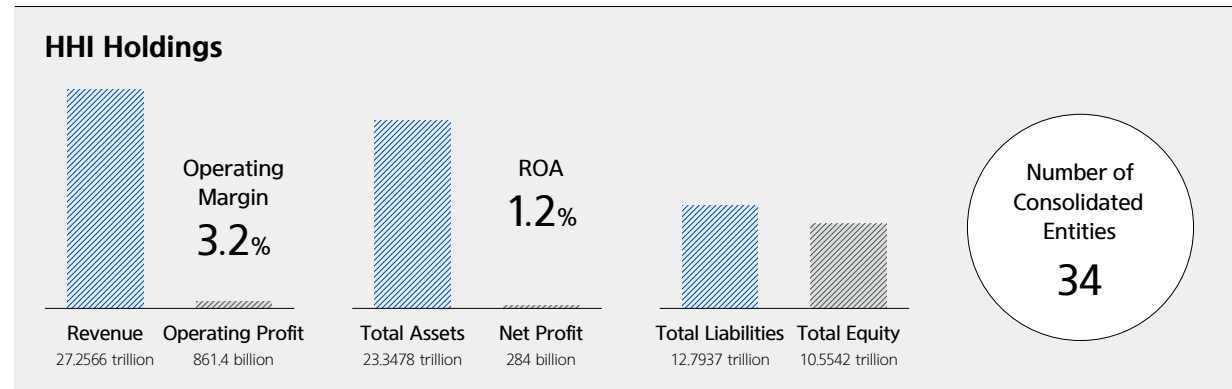
## PART 2. BUSINESS REVIEW

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# Financial Highlights

Consolidated financial statements for the 12 months ended Dec 31, 2018  
All amounts are expressed in Korean Won.



### Economic Value Distribution

Recipient	Means of distribution	Unit	Amount
Shareholders and investors	Dividend	KRW 1 billion	315
Partner companies	Raw material procurement	KRW 1 billion	13,609
Local communities	Charitable paycheck contribution	KRW 1 million	196
Employees	Salary and benefits	KRW 1 billion	967

# HHI Holdings

## CEO Message

Looking back on 2018, I am proud to say at HHI Holdings, we made our utmost efforts to maximize the competencies and values of each of our business divisions spun off in April 2017. It was truly an eventful year, a year that will go down in the company's history as the foundation for the next phase of growth, which involved an organizational overhaul. These efforts are evident in our performance for the year – a combined revenue of KRW 22.4962 trillion in 2018, with our Oil Refining business responsible for KRW 21.5036 trillion, Robotics for KRW 579.3 billion and Services for KRW 413.3 billion. With a Heavy Feed Petrochemical Complex (HPC) being successfully constructed, our Oil Refining division is now poised to turn into a comprehensive oil refining and petrochemical company. Our Robotics division has secured a new growth driver by teaming up with leading players and establishing a joint venture robot production factory in China while the Services business has relentlessly worked on business advancement and development of convergence service models based on digital innovation to provide comprehensive service offerings. In 2019, our commitment will remain solid across all business divisions to the shared goals of sharpening technological competencies, expanding global business networks, developing new business opportunities, and enhancing services as a competitive advantage. Please continue on this exciting and rewarding journey with us.

**Kwon Oh-gap**, Vice Chairman & CEO



## Business Overview

While actively carrying out investment activities as the holding company, HHI Holdings is also engaged in the businesses of robotics, production and distribution of petroleum products, and marine services for the shipbuilding and power generation segment.

### Robotics

Our Robotics division is engaged in manufacturing and selling industrial robots and clean robots. Mainly used in manufacturing industries including automotive, electrical/electronics, and chemical, our industrial robots work on various automation lines from manufacturing through shipment. Our clean robots are ideal for handling delicate LCD panels and semiconductor wafers. Having entered the clean robot sector in 2006, we succeeded in proprietarily developing clean robots in 2008, mainly supplied to display panel manufacturers. Our most recent activities include constructing smart factories using our robotic technologies for high-tech industries. By combining our 35 years of experience and knowledge in robotic automation with next-generation technologies such as Artificial Intelligence (AI) and the Internet of Things (IoT) including big data analytics, we are offering the finest smart factory solutions to our customers.

### Oil Refining

Hyundai Oilbank, a subsidiary of HHI Holdings, is engaged in the refining crude oil and producing and selling petroleum products. Capable of processing 650,000 barrels of crude oil per day, Hyundai Oilbank claimed a share of 21.6% in the domestic market for light crude oil (gasoline, diesel, kerosene, etc.) in 2018 according to Korea National Oil Corporation's official statistics. We are diversifying Hyundai Oilbank's portfolio through vertical integration of the refinery and petrochemical businesses, in a way that creates synergies across different areas. Its subsidiaries have competitive advantages in their respective sub-sectors. Hyundai Chemical and Hyundai Cosmo produce BTX (mixtures of benzene, toluene, and xylene) such as mixed xylene (MX) and para-xylene (PX) while Hyundai-shell Base Oil produces lube base oil and Hyundai OCI Carbon manufactures carbon black. Hyundai Oil Terminal is engaged in the oil terminal business. As such, while enhancing the overall efficiency of the existing refinery business, we have also laid a stable foundation for continued business growth.

### Services

Hyundai Global Service, a subsidiary of HHI Holdings, offers various free and paid services tailored to the needs of shipbuilding and power generation sites. Its main business areas include periodic maintenance of critical equipment of ships, parts supply and replacement, technical support for repairs, engineering, procurement, installation, and commissioning (EPIC) services, parts and equipment supply to engine power plants, operation and maintenance (O&M), warranty repairs for key parts or ships delivered, and fuel supply to ships. Operating a total of eight business establishments worldwide, including subsidiaries, branches, and liaison offices, we plan on the continued expansion of the business network for enhanced customer

services. We will explore new businesses linking platforms and services to pioneer the next phase of cutting-edge digital innovation as part of our plan to expand our next-generation businesses in earnest by utilizing the Digital Innovation Center established in the second half of 2018.

## Financial Performance

Stand-alone	HHI Holdings	Hyundai Oilbank	Hyundai Global Service
Revenue (KRW 1 million)	579,300	21,503,600	413,300
Operating Profit (KRW 1 million)	337,800	661,000	76,500
Operating Margin (%)	58.3	3.07	18.5

Stand-alone	Robotics			Oil Refining	Services	
	Industrial Robots	LCD Robots	Others	Crude Oil Refining	Ship Parts, etc.	Other Services
Revenue by Category (KRW 1 million)	158,770	91,536	16,368	18,518,848	352,505	60,784
Share (%)	59.6	34.3	6.1	100	85.3	14.7

## Robotics

### 2018 Business Performance

Our Robotics division posted annual sales revenue of KRW 266.7 billion, shipping 4,200 robots for industrial use. The total revenue stood at KRW 579.3 billion (stand-alone basis), which includes dividend income received as the holding company.

### 2019 Outlook and Targets

China's robot market, which accounts for about 40% of the global demands, continues to grow. Against this backdrop, LCD and OLED industries are expected to invest more in clean robots. As for the Korean market, on the other hand, a slump in the auto industry and oversupply in the display market are expected to combine to drive down such investments. That said, a sharp increase in the interest and demand for robot-based automation systems is expected in the wake of the recently introduced 52-hour workweek and minimum wage increase in Korea. Considering all this, for 2019, HHI Holdings has set its Robotics division's targets for orders and sales at USD 400 million and KRW 360 billion, respectively, with a goal to achieve total revenue of KRW 660 billion inclusive of dividend income.

### Growth Strategy

Improving the competitiveness of our flagship products while expanding our lineups for various industries and developing new products, we will actively respond to the rapidly-growing Chinese robot market. Also, taking a step further from selling individual robots, we will advance into the smart factory market which encompasses production line construction, quality control and production management systems.

### 1. Improving the competitive edge of flagship products and cost competitiveness through design innovation

- Establishing a quality management system from planning through mass production
- Using domestically-manufactured, diversified key components

### 2. Developing new products and lineups

- Developing lineups tailored to electronics, machining, food and other industries
- Developing collaborative robots and service robots

## Oil Refining

### 2018 Business Performance

In 2018, Hyundai Oilbank recorded KRW 21.5036 trillion in sales. Operating profit was at KRW 661 billion, a decrease from the previous year due to losses on write-down of inventory affected by the plunge in oil prices in the fourth quarter. Despite that, we continue to boast an operating margin that is larger than that of any peer in the oil refining sector, thanks to the diversification of our crude oil varieties that now include extra-heavy oil, which makes much economic sense, and enhanced process efficiency through energy savings. Hyundai Oilbank also achieved an advancement ratio\* of 40.6%, which is the largest level in the industry, by newly establishing a Solvent De-Asphalting (SDA) process and expanding the existing Delayed Cocker Unit (DCU) process thereby securing a stable profit model.

\*Advancement ratio: The ratio of the advanced processing capacity to the conventional refining capacity. The higher the ratio, the more capable a refinery is to produce large amounts of profitable products such as gasoline, out of low-cost heavy oil.

### 2019 Outlook and Targets

Globally, the year 2019 is set to see an expansion of refining facilities that will translate into an additional capacity of 1.4 million barrels per day in aggregate. Also, the IMO regulations on limiting sulphur content of bunker fuel to a maximum of 0.5%, scheduled to enter into force from January 2020, is expected to drive up demand for low sulfur diesel and bunker oil in the second half of 2019, which will positively impact our performance. At Hyundai Oilbank, unwavering efforts to enhance profitability are underway, which include improving productivity through reduced energy consumption and streamlined processes and enhancing sales competitiveness through diversified overseas sales outlets and upgraded quality. Also planned for 2019 is the construction of an MX plant with an annual capacity of 200,000 tons for Hyundai Chemical and a carbon black plant with an annual capacity of 50,000 tons for Hyundai OCI.

## Growth Strategy

Hyundai Oilbank will continue its endeavors to enhance competitiveness in both the oil refining and non-refining sectors. To set us apart from our competitors and in active response to the expected surge in demand for low sulfur diesel and bunker oil due to IMO's tightened regulations, we will increase the share of advanced process in our total refining capacity and expand petrochemical production facilities. Also, an HPC project is underway with a view to advancing into the Naphtha Cracking Center (NCC) business. We plan on securing unparalleled cost competitiveness by using desulfurized heavy oil and expect to gain a competitive edge over our rivals in the NCC business thanks to synergies between our refinery and petrochemical divisions. By successfully completing the ongoing HPC project, we expect to see our non-refining sector claim at least 50% of our combined operating profit by 2022.

### 1. Oil refining sector

- Increasing the advancement ratio
- Expanding petrochemical production facilities

### 2. Non-refining sector

- Expanding HPC projects
- Entering the NCC business

## Services

### 2018 Business Performance

Since before the spin-off in December 2016 into Hyundai Global Service as a separate company, this division has seen a continued increase in annual revenue, recording around KRW 100 billion in 2016, KRW 238.2 billion in 2017 and KRW 413.3 billion in 2018. Hyundai Global Service posted an operating margin of approximately 18.5% in 2018, ensuring a stable revenue base, and is expected to see continued improvement of profitability in the future. In particular, we are receiving a growing amount of orders for installation/refurbishment of gas scrubbers and ballast water treatment systems (BWTS)\* due to a widening price gap between high sulfur fuel oil and low sulfur oil. In 2018, we secured an aggregate order amount of USD 440 million for eco-friendly construction projects.

\*Ballast Water Treatment Systems (BWTS): Facilities designed to remove and destroy biological organisms contained in the ballast water held in tanks and cargo holds of ships to increase stability and maneuverability during transit.

### 2019 Outlook and Targets

The global ship maintenance market is expected to steadily grow at an annual rate of about KRW 20 trillion, and the eco-friendly refurbishment market is expected to reach up to KRW 10 trillion a year. For 2019, we have set an order target of USD 940 million and a revenue target of KRW 823.9 billion. With a view to achieving an annual revenue of KRW 2 trillion or over by 2022, our efforts will be focused on making continuous investments, expanding human resources, and securing new business opportunities.

## Growth Strategy

To take a bold leap forward to turn into a global top-tier total service provider in the area of ship and engine power generation, Hyundai Global Service is making continued endeavors to advance its existing service business and create a new convergence service model based on digital innovation. More efforts are underway to expand overseas networks and areas of service delivery, with the ultimate goal of maximizing customer satisfaction.

1. Advancing the existing service business
2. Creating a new convergence service model based on digital innovation
3. Expanding overseas networks and areas of service delivery



Oil Refining



Robotics



Services

# HHI

## CEO Message

The year 2018 witnessed a variety of efforts at HHI to enhance business competencies. We designed and implemented a new organizational structure to strengthen our position in the market for special-purpose ships and eco-friendly equipment. We also commenced on the construction of our first next-generation smart ship in preparation for the Fourth Industrial Revolution era while taking a first step towards a smart yard environment by constructing a smart factory with key ICT technologies.

Although the global shipbuilding market still has a long way to go before full recovery, we successfully met our annual order targets. We are particularly proud of how our technological excellence helped us maintain our competitive edge in the market for high value-added ships and secure orders for a total of 12 LNG carriers in 2018, an area where demand is showing signs of recovery.

In this promising year of 2019, under the motto of "Rise Again to Reclaim the Title of World's No. 1" we will make vigorous efforts for a safe workplace, cost-cutting innovation, enhanced technology and quality, and a corporate climate of understanding and harmony. Thank you for your trust and confidence in HHI.

**Han Young-seuk & Ka Sam-hyun,**  
Co-Presidents & CEOs



## Business Overview

### Shipbuilding

With over 40 years of experience and know-how in building ships, diverse product lines, and strong business relationships with world-class shipping companies, we have long maintained a reputation as an unparalleled leader in this industry. Not only do we boast advanced technologies in the fields of eco-friendly ships and smart ships, but we also have secured price competitiveness by integrating the function of sales and purchasing across all three shipbuilders (HHI, HMD and Hyundai Samho Heavy Industries).

### Engines

We manufacture large/mid-sized engines for ships and mid-sized engines for power generation, with a share of 36% in the global market for large engines and 28% for mid-sized engines, which combine to place us in first place in global market dominance. We are the only Korean engine maker with its own original technology to manufacture mid-sized engines, and plan to expand our eco-friendly equipment business such as gas engines, in active response to IMO's tightened environmental regulations.

### Offshore

In a seamless process, we design, purchase, manufacture, transport, install and test-run marine facilities used for developing and producing offshore oil fields. Equipped with the best production facilities and technologies, including a 10,000-ton floating crane and a 1 million-ton construction dock, we have successfully completed to date some 170 construction projects around the world.

## 2018 Business Performance

HHI secured orders for a total of 163 ships (approx. USD 14 billion, consolidated basis) in 2018, and 313 ships were either on order or under construction (approx. USD 26 billion) as of the year-end, a volume large enough to keep us busy for over two years. Our low debt-to-equity (D/E) ratio and sound overall financial structure, single mixed refrigerant (SMR) LNG re-liquefaction testing facility having been successfully built, and improved price competitiveness thanks to a solid management improvement plan, etc. have all combined to set us further apart from our competitors in winning shipbuilding orders. As a result, for the two consecutive years from 2017 to 2018, we were ranked first place in terms of dominance in the global market for LNG carriers where order volumes are on a steep rise, claiming a share of about 40% each year. This has once again demonstrated our excellence in technology and competitiveness in the market for high value-added vessels.



## Financial Performance

Consolidated	2017	2018
Revenue (KRW 1 million)	15,468,836	13,119,891
Operating Profit (KRW 1 million)	14,646	(522,520)
Operating Margin (%)	0.1	(4.0)

Consolidated	Shipbuilding	Offshore & Plant	Engine & Machinery	Green Energy	Construction Equipment	Others
Revenue by Category (KRW 1 million)	9,633,638	2,266,464	574,529	347,476	78,312	219,472
Share (%)	73.43	17.27	4.38	2.65	0.60	1.67

## 2019 Outlook and Targets

The number of orders for LNG carriers is expected to be on a steady rise thanks to the increasing global demand for LNG, particularly from emerging industrial countries such as India and China, while the replacement demand for container carriers and crude oil carriers will likely accelerate due to the tightening IMO environmental regulations such as sulfur oxides (SOx) emissions control. For 2019, we have set an order target of USD 19.6 billion (consolidated basis), up about 20% from the previous year's performance, encouraged by our distinctive competitiveness in technology and sales competencies in the market for environmentally friendly ships such as LNG carriers. Our sales, which had been on the decline until 2018, is expected to turn around to an upward spiral from 2019 driven by the recovery in the volume of orders received from 2017. HHI's sales target for 2019 is set at KRW 15 trillion (consolidated basis), a 13% increase from the previous year.

## Core Competencies

### Global shipbuilding industry's finest technology and infrastructure

- World's largest accumulative newbuilding volume
- A variety of world-class products registered
- World's first to set a milestone of 2,000 ships delivered in 2015
- World's first to deliver an LNG-FSRU (floating storage regasification units) in 2014
- World's first to reach 100 million GT in 2012
- World's first to use the on-ground shipbuilding method in 2004
- World's first to build a SMR LNG re-liquefaction testing facility
- Korea's first to deliver an LNG carrier
- Korea's first to deliver an eco-friendly LNG carrier powered by dual-fuel engines

### United Efforts to Further Strengthen Ability to Win New Orders

#### · Integrated Client Interactions

All Hyundai shipyards acting as a single, integrated channel of communication in interacting with customers with multiple fleets ranging from small/mid-sized to large-sized ships

#### · Cost Competitiveness

Comparing designs of overlapping product models across shipyards for additional improvements in specifications, including fuel efficiency, and for cost savings

## Growth Strategy

### · Organizational Efficiency

Sales and marketing as a shared services model and periodic personnel rotations across shipyards to deepen knowledge and understanding of the group's entire array of product models

#### 1. Short-term strategy (by 2019)

- Quality improvement through a well-established quality management system
  - Cost reduction through strategic purchasing
  - Productivity enhancement through ICT\* convergence
- \* Information and Communication Technology

#### 2. Mid- to long-term strategy (by 2022)

- Leading the eco-friendly, high-efficiency ship market with the world's finest technologies
- Making inroads into future growth markets through persistent technology development efforts
- Establishing a technology-oriented management system
- Developing a next-generation ICT convergence business model
- Shaping HHI into a premium brand name
- Engaging in a wider variety of joint projects with international partners



# Hyundai Electric

## CEO Message

Since our initial establishment in 1977 as HHI's electrical and electronic Systems Division, we have consistently taken the lead in driving the nation's technological advancement, successfully completing numerous projects at home and abroad over the past 40 years.

In 2018, Hyundai Electric's efforts were particularly focused towards providing the best products, solutions and service offerings that can boost productivity and efficiency of our customers' businesses, which included expanding our Hungary Technologies Center (H-TEC) and opening our reliability assessment center. Much to our regret, however, the year did not live up to our expectations or those of our stakeholders from a financial performance perspective.

Looking to turn the tide as quickly as possible and to lay the foundation for a quantum leap forward, we will place great stress on increasing customer satisfaction through quality innovation, improving product competitiveness, enhancing sales competencies and exploring new markets, and creating a safe and rewarding workplace as we go forward. We thank you for your cordial support.

**Jung Myung-rim**, President & CEO



## Business Overview

Hyundai Electric is engaged in infrastructure businesses, including equipment and solutions for generating and supplying power. Our clientele includes both state-run and private power generation and power transmission companies and EPC contractors.

### Power Solution

Hyundai Electric supplies a wide variety of power systems for electrical grids such as power generation and transmission systems. Key products include ultra-high voltage transformers and ultra-high voltage circuit breakers.

### Industrial Solution

Our Industrial Solution business provides rotating machinery, power distribution equipment and control systems for chemical plants and general industries. Key products include switchboards, distribution transformers, low and medium voltage circuit breakers, motors, inverters, generators and industrial control systems.

### Marine Solution

Our Marine Solution business provides electrical parts for commercial ships, warships and offshore plants. Key products include marine switchboards, distribution transformers, and rotators.

### Energy Solution

To support efficient electrical energy consumption, our Energy Solution business designs, procures and builds integrated systems that effectively control all stages from electricity generation to energy management. Key products and services include energy storage systems (ESS), building energy management systems (BEMS), factory energy management systems (FEMS), and microgrid solutions.

## 2018 Business Performance

The year 2018 saw a continued slump in orders on global basis, especially due to the delayed recovery of infrastructure investments in the Middle East. Against this backdrop, the results we posted in 2018 were not exactly glowing-on a consolidated basis, our sales revenue recorded KRW 1.9404 trillion and the total order receipts amounted to USD 1.718 billion. That said, such deeply disappointing market conditions did not stop us from making proactive investments to sharpen our competitiveness in the run-up to a full recovery of the market, which included opening our Reliability Assessment Center and building a smart factory environment for our transformer plant. We also focused on cost structure improvement, which included optimizing manpower and accounting for impairment of assets to help return our performance as quickly as possible to a positive growth path.

## Financial Performance

Consolidated	2017*	2018
Revenue (KRW 1 million)	1,449,573	1,940,412
Operating Profit (KRW 1 million)	62,419	(100,581)
Operating Margin (%)	4.3	-

\*From April 1 to December 31, 2017

Consolidated	Electrical and Electronic Equipment
Revenue by Category (KRW 1 million)	1,940,412
Share (%)	100

## 2019 Outlook and Targets

Infrastructure investments in the Middle East market are expected to gradually pick up again from 2019. Also, the market for marine equipment and energy solutions is expected to continue to grow. Considering this, we have set our sales target at KRW 2.0783 trillion and order target at USD 1.998 billion for 2019. We will spare no efforts to meet these goals by enhancing customer satisfaction through quality innovation, increasing R&D investments for stronger product competitiveness, and exploring new markets through enhanced sales capabilities.

## Growth Strategy

Based on our technology and know-how built over four decades, we aim to evolve into a total energy solution provider that delivers quality electric products and advanced energy solutions, by expanding R&D investments and our global network.

- 1. Positioning flagship products in a high-end segment**  
 Strengthening product competitiveness by establishing smart factory environments and delivering premium customer services that converge with new ICT businesses
- 2. Strengthening R&D competitiveness**  
 Establishing a climate of technology-oriented management, securing talents at home and abroad, and improving quality through reliability assessment center
- 3. Building up a global governance and management system**  
 Securing production hubs by market and diversifying strategies by region
- 4. Expanding ICT energy solution business**  
 Fostering the rapidly growing ICT energy solution business, centered around renewable energy generation and energy management systems, as a new growth engine to proactively respond to the transforming energy markets
- 5. Diversifying product lineups for mass production**  
 Strengthening the product portfolio with new products and widening our presence in the global market



# HCE

## CEO Message

From a humble beginning in 1985 as HHI's Heavy Machines Division, we have grown into a company with a yearly production capacity of 50,000 units of construction equipment and industrial vehicles. HCE has actively expanded its sales channel across the globe with its 540 dealer networks in 140 countries, as well as our overseas subsidiaries.

We are currently focusing on forging a global R&D cooperation network mainly through securing talented researchers and developers and establishing R&D centers in Europe and North America.

In 2019, we have set an audacious target to achieve global sales of KRW 3,6294 trillion to continue our business momentum.

To this end, we seek to improve customer loyalty through technology and quality innovations, strengthen sales capability with the timely acquisition of accurate market data, and ensure legal and regulatory compliance with rigorous risk management. Thank you for your confidence in HCE's future.

**Kong Ki-young**, President & CEO



## Business Overview

HCE is engaged in the business of manufacturing and selling construction equipment such as excavators and wheel loaders, and industrial vehicles such as forklifts, tows and transport vehicles. HCE has maintained a leading position in major construction equipment markets across the globe, establishing overseas production bases in emerging countries that have been on a rapid growth path since the mid-2000s, including India and Brazil.

### Construction Equipment

We manufacture and sell construction equipment broadly used for large-scale social infrastructure construction such as roads and buildings and for excavating, transporting of materials and crushing across a wide range of areas, ranging from mining and agriculture to forestry. HCE's flagship products include medium- and large-sized excavators and wheel loaders.

### Industrial Vehicles

We also manufacture and sell vehicles needed in various industries, including logistics, distribution, shipbuilding, steel, automotive, and chemical. Examples of major products are forklifts, tows and transport vehicles.

## 2018 Business Performance

In 2018, HCE managed to deliver positive outcomes in terms of not only operating profits but securing future growth engines, amidst unfavorable business conditions both at home and abroad: protectionism on the rise as demonstrated in the trade dispute between China and the US, currency depreciation of emerging countries, and a slowdown in Korea's economic growth. Specifically, the company continued to put a focus on building a foundation for sustainable growth in the future, drastically increasing our production capacity so as to expand business in China and India and rolling out "Global Integrated Information System," our enterprise resource management system that integrates the respective systems of HQ and overseas offices for mass production of construction equipment. In addition, in an effort to lay the groundwork for expanding our business into the Southeast Asian market, we opened our Vietnamese office and secured around 100 dealers across Southeast Asia.

## Financial Performance

Consolidated	2017*	2018
Revenue (KRW 1 million)	1,886,747	3,233,935
Operating Profit (KRW 1 million)	95,233	208,732
Operating Margin (%)	5.0	6.5

\*From April 1 to December 31, 2017

Consolidated	Construction Equipment	Industrial Vehicles	Others
Revenue by Category (KRW 1 million)	2,530,545	465,495	237,895
Share (%)	78.2	14.4	7.4

## 2019 Outlook and Targets

HCE has set its revenue goal for 2019 at KRW 3.6294 trillion. The company plans to boost its competitiveness and specialty in each of our business categories despite the downward trend expected in the global economy. We expect the Chinese excavator market, the largest in the world, to expand from around 180,000 units in 2018 to up to 200,000 units in 2019, primarily backed up by the Chinese government's economic stimulus package. In the Chinese market, we have set our sales target at 9,000 units in 2019, up from our performance (7,000 units) in 2018. The Indian market is also projecting growth in demand from 24,000 units in 2018 to 27,000 units in 2019, as a result of continued economic growth investments in infrastructure and manufacturing. HCE plans to beef up its facilities in India to achieve an annual production capacity of 10,000 units in 2019, thereby solidifying our position as the No. 2 excavator provider in the Indian market, and further increase cost competitiveness by procuring parts locally.

## Growth Strategy

In 2019, we will commit an undivided effort to the three growth strategies of technology and quality innovations, timely acquisition of accurate market data, and risk management, with a view to improving product quality and competitiveness, sales capability, and customer loyalty.

### 1. Technology and quality innovations

- Creating a global R&D cooperation network by opening up R&D centers sequentially in Europe and North America
- Realizing reliable quality for global production bases by expediting the establishment of reliability assessment center

### 2. Timely acquisition of accurate market data

- Identifying customer needs and wants based on a highly sophisticated sales strategy

### 3. Risk management

- Laying the groundwork for sustained growth with rigorous risk management and profitability-driven policies



# HMD

## CEO Message

There is a growing level of business uncertainty as the US-China trade war, a fragile Europe, and concerns over a potential economic crisis in emerging economies are combining to slow down the expansion of global economic growth.

In an effort to navigate such uncertainty in the business environment, our business planning for the year 2019 is focused on creating new business value and solidifying the basis of future growth.

HMD's business plan lays out our shipbuilding goal of 60 units (in terms of keel laying) or 58 units (in terms of delivery) in 2019, up by 14 and 17 from our 2018 performance, respectively. We have also set our annual sales target at KRW 3 trillion which represents a 25% increase year on year. This effort will enable us not only to improve the current business operations but also to drive future growth and take a bold leap forward.

Guided by the motto for 2019, "A Leap Beyond Limits," we will work towards our solid management direction: adhering to our "Safety First" principle, reinforcing competitiveness in terms of quality and technology, identifying future growth engines, and promoting a culture of mutual trust and cooperation.

Please join with us as we continue moving forward.

**Shin Hyun-dai**, President & CEO



## Business Overview

HMD repaired and refurbished around 8,500 ships for 20 years since its founding in 1975. It entered the newbuilding industry in the mid-1990s and has since delivered more than 1,000 vessels, snatching the largest market share in the global mid-sized shipbuilding field. The company headquarters is located in Ulsan covering a 1 million square meter area, and there are four plants (Yongyeon, Onsan, Mohwa and Daebul) where it builds premium quality ships that meet client expectations and needs, based on various state-of-the-art automated facilities, including three 400,000-ton docks, one 350,000-ton docks, a 2.9-kilometer quay, and 20 jib cranes.

### Product & Chemical Tankers

A product & chemical tanker (PC tanker) is a vessel designed to transport various oil products, bio oil, and liquid chemicals. Having a similar structure to oil tankers, PC tankers have a series of separate cargo tanks coated with specialized coatings and are connected to complicated piping, allowing the vessel to load and transport various types of liquid products with safety hazards at the same time.

### Containerships

The small- and mid-sized containerships HMD builds are known for the best fuel efficiency, high quality and low maintenance cost. In particular, the linear designs and layouts are optimized, and have highly been acclaimed by clients.

### Gas Carriers

In addition to various gas carriers for LPG, LEG and LNG transport, we build LNG bunkering vessels that can refuel LNG at sea.

## 2018 Business Performance

Although our sales had been in decline against the backdrop of the decreasing number of orders and the sluggish industry until 2016, our operating profit turned back into the black in 2018, thanks to our continued efforts to revamp product designs and processes, eliminate unnecessary costs, and focus on high value-added models. Our market dominance has been all the more strengthened as some of our competitors went through restructuring during the recession. As a result, in 2018, our market share in the PC market (medium range, M/R) stood at 59%, with orders received during the year valued at USD 2.5 billion.

## Financial Performance

Consolidated	2017	2018
Revenue (KRW 1 million)	2,453,433	2,403,016
Operating Profit (KRW 1 million)	107,949	70,896
Operating Margin (%)	4.4	3.0

Consolidated	Ship
Revenue by Category (KRW 1 million)	2,403,016
Share (%)	100

## 2019 Outlook and Targets

The volume of global newbuilding orders dropped to the lowest level in 2016 and started rebounding in 2017. We expect the current favorable trend to continue in 2019, with potential new orders from customers to replace their existing ships to meet increasingly stringent environmental regulations. We have set our order target this year at USD 3.5 billion, a 17% increase year on year. Sales are expected to reach KRW 3 trillion, up 27% from the previous year, thanks to the increasing trend of orders since 2017.

## Growth Strategy

We aim to achieve KRW 4.5 trillion in sales and 10% in operating margin by 2021 based on three growth strategies: maintaining competitiveness in flagship models; increasing the market share of strategic models; and reinforcing capabilities for sustainable growth.

### 1. Maintaining competitiveness of flagship models

#### PC tankers

- Building eco-friendly, cost/quality-competitive PC tankers
- Maintain the current share in the PC tanker market by delivering optimized standard carriers

#### Gas carriers

- Improving competitiveness of small/mid-sized LPG and LNG carriers
- Achieving domestic production of C-type tanks
- Securing in-house technology for cargo handling systems

#### RO-RO, PCTC

- Increasing car deck precision of PCTC
- Making blocks larger and more specialized
- Enhancing the competitiveness of RO-RO ships

#### Containerships

- Defining and developing a standard container model
- Improving cost competitiveness
- Improving performance and energy efficiency design index (EEDI)

### 2. Expanding the market share of strategic models

#### Environmentally Friendly conversion of vessels

- Mounting SCR system to reduce NOx emissions
- Installing LNG fuel supply system

#### Small-sized LNG carrier

- Developing small LNG carrier models
- Securing technology for floating storage regasification units (FSRU)
- Obtaining LNG cargo containment system technology

#### RO-PAX

- Selecting RO-PAX strategic models
- Identifying domestic interior vendors
- Securing technology for building small cruise ships

#### Multi-purpose special carrier

- Acquiring capabilities to build high value-added special carriers
- Entering the shuttle tanker market
- Securing in-house capability to design OSV/PSV

### 3. Reinforcing capabilities for sustainable growth

#### HR development

- Nurturing specialists in all job lines
- Achieving a stable labor-management relations and obtaining future talents

#### Expanding profitable businesses

- Operating additional docks and quays
- Increasing revenue and profit from overseas business (HVS)
- Securing additional production factories

#### Securing top-notch technology and design capabilities

- Adopting environmentally friendly shipbuilding technologies
- Smart connected ships
- Developing capabilities to design and construct special-purpose ships

#### Creating an optimized smart workplace

- Streamlining the production process
- Building an ICT-based database
- Implementing an integrated safety system



## PART 3. SUSTAINABILITY PERFORMANCE

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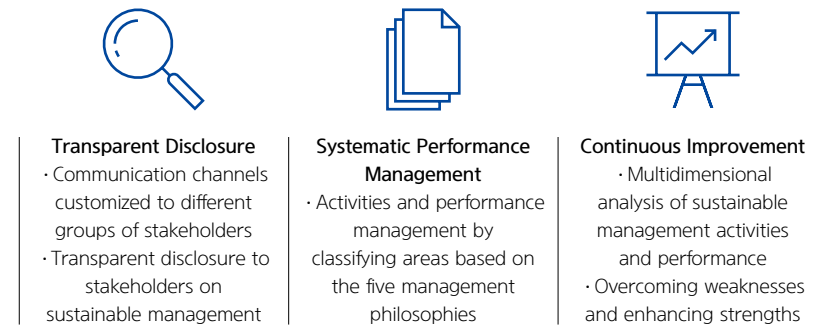
# Sustainable Management System

HHI Group actively pursues corporate value enhancement through continual growth. The mission of a global corporate citizen is to value the co-prosperity of mankind and to fulfill its corporate social responsibilities and roles. HHI Group creates shared values in a wide range of areas, including but not limited to economy, environment and society, based on its well-organized sustainable management activities. Under the three major operational policies, the Group plans and performs various activities for each category and continuously discloses key achievements to stakeholders. HHI Group is leading the effort to make a better tomorrow by actively responding to the needs of our society, and by making improvements through performance analysis and strengthening its areas of excellence.

## Sustainable Management System and Operational Policy

HHI Group operates an efficient and sustainable management system by assigning professionals and departments for each sustainability initiative. Relevant departments perform comprehensive management for planning activities, execution, assessment and company-wide strategic planning. Collected information is utilized to plan and execute new sustainability initiatives and also used for integrated reporting.

### Sustainable Management Operational Policy



## Communication with Stakeholders

Customers, shareholders and investors, business partners, local communities, industries, and our executives and employees are the key stakeholders that influence and are influenced by HHI Group, across all management activities. HHI Group operates various communication channels for stakeholders' participation in sustainable management.



# Strategic Direction and Performance Indicators

## Direction and Strategy

Philosophy	Direction	Strategy	Stakeholders
<b>Enhancing Corporate Value through Continual Growth</b>	<ul style="list-style-type: none"> <li>Securing core capability to drive future growth</li> <li>Implementing flexible business management &amp; global business system</li> </ul>	<ul style="list-style-type: none"> <li>R&amp;D expenses, no. of researchers</li> <li>Internal evaluation of Quality Management System</li> <li>No. of participants in technology empowerment programs</li> </ul>	<ul style="list-style-type: none"> <li>Customers</li> <li>Executives &amp; employees</li> <li>Business partners</li> <li>Shareholders</li> </ul>
<b>Upholding Fair and Transparent Business Practices</b>	<ul style="list-style-type: none"> <li>Supporting open and fair competition</li> <li>Fostering a climate for fair and transparent transactions</li> </ul>	<ul style="list-style-type: none"> <li>No. of participants in compliance and ethics management training programs</li> <li>Shared growth fund size, early payment for deliveries</li> </ul>	All
<b>Pursuing Safe and Environmentally Friendly Business Practices</b>	<ul style="list-style-type: none"> <li>Creating a pleasant and safe work environment</li> <li>Environmentally friendly production activities and technology development</li> </ul>	<ul style="list-style-type: none"> <li>Reduction of energy consumption and GHG emissions, reduction of generating air/water pollutants and industrial waste</li> <li>Immediate rewards for exemplary safety practices</li> </ul>	<ul style="list-style-type: none"> <li>Executives &amp; employees</li> <li>Local communities</li> </ul>
<b>Promoting Strong Labor Relations Built on Mutual Respect and Trust</b>	<ul style="list-style-type: none"> <li>Fostering a vibrant organizational culture based on trust and participation</li> <li>Performing all duties and responsibilities to enhance corporate competitiveness</li> </ul>	<ul style="list-style-type: none"> <li>No. of labor relations training sessions conducted and participants</li> <li>No. of personnel who completed talent nurturing course</li> </ul>	<ul style="list-style-type: none"> <li>Executives &amp; employees</li> <li>Business partners</li> </ul>
<b>Demonstrating Our Commitment to Global Corporate Citizenship</b>	<ul style="list-style-type: none"> <li>Contributing to national development through faithful tax payment and job creation</li> <li>Contributing to human prosperity through efforts to create and deliver values</li> </ul>	<ul style="list-style-type: none"> <li>Amount of paycheck contribution</li> <li>Types and no. of times of major cultural and artistic performances/exhibitions conducted</li> </ul>	<ul style="list-style-type: none"> <li>Customer</li> <li>Executives &amp; employees</li> <li>Local communities</li> </ul>




## Integrated Sustainability Performance Indicators across the Group





Category	Indicator	Unit	HHI Holdings	HHI	Hyundai Electric	HCE	HMD	Total	
R&D	R&D expenses	KRW 100 million	88	785	578	519	Included in HHI	1,970	
	R&D personnel	Persons	78	457	240	278	Included in HHI	1,053	
Quality management	Internal evaluation of Quality Management System	Cases	12	33	55	12	48	160	
Technology empowerment	Personnel who completed manufacturing engineering training course	Persons	5,062	N/A	N/A	N/A	1,104	6,166	
Compliance management	Risk assessment function for transactions in subcontracting	Terms						(Combined) 6	6
Business ethics	Personnel taking ethics management training course	Persons						(Combined) 20,232	20,232
Management transparency enhancements	Attendance rate of outside directors	%	100	93.2	97.8	96.3	94.4	-	
Safety management	Accident rate	%	0.43	0.25	0.29	0.29	0.26	-	
	Amount of immediate rewards for exemplary safety practices	KRW 1,000	-	239,000	12,525	78,707	183,898	514,130	
Environment management	GHG emissions	tCO <sub>2</sub> e	1,965	493,885	37,543	21,784	146,381	701,558	
Labor Relations advancement	Union membership rate	%	75.7	98.5	94.8	96.3	100	-	
Learning & development	Participants in training	Persons	443	16,802	402	680	15,228	33,555	
	Amount of investment in training	KRW 10 million	16	343	2	6	126	493	
Shared growth	Amount of early payment for deliveries	KRW 100 million	97	1,965	542	420	1,350	4,374	
Social contribution	Amount of paycheck contribution	KRW 1,000	2,055	117,156	34,720	12,000	30,007	195,938	
Arts & culture	Viewers watching performances at Hyundai Arts Center	Persons						(Combined) 256,152	256,152

# UN SDGs

The UN Sustainable Development Goals (SDGs) set forth a universal call to action for the period from 2016 to 2030, to achieve sustainable development on a global scale. Achieving the goals requires efforts and cooperation throughout our society, and the role of a company in this context is to create a growth engine and innovations for economic development and job creation. By aligning its management direction with SDGs, a company can not only create a new business model but also evolve into a sustainable entity.

HHI Group continuously works on strategies for the group’s mid- to long-term growth by identifying key global trends through the UN Sustainable Development Goals. Of the 17 goals, the group’s focus mainly lies on eight goals (i.e., goals 3, 4, 7, 8, 10, 12, 14 and 16), coupled with 22 targets, as it strives to contribute to implementing this blueprint to achieve a better and more sustainable future for all.

Key SDGs	Summary of targets related to HHI Group	HHI Group’s contribution to achieving SDGs
 <b>Healthy lives and well-being for all at all ages</b>	3.4 Reduce premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.	<ul style="list-style-type: none"> <li>Supporting healthcare and medical expenses for the healthy lives of personnel; operating Health Promotion Center and Oriental Medical Center; and providing professional mental health promotion services, such as psychological evaluation, group counseling and group psychological education</li> <li>Health care programs for personnel such as smoking cessation and weight management treatment</li> </ul>
	3.8 Achieve universal health coverage, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.	
	3.9 Reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.	
 <b>Inclusive and equitable quality education and lifelong learning opportunities for all</b>	4.4 Increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.	<ul style="list-style-type: none"> <li>Securing tech talents and nurturing outstanding experts well-versed in technology, engineering, science and the latest ICT through well-organized technical education programs</li> </ul>
	4.5 Eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, indigenous peoples and children in vulnerable situations.	
 <b>Access to affordable, reliable, sustainable and modern energy for all</b>	7.2 Increase the share of renewable energy in the global energy mix.	<ul style="list-style-type: none"> <li>Reducing energy costs through development and application of eco-friendly technologies, such as building ESS for industrial use</li> <li>Installing renewable energy generation facilities, such as wind and geothermal power stations</li> <li>Improving fuel efficiency by investing in the development of smart ship solutions controlling the management of energy use on board and energy solutions controlling energy management</li> <li>Reducing energy consumption by installing high-efficiency LED lights</li> </ul>
	7.3 Double the global rate of improvement in energy efficiency.	
 <b>Sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</b>	8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value-added and labor-intensive sectors.	<ul style="list-style-type: none"> <li>Diversifying business beyond the high value-added sectors (machinery, robotics and shipbuilding) that the Group is currently engaging in, including by entering the smart solutions business; increasing economic productivity through innovations; creating jobs; and supporting entrepreneurship, creativity and innovation</li> <li>Creating quality jobs and broadening business partnerships with suppliers, subcontractors, etc.</li> <li>Implementing a fair and objective performance evaluation and compensation system for all personnel</li> <li>Offering training sessions and financial services to partner companies to promote their growth</li> </ul>
	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.	
	8.5 Achieve full and productive employment and decent work for all women and men, and equal pay for work of equal value.	
	8.6 Reduce the proportion of youth not in employment, education or training.	

Key SDGs	Summary of targets related to HHI Group	HHI Group's contribution to achieving SDGs
 <b>Reduction of inequality within and among countries</b>	10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality.	<ul style="list-style-type: none"> <li>· Caring for the underprivileged through sharing activities, both at the firm and personnel level, for community development and cultural/artistic support programs</li> </ul>
 <b>Sustainable consumption and production patterns</b>	<p>12.2 Achieve sustainable management and efficient use of natural resources.</p> <p>12.4 Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, under agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.</p> <p>12.5 Reduce waste generation through prevention, reduction, recycling and reuse.</p> <p>12.6 Encourage companies to adopt sustainable practices and to integrate sustainability information into their reporting cycle .</p>	<ul style="list-style-type: none"> <li>· Reducing wastes through reuse and recycling</li> <li>· Contributing to sustainable management and efficient use of natural resources by developing eco-friendly, high-efficiency, smart solutions</li> <li>· Adopting HHI's sustainable action plans in the reporting framework and integrating management of sustainability information by issuing annual integrated reports at the Group level</li> </ul>
 <b>Conservation and sustainable use of the oceans, seas and marine resources for sustainable development</b>	<p>14.1 Prevent and reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.</p> <p>14.2 Manage and protect marine and coastal ecosystems to avoid significant adverse impacts, and take action for their restoration in order to achieve healthy and productive oceans.</p>	<ul style="list-style-type: none"> <li>· Offering repair services to make existing ships more eco-friendly by installing ballast water treatment systems and SOx exhaust gas cleaning systems</li> <li>· Maintaining equipment to prevent marine accidents associated with arrival/departure of ships and performing safety management, ship operator training and joint training sessions on a continual basis</li> </ul>
 <b>Peaceful and inclusive societies for sustainable development, access to justice for all and effective, accountable and inclusive institutions at all levels</b>	<p>16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all.</p> <p>16.5 Reduce corruption and bribery in all their forms.</p> <p>16.6 Develop effective, accountable and transparent institutions at all levels.</p> <p>16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels.</p>	<ul style="list-style-type: none"> <li>· Implementing transparent and responsible management by valuing compliance and business ethics</li> <li>· Pursuing inclusive management activities by engaging various stakeholders in management, including active communication with the labor union</li> </ul>

# Materiality Assessment

## Materiality Assessment Process

To select core topics of its integrated report, HHI Group conducts a materiality assessment regarding stakeholders' interests, improvements and business impact levels on corporate activities. The assessment of 2019 identified a pool of 28 topics in light of global reporting standards such as GRI Standards and the UN SDGs, various social issues, and sustainable management information within the same industries. The identified issues are classified into core, top and general topics by the levels of public attention and business impact. The HHI Group Integrated Report 2019 discloses the Group's management approach to and key performance relating to the core topics, and where deemed necessary for continuity with past reports and/or complete disclosure of information regarding value creation, also discloses those relating to top and general topics.

<p><b>Step 01.</b> Identify sustainable management topics.</p> <p>Identify 28 topics that affect HHI Group's sustainable management activities and value creation, taking into account sustainable management trends and the requirements under global guidelines.</p>	<p><b>Step 02.</b> Assess public interest.</p> <ol style="list-style-type: none"> <li>Analyze global guidelines (e.g., GRI Standards and UN SDGs).</li> <li>Analyze media exposure by categorizing items into three groups: economic, environmental and social issues. (2,619 items)</li> <li>Analyze the sustainable management reports of the peer group within the same industries.</li> <li>Conduct a survey on stakeholders' interest. (Q119)</li> </ol>
<p><b>Step 03.</b> Assess business impact.</p> <ol style="list-style-type: none"> <li>Survey personnel on business impact. (4,061 respondents)</li> <li>Analyze key performance index (KPI) per function.</li> </ol>	<p><b>Step 04.</b> Verify effectiveness.</p> <p>Report the materiality assessment result to and obtain approval from the decision maker.</p>

## Materiality Assessment Result

### Five Key Management Philosophies

1. Enhancing Corporate Value Through Continual Growth **1 2 4 8**
2. Upholding Fair and Transparent Business Practices **7**
3. Pursuing Safe and Environmentally Friendly Business Practices **8**
4. Promoting Strong Labor Relations Built on Mutual Respect and Trust **3 5 6**
5. Demonstrating Our Commitment to Global Corporate Citizenship

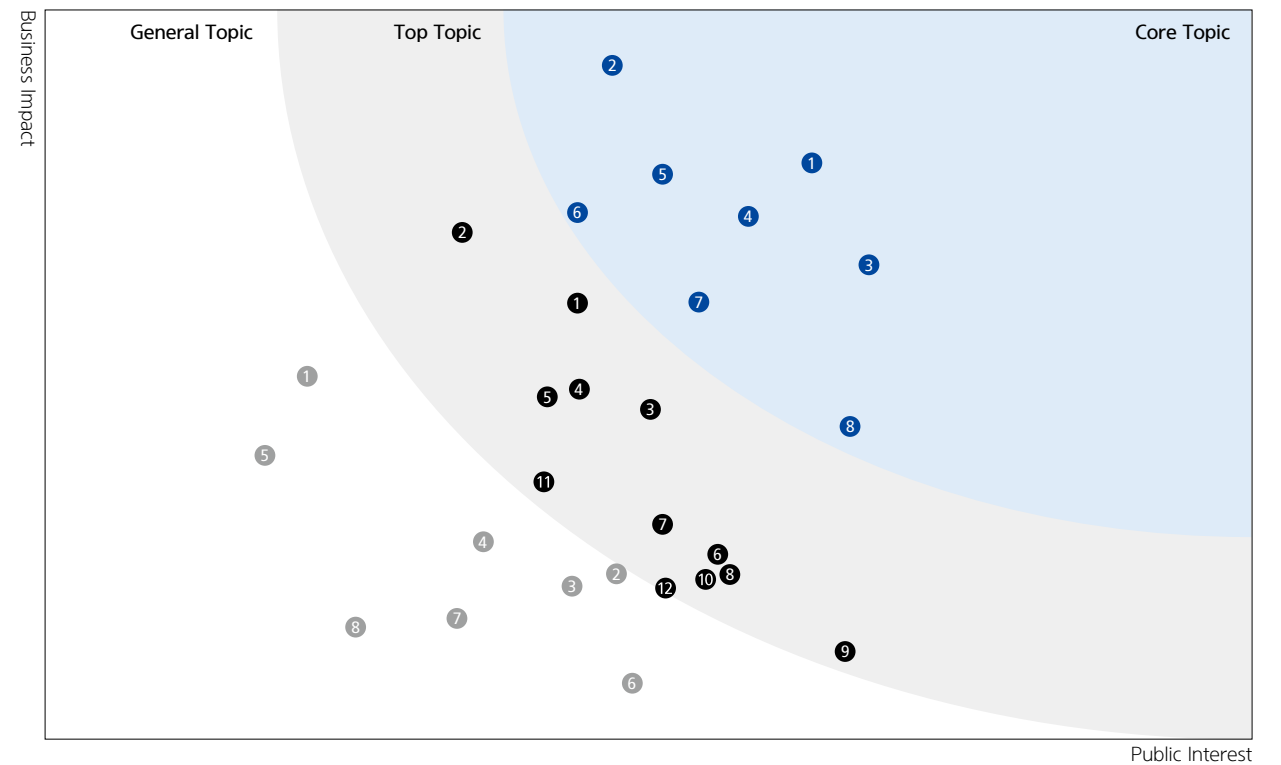
Core Topic	Topic Boundary	GRI Topic	Ranking by category		Whether selected as a core topic in 2017
			Public interest	Business impact	
<b>1</b> Expanding R&D and securing new technologies	· Internally: R&D · Externally: research Institute	N/A	4	2	0
<b>2</b> Improving product/service quality and enhancing customer satisfaction	· Internally: R&D, production · Externally: customers, partner companies	N/A	16	1	0
<b>3</b> Enhancing job security and promoting sound labor relations	· Internally: all companies in the Group	402	1	7	0
<b>4</b> Creating value through changes and innovations	· Internally: R&D, purchase, production, sales/marketing · Externally: customers, partner companies	N/A	5	5	0
<b>5</b> Reinforcing competencies of personnel(HRD)	· Internally: all companies in the Group	404	12	3	0
<b>6</b> Improving the quality of life for all personnel, including through a better welfare system	· Internally: all companies in the Group	401	18	4	X
<b>7</b> Compliance management and business ethics	· Internally: R&D, purchase, production, sales/marketing	205/206/419	9	8	0
<b>8</b> Pursuing environmental management by developing more eco-friendly technologies	· Internally: production · Externally: local communities	302	2	14	0

### Top Topic

- 1 Creating a safe workplace and raising safety awareness
- 2 Attracting and retaining talent
- 3 Diversifying business and exploring new opportunities
- 4 Respecting diversity and ensuring equal opportunities for all personnel
- 5 Ensuring customer safety and health
- 6 Reducing waste and pollutant emissions
- 7 Promoting shared growth with partner companies
- 8 Ensuring sound governance
- 9 Contributing to co-prosperity of local communities
- 10 Improving material and energy efficiencies
- 11 Enhancing the fair trade system
- 12 Reducing adverse environmental impacts of partner companies

### General Topic

- 1 Ensuring fair distribution of earnings
- 2 Addressing climate change issues, including GHG emissions control
- 3 Social contribution
- 4 Communication with stakeholders
- 5 Ensuring information security, including through protecting confidential and personal information.
- 6 Respecting human/labor rights of partner companies' personnel
- 7 Reusing and recycling framework
- 8 Operating an integrated risk management system



# Enhancing Corporate Value Through Continual Growth

Creating new growth engines through continuous change and innovation is crucial to pursue sustainable growth in the fast-paced global business environment. HHI Group will enhance its competitiveness and maximize shareholder value through various efforts and deliver customer satisfaction by identifying quality and technology as top priorities.

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1. Change & Innovation 58p



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2. R&D 59p



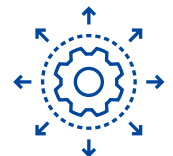
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3. Quality Management 64p



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4. Technology Empowerment 70p



# Change & Innovation

In 2018, HHI Group reclaimed the title of the world's No. 1 shipbuilder by winning over 20%\* of all global shipbuilding orders placed in the year despite the prolonged difficulties faced by the global shipbuilding industry and an onslaught of new competition. In 2019, we will further solidify our position as the world's top-tier shipbuilding and offshore group, backed up by our technological prowess in LNG carriers and many other high value-added ships. Particularly high expectations are held for the newly incorporated Korea Shipbuilding & Offshore Engineering, which will support the group's shipbuilding and offshore segment to help revamp our business model into a technology-centric innovative one and to centrally manage the technological capabilities of our leading shipyards. At HHI Group, we are once again pushing the limits, poised to take the next quantum leap forward to be the unparalleled leader in the market.

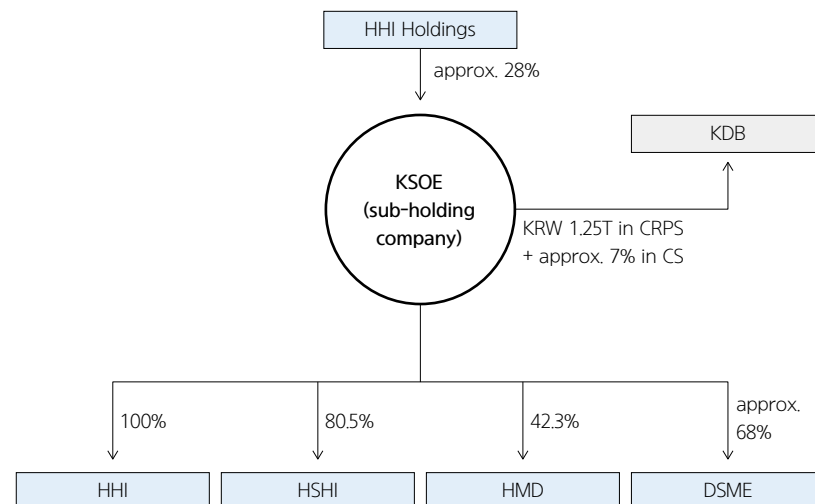
\*According to data compiled by industry tracker Clarkson Research (by CGT)

## Activities and Achievements

### Korea Shipbuilding & Offshore Engineering (KSOE) to Be Established

KSOE, to be spun off from HHI as a sub-holding company to control all shipbuilding and offshore activities of HHI Group, will receive from Korea Development Bank (KDB) a contribution-in-kind in the form of shares in Daewoo Shipbuilding & Marine Engineering (DSME) worth KRW 2.1 trillion and, in return, issue convertible redeemable preferred stock (CRPS) worth KRW 1.25 trillion and new common stock (CS) amounting to 7% of its issued share capital to allocate to KDB. When the transaction is completed, HHI Holdings will retain its position as the largest shareholder with a 28% stake in KSOE, followed by KDB as the second largest with approximately 7%. KDB will hold at least half of its newly acquired KSOE shares for five years or longer, during which HHI Group will help increase the issuer's corporate value for a maximal rate of return on the public funds used to secure the future of DSME.

### Ownership Structure of KSOE



## Expected Effects

<b>Cost optimization</b>	<ul style="list-style-type: none"> <li>Reducing costs of materials through economies of scale</li> <li>Mazimizing efficiency by sharing best practices</li> <li>Integrating R&amp;D and avoiding redundancy of investments</li> </ul>
<b>Securing world's best technology</b>	<ul style="list-style-type: none"> <li>Leading the future market by accelerating innovative technologies development (Green LNG carriers, smart ships, etc.)</li> <li>Building smart yards for productivity innovation</li> </ul>
<b>Contribution to Korea's economic development</b>	<ul style="list-style-type: none"> <li>Contributing to job creation, local economic development and increased exports based on improved profitability</li> </ul>

# R&D

With its enduring efforts to develop cutting-edge technologies that ultimately set the Group apart from all others, HHI Group is navigating times of uncertainty and securing new growth engines for the future to ensure, the Group's sustainable growth. Based on technological innovation through reinforcement of internal resources' capabilities and strategic utilization of external resources, the Group is now laying the foundation for a bold leap forward to become an advanced technology-centric group.

## Management System

	HHI Holdings	HHI*
<b>Vision</b>	Global top-tier robot company	World's best and most trusted heavy industries research institute
<b>Mission</b>	<ul style="list-style-type: none"> <li>Strengthening product competitiveness</li> <li>Developing new technologies and products</li> </ul>	Engaging in R&D activities to reinforce technology, product quality and cost competitiveness to set our products apart from others
<b>Strategy and Direction</b>	<ul style="list-style-type: none"> <li>Developing a cost-saving flagship model</li> <li>Developing a new Hi6 controller</li> <li>Expanding the lineup of flagship models</li> </ul>	<ul style="list-style-type: none"> <li>New technologies for innovative enhancement of cost competitiveness</li> <li>Differentiated eco-friendly solutions</li> <li>Digital-based smart ships and yards</li> <li>Reinforced engineering capacity for offshore plants and special &amp; naval ships</li> </ul>

\*inclusive of HMD

	Hyundai Electric	HCE
<b>Vision</b>	Global top-tier manufacturer of electrical and electronic systems	Moving You Further
<b>Mission</b>	Overcoming challenges with exceptional innovations	Global Top 5 by 2023
<b>Strategy and Direction</b>	<ul style="list-style-type: none"> <li>New flagship products in the premium segment</li> <li>Eco-friendly, high-efficiency technologies as growth engines</li> <li>INTEGRICT-based, new solution business models</li> </ul>	<ul style="list-style-type: none"> <li>Stricter verification for product reliability</li> <li>Enhanced global R&amp;D capabilities</li> <li>Developing ICT service/solution technologies</li> <li>Technologies for better cost competitiveness</li> </ul>

**Responsible Organizations in Place**

	HHI Holdings	HHI	Hyundai Electric	HCE
Council	R&D Sector Conference	Technology Development Committee	Technology Development Committee	Product Development Planning Deliberative Council
Devoted function	Robotics Laboratory	Corporate Research Center (Cities of Ulsan and Seongnam), Maritime Research Institute, Engine Research Institute	R&D headquarters in Yong-in City, overseas institutes (Switzerland, Hungary and China)	Institute of Technology (Cities of Ulsan and Seongnam), Reliability Research Institute (Ulsan City)

**Performance Indicator**

	Unit	HHI Holdings	HHI*	Hyundai Electric	HCE
R&D expenses(as a percentage of revenue)	KRW 100 million (%)	88 (3.3)	785 (1.0)	578 (3.0)	519 (1.6)
R&D personnel	Persons	78	457	240	278

\*R&D spend as a percentage of revenue exclusive of dividend income  
 \*inclusive of HMD

**R&D Achievements by Entity**

**HHI Holdings**

**Compact, High-speed Transportation Robot for EEI**

Having developed a compact, high-speed robot capable of carrying an object weighing up to 7 kilograms at a time, intended for use by companies in the electrical and electronic engineering industries (EEI), HHI Holdings is actively engaging in sales activities targeting both domestic and overseas clients. Looking ahead, HHI Holdings plans on developing additional models as a series to further increase sales.

**Compact Controller (Hi5a-T10)**

In 2018, HHI Holdings developed a compact controller to enter the electronic engineering sector. Compared to previous models, costs have been reduced thanks to the light weight and optimal design, and usability has been improved thanks to a power supply device for controlling and integrated design of servo drives and sequences. Mass production will start from 2019, aimed at the company’s full-fledged inroads into the electronic engineering sector.

**Development of Hyundai Robot Monitoring System (HRMS)**

HHI Holdings developed statistical-based diagnostic technology for advanced robot monitoring. With HRMS’ enhanced accuracy in robot monitoring and evaluation, preventive maintenance and troubleshooting services will be offered, and real-time data transfer and analysis will be enabled based on cloud computing.

**HHI**

**World’s First to Commercialize IMO Type-B LNG Fuel Tank Design and Fueling System for Ships**

HHI’s Shipbuilding Division developed an IMO Type-B LNG fuel tank design, and for the first time in the world, applied it to large merchant vessels. HHI completed the most optimal design suitable for containerships, including adapted supporting structure, and enhanced and standardized the fuel tank manufacturing process in a way that can prevent process delay due to unexpected events.

**World’s First to Successfully Test 100% Re-liquefaction of Vaporized Gas from LNG Carriers**

HHI’s corporate research center constructed a single mixed refrigerant (SMR) pilot plant that re-liquefies 100% of the boil-off gas (BOG) from LNG carriers, and for the first time in the world, achieved successful results. Made entirely of localization equipment, SMR pilot plant successfully simulated operations on LNG carriers, such as mixed refrigerant’s cooling temperature levels (from -163°C) and gas re-liquefaction. HHI also developed new concept re-gasification system that improved heat-transfer cycle, and introduced global shipowners at GASTECH 2018. This system can reduce weight by as much as 150 tons and saving up USD 700,000 in operating cost. Performance verification on the technology has been completed at pilot plant in HHI.

**Launching Smart Ship Solution for LNGC**

HHI shipbuilding division and corporate research center, power control & automation system department of Hyundai Electric have developed smart ship solution, ISS (Integrated Smart ship Solution). ISS provides the ability to estimate and monitor the boil-off rate, temperature and pressure of LNG on board. The estimation function of boil-off gas can be used to optimize the voyage plan. The first vessel with this solution was delivered in May, 2019.

**Development of Rectangular Scrubber**

HHI’s corporate research center has developed a rectangular standalone scrubber, which is 30% smaller than previous models but provides the same level of performance. This product is equipped with a hybrid-type wastewater discharge to meet discharge regulations in all areas. The company has secured contracts to deliver more than 70 units at home and abroad.

**Hyundai Electric**

**INTEGRICT-based Economical Operation Solution for LNG Carriers**

Hyundai Electric developed an Economical operation solution for LNG carriers based on the INTEGRICT platform, which features estimation/monitoring of the LNG boil-off rate and calculation of the minimum load height required to maintain the LNG tank at a proper temperature during navigation. This solution provides ship owners with the most efficient RPMs for engines when taking into account the estimated amount of boil-off gas, enabling optimal navigation planning with fuel savings of up to 6%.

**Korea’s Best Earthquake-proof Cast-resin Transformer**

Hyundai Electric developed a cast resin transformer resistant to massive earthquake with magnitude of 9.0 on the Richter scale and shaking severity of 11.5 on the Modified Mercalli Intensity Scale, offering the highest seismic performance of its kind in Korea, and obtained a certificate of seismic performance in full compliance with the



requirements of ICC-ES AC-156 from the National Center for Earthquake Hazard Reduction (accredited by Korea Laboratory Accreditation Scheme). While offering such superb seismic performance, this newest transformer is identical in size to the conventional cast-resin transformers thanks to its optimal design of the lower frame and flexible design of the upper frame, resulting in ease of replacement. It is expected to greatly contribute to expanding Hyundai Electric's market share both at home and abroad based on its technological superiority compared to domestic and international competitors' models and the seismic certificate obtained thereon.

**Full Lineup Established for World-Class High Voltage Generators**

Hyundai Electric rolled out a series of new models of high-voltage power generators for industrial and marine applications. These new models add a wide variety to the product line by adding 4.16kV, 11kV, and 13.8kV models to previously developed 6.6kV marine application models developed in 2016. The new lineup is composed of 160 models and when the generators are combined with medium-sized diesel engines, they are capable of producing up to 10MVA, boasting world-class performance. Through this development, Hyundai Electric laid a foundation for expanding its influence in the market.

**Oil-circulating Dissolved Gas Analysis (DGA) Apparatus for Transformers**

Oil-circulating DGA equipment applicable to power transformers and oil-immersed distribution transformers has been developed. To check a transformer's operational status, DGA equipment constantly measures the concentration of dissolved gas in the insulating oil and performing online monitoring. A DGA device consists of a gas extractor that circulates the insulating oil inside a transformer for deaeration at constant temperature and a gas gauge equipped with hydrogen, carbon monoxide/dioxide and acetylene measuring sensors. With a DGA product lineup in place based on diversified types of measurable gas and methods of gas capturing, Hyundai Electric is expecting increased sales in the transformer preventive diagnostic market.

**HCE**

**Remote Engine Diagnostic Service**

In conjunction with Cummins Inc., the world's leading diesel engine maker, HCE is working on the development of a remote engine diagnostic service, aiming to roll out a new model named Stage V and launch the official service in 2019. Stage V, deploying HCE's remote management system Hi-MATE, sends on a real-time basis the engine error codes and operation data to Cummins' server. Once a troubleshooting report containing the causes of error and recommended solutions is sent out from the server, on-site repair service for failed equipment is immediately carried out. This way, repair service efficiency and operational efficiency of clients' equipment are expected to go up.

**Autonomous Forklift**

HCE developed an autonomous forklift, hosting a successful demonstration event attended by representatives of leading logistics companies. The two units of the test equipment built based on 16BRJ-9, one of the company's current electric reach truck models, demonstrated the new technology's full capability to handle double stacking tasks, in conjunction with each other. Because this newly developed self-driving system, using a laser distance measuring sensor, can perceive the surroundings of the vehicle and locate objects, there is no need for floor markings or change of working location, enabling the forklift to flexibly adapt to changes in the working environment. HCE will continue to develop related technologies and improve the competitive edge of its products to boost sales.

**Integrated Control System for Excavators of All Options**

HCE developed its own system for integrated control of optimum oil pressure applicable for small, medium- and large-sized excavators. Until now, different controllers were installed for different options and types of equipment. This single integrated control system boasts reduced costs and enhanced maintenance convenience of both hardware and software. Also, this integrated controller uses hardware that meets technological standards and features safety functions, improving product reliability. The new system has laid the foundation for developing excavators with various options that cater to the needs of different clients, helping strengthen HCE's product competitiveness and increase sales.

**Super-sized Excavator (HX900L)**

HCE's 90-ton class crawler-excavator HX900L meets Tier 4 Final, the fourth stage of emissions standards set by the U.S. EPA (Environmental Protection Agency). It is the largest of HCE's HX series excavators, having adopted a new exterior design and cabins with improved driver experience, and aimed at forming successful inroads into the coal mining markets in North America, Europe and Korea. Compared to the previous series, this newest model boosts greatly improved truck loading capacity, while consuming a similar amount of fuel per day, contributing to an increase in the customers' total cost of ownership (TCO). From an early stage of the development, HX900L has been used in cement mines in Korea to verify durability and performance, with customers' feedback reflected in finalizing the product.

**2019 Initiatives**

Entity	Initiative
HHI Holdings	<ul style="list-style-type: none"> <li>· Developing cost-saving new models</li> <li>· Developing collaborative robots and small transport robots for the electronic engineering industry</li> <li>· Strengthening service business by upgrading the HRMS 2.0 diagnostic function</li> <li>· Developing Hi6 robot controller and enhancing cost competitiveness</li> </ul>
HHI	<ul style="list-style-type: none"> <li>· Developing an ultimately differentiated LNG system</li> <li>· Advancing eco-friendly solutions</li> <li>· Developing electricity-powered autonomous ships</li> <li>· Accelerating deployment of a smart production system</li> </ul>
Hyundai Electric	<ul style="list-style-type: none"> <li>· Developing products with a competitive edge (cost, performance) to win orders</li> <li>· Developing technologies for key elements and future growth engines (high-efficiency and eco-friendly devices, new energy projects, etc.)</li> <li>· Advancing analysis, testing, and evaluation technologies for optimal designs</li> <li>· Developing technologies to improve quality and reduce failure costs</li> </ul>
HCE	<ul style="list-style-type: none"> <li>· Developing high-quality equipment to respond to safety and environmental regulations of different regions</li> <li>· Strengthening competitiveness of mid- to large-sized construction machinery product lineup</li> <li>· Strengthening digital competitiveness through virtual product development and manufacturing</li> <li>· Developing eco-friendly smart devices that are electrically powered, automated and intelligent</li> <li>· Developing smart service and solutions based on ICT convergence</li> </ul>

# Quality Management

HHI Group is committed to winning customer confidence by delivering excellent products and services. To that end, each company within the Group has acquired and is maintaining ISO 9001, the international standard for Quality Management Systems (QMS). In addition, the Group strategically manages quality levels by setting up quality management policies, while also carrying out customer-centric quality management activities By paying heed to customers' complaints.

## Management Policy

HHI Holdings	HHI	Hyundai Electric
<ul style="list-style-type: none"> <li>· Zero defects and safety</li> <li>· Cost competitiveness</li> <li>· Technology initiatives to lead business</li> <li>· New market exploration and all-out efforts to win orders</li> </ul>	<ul style="list-style-type: none"> <li>· Minimizing quality failure cost</li> <li>· Establishing a culture in conformity with quality standards</li> <li>· Proactive cooperation for quality</li> </ul>	<ul style="list-style-type: none"> <li>· Raising quality awareness</li> <li>· Minimizing quality cost</li> <li>· Well-functioning risk management system</li> </ul>
HCE	HMD	
<ul style="list-style-type: none"> <li>· Enhancing advanced product quality planning (APQP)</li> <li>· Achieving quality that satisfies customers</li> <li>· Ensuring quality in global sourcing</li> </ul>	<ul style="list-style-type: none"> <li>· Completing quality assurance system</li> <li>· Higher "clean" acceptance rate upon first inspection</li> <li>· Minimizing quality failure cost</li> </ul>	

## Responsible Organizations in Place

Entity	Discussion Forum	Dedicated Organization
HHI Holdings	<ul style="list-style-type: none"> <li>· Weekly breakfast meetings (chaired by CEO)</li> <li>· Weekly non-conformance report (NCR) updates (chaired by CEO)</li> <li>· Weekly updates (chaired by relevant executives)</li> <li>· Monthly integrated meetings (chaired by CEO)</li> </ul>	Quality Management (QM) Team
HHI	<ul style="list-style-type: none"> <li>· Weekly base quality trend updates</li> <li>· Weekly breakfast meetings, etc. per business division</li> </ul>	QM Dept. of each business division
Hyundai Electric	<ul style="list-style-type: none"> <li>· Bi-monthly quality meetings</li> <li>· Quality subcommittee</li> </ul>	QM Dept.
HCE	<ul style="list-style-type: none"> <li>· Weekly/monthly quality meetings</li> <li>· Global conference</li> </ul>	QM Office
HMD	<ul style="list-style-type: none"> <li>· Weekly quality updates</li> <li>· Special committee on quality precision after-sales service (A/S)</li> </ul>	QM Dept.

## Performance Indicator

Category	Unit	HHI Holdings	HHI	Hyundai Electric	HCE	HMD
Internal audit of QMS	Audits	12	33	55	12	48
Internal/external quality audit of partner companies	Audits	24	409	558	71	281
Personnel who completed quality training course*	Persons	124	365	424	136	589

\*Inclusive of employees of partner companies

## Quality Management Activities and Achievements

### QMS Operation and Assessment

At HHI Group, a QMS that satisfies the international standards is in operation to keep up with customers' expectations by producing high-performance products free from defects. The effectiveness of its QMS is ensured through periodic internal assessments conducted annually to check on each team's work process and compliance. Further, in order for the QMS to achieve the intended results, procedures are in place to identify ever-changing internal and external environment as well as, various issues and expectations of stakeholders. By preparing in advance what is needed to deal with them and regularly checking how they were actually dealt with, HHI Group is consistently strengthening risk and opportunity management.

Entity	Assessment methodology
HHI Holdings	Third-party surveillance audit
HHI	Quality management system maturity assessment led by DNV GL, an international accredited registrar and classification society
HMD	Independent quality management based on a quality assurance system

### Internationally Recognized Quality Management Certification (ISO 9001)

HHI Group has acquired and is maintaining ISO 9001, the international standard for QMS. In the first half 2018, HMD's certificate was renewed by Lloyd's Register satisfying the criteria for renewal as required once every three years, thereby ensuring the effectiveness of its QMS and customer confidence.



HHI Holdings accredited in 2017      HHI accredited in 1992      Hyundai Electric accredited in 2017      HCE accredited in 2017      HMD accredited in 2012

### Quality Training

To nurture experts in charge of quality, HHI Group offered in 2018 various courses with internal and external instructors, including a quality planning expert course, quality issue root cause analysis course, and a course for experts of quality diagnosis of partner companies. Also, to foster QMS experts, the Group annually offers an internal quality auditor certification course and an ISO accredited auditor certification course, with experts with international quality certificates providing support to improve the Group's QMS.

Quality Training Course

HHI Holdings	HHI	Hyundai Electric	HCE	HMD
<p><b>6 courses</b></p> <ul style="list-style-type: none"> <li>· Inspector's specialization training</li> <li>· Quality system training</li> <li>· Painting worker certification training</li> <li>· Quality inspection training</li> <li>· Measuring equipment operation training</li> <li>· Certified quality auditor training</li> </ul>	<p><b>9 courses</b></p> <ul style="list-style-type: none"> <li>· Quality planning expert training</li> <li>· Quality issue root cause analysis training</li> <li>· Quality diagnosis experts for partner companies training</li> <li>· Internal quality auditor certification training</li> <li>· ISO accredited quality auditor certification training</li> </ul>	<p><b>5 courses</b></p> <ul style="list-style-type: none"> <li>· Quality management training</li> <li>· Quality expert training (for subcontractors)</li> <li>· Quality system training</li> <li>· ISO 9001 risk management training</li> </ul>	<p><b>5 courses</b></p> <ul style="list-style-type: none"> <li>· Quality expert nurturing</li> <li>· Expertise in QM technology field improvement process</li> <li>· Non-destructive inspectors training</li> <li>· 3D layout measuring instrument training for use</li> <li>· Quality improvement training for partner companies</li> </ul>	<p><b>5 courses</b></p> <ul style="list-style-type: none"> <li>· Register of shipping training</li> <li>· Quality inspection training by process</li> <li>· Specialized training by department</li> <li>· Integrated quality management promoter workshop (advanced training on risk/quality management systems)</li> <li>· Intellectual property training</li> </ul>

Quality Failure Cost

HHI Group further improved its quality failure cost management system in a way that ensures clear accountability and effective target management. In addition, the Group continues efforts to enhance the effectiveness of its quality management by identifying the quality failure cost as a KPI, and to reduce such cost through various campaigns and inspection activities.

Quality Management for Partner Companies

Through regular quality audits, HHI Group identifies the root cause and accountability for each of the critical issues, while helping improve its partner companies' QMS levels. By offering training courses directly to quality personnel of partner companies and adopting various accreditation systems to ensure quality in outsourcing, the Group endeavors to help enhance the overall quality of partner companies' products.

Entity	Ensuring Quality in Outsourcing
HHI Holdings	<ul style="list-style-type: none"> <li>· Accreditation of outsourced assembly service</li> <li>· Tighter regular quality system inspections</li> <li>· Additional quality audit for modular outsourcing</li> </ul>
HHI	<ul style="list-style-type: none"> <li>· Regular, ex-post and special audits of partner companies to inspect their quality systems, evaluate the manufacturing capabilities, and monitor the implementation</li> <li>· Conference for zero quality issues, quality issue inspection meeting, TFT to support partner companies and listening to the voices of customers (VOC)</li> <li>· Quality improvement and independent auditor certification training</li> <li>· Quality competition</li> </ul>
Hyundai Electric	<ul style="list-style-type: none"> <li>· Evaluation of partner companies' quality in conjunction with DNV GL</li> <li>· Technical training tailored to each level</li> </ul>
HCE	<ul style="list-style-type: none"> <li>· Quality audit of imported parts</li> <li>· Mass production approval only for parts and processes whose quality has been proved in the initial sample inspection</li> <li>· Quality Audit System (QAS)</li> </ul>
HMD	<ul style="list-style-type: none"> <li>· Audit quality management system certification (graded into 4 classes from S to C)</li> </ul>

Activities and Achievements by Entity

HHI Holdings

Quality Index Management

The number of requests for free after-sales service filed for every 100 units of robots after shipment serves as the product quality index at early stages after shipment. In 2018, this quality index was improved by over 20% compared to the previous year.

Index Category	Unit	2017	2018
After-sales Service Within 100 Days Of Shipment	No. of requests per 100 robots	5.8	4.5 (22% y-o-y improvement)
After-sales Service Within 365 Days Of Shipment	No. of requests per 100 robots	11.9	9.4 (21% y-o-y improvement)

HHI

Joint Quality Workshop across All Shipyards

HHI, HMD and HSHI, to improve work efficiency and create synergies at the group level by sharing knowledge, held a joint quality workshop from July 12 to July 13, 2018. Quality leaders and working-level personnel responsible for quality management at each shipyard gathered together to discuss topics including better ways to manage welder qualifications and how to improve quality failure cost management standards. The workshop will be held on an annual basis, in order to strengthen cooperation between the entities to improve quality.

Quality Campaign

HHI's Shipbuilding Division, as part of its APQP efforts, conducts monthly quality campaigns in conjunction with its personnel, per each category: hull, outfitting, painting and materials, with an advance notification made to the relevant department.

<b>Hull</b>	<ul style="list-style-type: none"> <li>· Follow-up procedures on key requests from shipowners and critical review items for quality management</li> <li>· Meetings after comprehensive on-site inspection</li> </ul>
<b>Outfitting</b>	<ul style="list-style-type: none"> <li>· Campaigns prioritized in the event of a drastic change in the quality index or a material quality issue</li> </ul>
<b>Painting</b>	<ul style="list-style-type: none"> <li>· Disclosing and managing relevant quality data, such as base quality, areas of frequent customer complaints, and specific issues related to on-site practices</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>· Odd months: comprehensive inspection on hull, outfitting and painting</li> <li>· Even months: unit-specific inspection by department, steel outfitting company and function</li> </ul>

Hyundai Electric

Customer Satisfaction Survey

Led by our in-house sales planning division, customer satisfaction surveys are conducted, and the results are reported to the management and forwarded to the responsible department to help improve quality. For each after-sales service offered, Happy Calls are made to make sure the customer feedback is reflected in Hyundai Electric's continued efforts to improve processes and products.

**Design Quality Improvement Activities**

Enterprise-wide efforts are underway to improve design quality through measures based on feedback from both in-house divisions and partner companies for the design of better performance, productivity, etc. From 2019, more rigorous efforts are in place to thoroughly implement measures for better design quality. Also, by adding QR codes to the design blueprints, we have significantly reduced issues arising out of misreading of the drawings.

**Reliability Assessment Center**

Hyundai Electric’s reliability assessment center has been in full operation since 2018, aimed at “ensuring superior performance and durability of products by presenting design rationales,” conducting a total of 255 reliability tests in the first year. In March 2019, the Center’s three laboratories were accredited by the Korea Laboratory Accreditation Scheme (KOLAS) for conducting tests in the areas of large-power high-voltage equipment testing, insulating oil analysis and electromagnetic compatibility testing, respectively, solidifying the Center’s credibility. Going forward, the Center will play a pivotal role in enhancing the quality and reliability of Hyundai Electric’s mass-produced products.

**HCE**

**Quality Index Management**

HCE uses two quality indices for its products: the number of on-site equipment breakdowns that occurred within the first six months (up to 200 hours of operation) after sales and that within 12 months after sales, to follow up on initial quality and long-term durability of its equipment. For the sake of continuous quality improvement, HCE makes an enterprise-wide effort to reduce customer complaints with a division-specific responsibility system in operation.

Index category	Unit	Construction Equipment	Industrial Vehicle
Initial Quality Index Improvement (y-o-y)	%	26	35
Durability Index Improvement (y-o-y)	%	7	31

**Product Satisfaction Measurement**

For each after-sales service offered, Happy Calls are made to identify room for improvement and product satisfaction levels. Further, customer feedback, collected via branch meetings and meetings of representatives of each hub, and regular customer satisfaction surveys, is fed into our product roadmap for a constantly improving customer experience.

**Improved Process for New Model Development**

The process of developing new models has been improved to enhance design and field testing, and our reliability assessment center has been newly established to ensure customer-oriented verification of equipment. Further, a perceived quality assessment has been introduced to find out what customers have to say about the usability of our products, thereby increasing customer satisfaction.

**Endeavors to Reduce Customer Complaints**

Making continued efforts to reduce customer complaints at the enterprise-wide level, we are committed to drastically improving quality and continuously enhancing the brand image. As each of our functions is required to take responsibility for quality issues that are relevant to them, addressing customer complaints is prioritized by each function, which makes HCE highly responsive and prompt in problem-solving for quality issues.

**HMD**

**Quality Index Targets Management**

To improve the quality control level, a total of five specific quality indices are in place: inspection findings rate, inspection cancellation rate, NDT defect rate, recommendation implementation rate and QAS index. A particular focus is placed on the QAS index in an effort to ensure zero defects when products in manufacturing are handed over from one department to another and to enhance the completeness of the quality assurance system. The quality indices for 2018 recorded 99.7%, exceeding the annual target of 99.4%. Still, our efforts to further enhance the quality indices every year know no bounds.

**Quality Assurance System Up and Running**

Our quality assurance system is in operation to ensure that independent quality management efforts are made at the production site to hand over products free from defects to the next department. Analyzing inter-departmental feedback to eliminate the root causes of issues and prevent recurrence of such issues, active efforts are underway to establish a quality assurance system for self-process completion.

**Finishing Touch “Zone Final” Checkup**

HMD has enhanced checkup procedures of the finishing touch process in order to further improve quality before delivery of ships and prevent complaints from the shipowners when the ships are delivered. By doing so, we continue to reduce cases of omitted installation of parts and malfunctions while ensuring cleaning and tidying up.

**On-Spot Quality Campaigns**

HMD is doing its best to prevent quality issues via direct communication with workers on production sites, conducting a Tool Box Meeting (TBM) campaign every month to enhance quality. In particular, information on standard procedures is widely shared with workers and used as training materials to ensure consistent quality throughout a process.

**2019 Initiatives**

Entity	Initiative
HHI Holdings	<ul style="list-style-type: none"> <li>· Minimizing quality failure cost</li> <li>· Applying and upgrading the APQP</li> <li>· Reviewing whether standards are in place and followed</li> </ul>
HHI	<ul style="list-style-type: none"> <li>· Minimizing quality failure cost</li> <li>· Establishing a quality culture that ensures compliance with quality standards</li> <li>· Promoting collaboration to ensure quality</li> </ul>
Hyundai Electric	<ul style="list-style-type: none"> <li>· Reducing quality costs based on APQP management</li> <li>· Intensifying quality training</li> </ul>
HCE	<ul style="list-style-type: none"> <li>· Launching defectless equipment based on enhanced APQP</li> <li>· Enhancing efforts to reduce customer complaints</li> <li>· Establishing an enterprise-wide virtuous cycle for quality improvement</li> </ul>
HMD	<ul style="list-style-type: none"> <li>· Focusing efforts to achieve the “NEW 1234” quality target</li> <li>· Achieving the goal of non-inspection by shipowners</li> <li>· Preventing quality failures based on independent quality assurance procedures by each node</li> <li>· Removing unnecessary grinding tools and reducing quality failure cost</li> </ul>

# Technology Empowerment

HHI Group’s technological excellence is attributed to its talented technical personnel and its training infrastructure that enables strategic fostering of such excellent professionals. As it becomes increasingly important to strategically nurture talented professionals, the Group is putting great efforts to establish a well-organized incubation system to improve the competencies of its manufacturing engineering workers. Also, in an effort to promote co-prosperity with partner companies, the Group is referring trainees who have completed its training programs for nurturing technical professionals to the partner companies.

## Management System

At HHI Group, a variety of technological training infrastructures to foster highly skilled professionals through systematic operation of training programs are in operation. In order to plan well-organized training programs, the Group has established a growth model for the manufacturing engineering workforce and is strategically fostering outstanding resources in the field by providing essential learning opportunities relevant to manufacturing engineering.

Entity	Management System
HHI	Having established its Technical Education Institute in 1972, HHI has nurtured technical professionals through systematic training and education programs. By revamping the core technology transfer system, systematic technology transfer is encouraged and facilitated, contributing to strengthening HHI’s quality competitiveness. In 2019, HHI plans to increase training opportunities through the establishment of a technology competency evaluation center and enhance the skills of its personnel via function-specific diagnosis of competencies.
HMD	Since HMD founded its Technical Education Institute in 2001, a technical training system to systematically nurture manufacturing engineering workers and preserve and transfer on-site production technologies has been in operation. Available or planned at the Institute are courses outside of work hours, technological support for partner companies as part of its programs to educate trainees and tailored programs to improve the skills of new hires. In 2019, HHI plans to strengthen its technological capabilities by setting three goals: fostering practical engineers, producing job-based technology enhancement training and ensuring advanced manufacturing skills through the transfer of core technologies.
HCE	In 2006, HCE established its Global Training Center (GTC) in Eumseong, North Chungcheong Province, offering education programs by level to train technical professionals. HCE fosters equipment experts with well-organized training programs tailored to each level of competencies, while endeavoring to provide support to help technical professionals easily adapt to the working environment by offering courses for obtaining small construction machinery operation licenses. In 2018, HCE opened its Technical Training Center (TTC) in Ulsan to foster experts in manufacturing engineering, striving to foster new workers and improve their skills. In 2019, we plan to build an online training website and develop training programs for dealer trainers.

## Performance Indicator

Category	Unit	HHI	HMD
Manufacturing engineering training personnel	Persons	5,062	1,104
Passers of intra-company qualification exams	Persons	184	-
Beneficiaries of training programs with job referrals	Persons	119	17
Training personnel for partner companies	Persons	749	649
Training personnel for prospective employees of partner companies	Persons	-	44

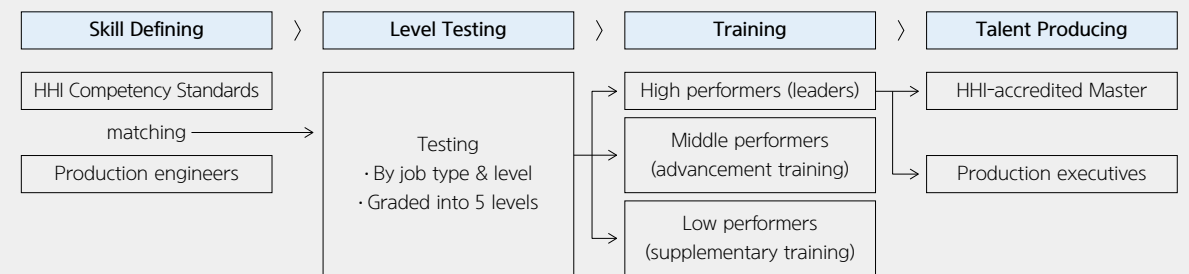
## Activities and Achievements by Entity

### HHI

#### Production Engineer Nurturing Program

To promote production engineers’ continual growth and vision accomplishment as well as to motivate them, a talent development program tailored to their needs is in place, offering occupational improvement training. We established HHI Competency Standards by analyzing technologies used at different sites, and based on these standards, skills diagnosis and training by level will be offered to clarify the direction of talent nurturing for production engineers and effectively support their acquisition of skills.

#### Production Engineer Nurturing Process



#### Redesign and Active Implementation of Core Skill Transfer Program

Since 2013, HHI has been operating Core Skill Transfer Program, through which key production technologies are systematically transferred. In 2018, we evaluated 49 core skills and certified 41 of them were effectively passed on through the program, awarding HHI Technology Master Prizes to excellent performers.

#### In-house Qualifications System

HHI operates an in-house technical qualification system for production engineers of all its affiliates and partner companies. In 2018, a total of 186 HHI workers passed the in-house qualification system in 12 certification types. This system provides employees with opportunities to develop themselves and motivates them to acquire qualifications.

#### In-house Skills Contest

In the 2018 competition, individual participants vied in the four categories of welding, electrical construction, painting

and marine structures design, while group participants contended in the four categories of tube assembly, pipe assembly, hull design and outfitting design. Of the 150 HHI participants, 80 had the honor of winning an award, also receiving the prestigious Minister of Employment and Labor Award and a CEO citation.

**HMD**

**Employment Stepping Stone Program**

In an effort to preemptively secure technical talent, we provide employment-linked vocational training programs for students of meister high schools, including Ulsan Meister High School, Seoul Robot High School and Sudo Electric Technical High School. Thanks to our systematic training programs such as field training conducted in conjunction with HHI Technical Training Center, these talented youngsters are able to acquire basic skills and naturally develop a sense of belonging to HMD along the way before joining us.

**Job Improvement Training Program for Production Engineers**

We provide job improvement training for our production engineering professionals to increase productivity through continuous occupational competency improvement and motivation. In 2018, a total of 31 courses were offered, with 1,196 production engineers completing one or more courses.

**National Human Resources Development Consortium Business**

To enhance the skills of workers of partner companies and nurture new production engineering professionals, HMD, for the 15 consecutive years since 2004, has been engaging in the national human resources development consortium business spearheaded by the Ministry of Employment and Labor and Human Resources Development Service of Korea. In this course, HMD has made the most of its outstanding instructors, facilities and equipment to offer training programs of excellent quality. In 2018, a total of 557 individuals completed the course, producing 44 new technicians.

**HCE**

**Opening of Global Training Center**

Our Global Training Center (GTC) located in Eumseong, North Chungcheong Province, is dedicated to domestic and overseas technical training. In August 2018, Technical Training Center (TTC) was also established in Ulsan to nurture technical personnel specialized in construction equipment. Equipped with theory/practice training halls, conference rooms, etc. it offers a total of 20 courses. The training programs include customized training for each sector and production theory training for managers.

Course	Target Trainee Group
On-site practical training, performance inspection training, standard assembly skills training, assembly line training	Production engineers, production partner companies
Sales training, understanding of new models, equipment training, on-the-job training	Sales personnel, all staff
After-sales service skills, troubleshooting, understanding of professional systems, engine service certification	Overseas dealers & domestic agents, partner companies
Understanding of basic equipment, customer training, motorcycle/moped license course	Customers

Target Trainee Group	No. of Sessions	No. of Persons
Production engineers	12	170
Partner companies	21	204
Overseas dealers & domestic agents	79	874
Customers*	88	737

\*Inclusive of new acquirers of motorcycle/moped licenses

**2019 Initiatives**

Entity	Initiative
HHI	<ul style="list-style-type: none"> <li>Company-led systematic cultivating system to sharpen production engineers' technical skills</li> <li>Development of HHI Competency Standards and establishment of a growth model for production engineers</li> <li>Mandatory training customized to production engineers and assessment of individual skill levels</li> </ul>
HMD	<ul style="list-style-type: none"> <li>Skilled crafts transfer system for preservation and transfer of production technologies</li> <li>Nurturing talented production professionals with active certificate programs</li> <li>Establishment of customized training systems by occupational type and level</li> </ul>
HCE	<ul style="list-style-type: none"> <li>Supplementing occupational training by revising the teaching plans based on case studies on previous failures</li> <li>Nurturing high performers into professionals dedicated to occupational training to serve as leaders for fieldwork personnel</li> <li>Building an integrated online training system to provide a variety of learning opportunities</li> </ul>

# Upholding Fair and Transparent Business Practices

HHI Group aims to be the most transparent company, rather than the largest one. By upholding sound ethical practices and compliance, we will work to create a market environment that contributes to the growth of all our stakeholders and the sustainability of our society.

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1. Compliance Management 76p



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2. Business Ethics 78p



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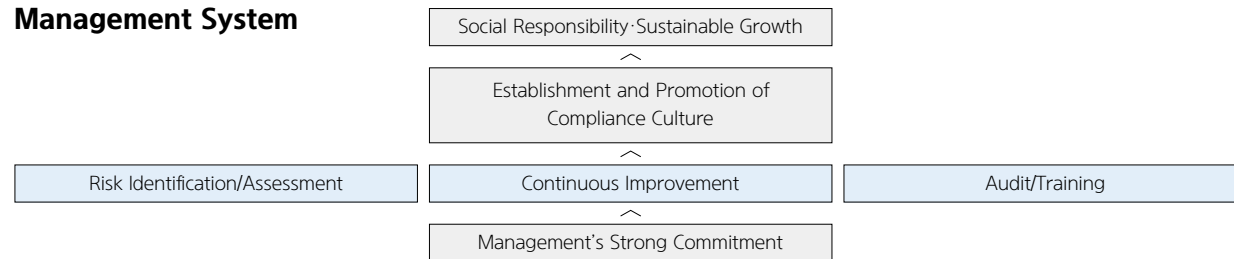
3. Greater Management Transparency 81p



# Compliance Management

HHI Group is committed to raising awareness of ethical and lawful conduct and complying with all applicable laws and regulations by ensuring the compliance guidelines are embedded in all its business activities. Our Compliance Program has been in existence since 2004, and we actively engage in compliance activities such as assessment, audit, training, and consulting.

## Management System



## Organization

HHI Group employs a centralized structure for compliance with the enterprise Compliance Team, which is responsible for establishing and maintaining the compliance management system of each entity of HHI Group.

Function/Position (Role)	Responsibility
BOD/CEO	Confirm compliance plans and set directions; discuss and decide compliance-related agenda
Compliance Officer / Compliance Team	Ensure centralized compliance system operation; establish/amend compliance standards and rules; offer compliance education and run relevant training programs; perform compliance audits
On-site Compliance Organizations / Personnel	Cascade knowledge of compliance laws and regulations through training; conduct internal compliance assessment

## BOD Reporting

	Compliance Audit Reporting	Compliance Program Audit Reporting
Frequency	Annual	Semi-annual
Content	Corporate compliance audit result	Compliance program audit result

## Performance Indicator

Category	Unit	Performance
Compliance training	No. of training sessions	Sessions 58
	No. of participants	Persons 3,223
Assessment of subcontracting transactions and associated risk	No. of teams audited	Teams 6
Legal consulting related to fair transaction	Cases	195
Legal consulting related to corruption prevention and financial sanction	Cases	79
Other legal consulting	Cases	948

## Activities and Achievements in Compliance Control and Fair Trade

### Compliance Training

Regular compliance training is provided for major decision-making positions. We also offer the “Compliance Training at Your Doorstep” program where a lecturer visits a requesting team and delivers training on the subject chosen by the team.

### Compliance Newsletter

We publish compliance newsletters on the intranet on an ad-hoc basis to educate employees on compliance management in an effort to alleviate the risks of compliance violations that may arise during the course of business.

### Legal & Anti-Corruption Approval and Review

HHI Group has an anti-corruption pre-approval system and conducts legal reviews to cultivate a clean and fair management culture and to prevent legal risks. In 2018, we established a new guideline on compliance with laws and regulations on financial sanctions to effectively respond to and prevent risks at home and abroad.

### Subcontracting Compliance Training and Work Process Enhancement

HHI Group offers periodic and ad-hoc training on subcontracting compliance to the employees who deal with contractors in their work capacity and improves the relevant work processes, thereby addressing the associated risks in a proactive manner.

### Subcontracting Compliance Program Inspection

HHI Group performs site inspections into departments that have direct business contacts with subcontractors to review the process and systems of awarding contracts and issuing written requests for technical documents.

### Online Channel for Contractor Corruption Complaints

The Compliance organization operates an online channel through which a contractor can directly contact and report suspicious business transactions indicative of corruption.

### Compliance Risk Assessments

To accurately understand the content and level of compliance risk, HHI conducts risk assessments for all departments and utilizes the results for system improvement, training, and inspections to enhance the effectiveness of compliance.

## 2019 Initiatives

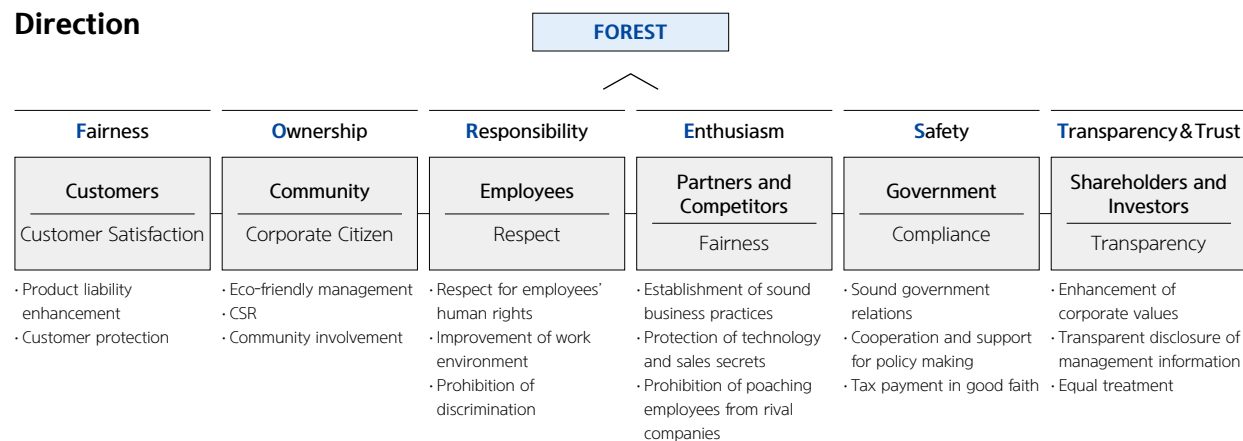
Category	Initiative
Establishing fair subcontracting practices	<ul style="list-style-type: none"> <li>Review and improve the process of awarding and delivering subcontracts</li> <li>Reinforce training on subcontracting laws</li> </ul>
Improving compliance management system	<ul style="list-style-type: none"> <li>Prepare and distribute work manual and checklist for different compliance issues</li> <li>Enhance compliance risk assessments and monitoring</li> </ul>
Promoting compliance culture	<ul style="list-style-type: none"> <li>Expand the application of compliance system to subsidiaries including distribution of Anti-Corruption Act Compliance Guideline</li> <li>Enable integrated handling of subcontracting compliance issues and provide effective support</li> </ul>



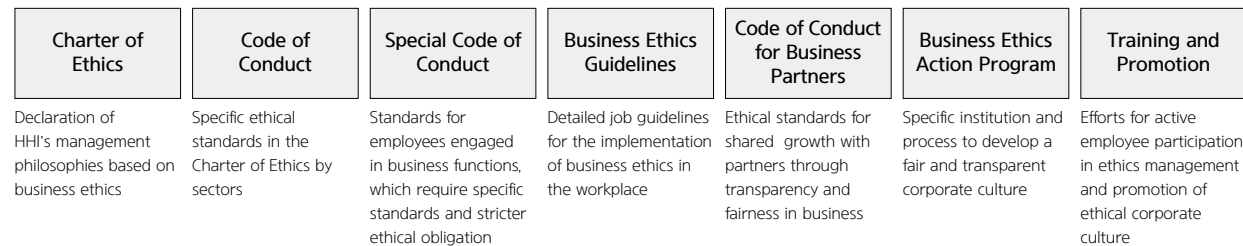
# Business Ethics

Like a forest that contributes to the co-existence of all surrounding lives, we will foster an environment for all stakeholders' growth and development and pursue a sense of fairness, ownership, responsibility, enthusiasm, safety, transparency and trust. HHI Group will put forth its best effort to become a corporate group that customers and partner companies want to do business with, one that investors want to invest in, one that employees want to work at, and one that fulfills its responsibility for the nation and communities.

## Direction



## Management System



## Responsible Organizations in Place

Entity	Organization
HHI Holdings, HHI, Hyundai Electric, HCE, HMD	Integrated Business Ethics Team

## Performance Indicator

Category	Unit	Performance
Business Ethics Training	No. of participants	Persons 20,232
	Completion rate	% 90
	No. of business partners	Company 72
On-Site Hearings of Business Ethics	No. of employees	Persons 358
	No. of partners	Company 91
	No. of recommendations	Cases 44
	Completion within 3 months	% 77.3

## Direction for Charter of Ethics

Since ethics regulations for procurement position were established in 1994, HHI Group has practiced and expanded its ethics program, online ethics violation reporting platform and training courses. In October 2005, we declared our Charter of Ethics which proclaims its ethical management philosophy, and have worked to make it fundamental to the way we do business.

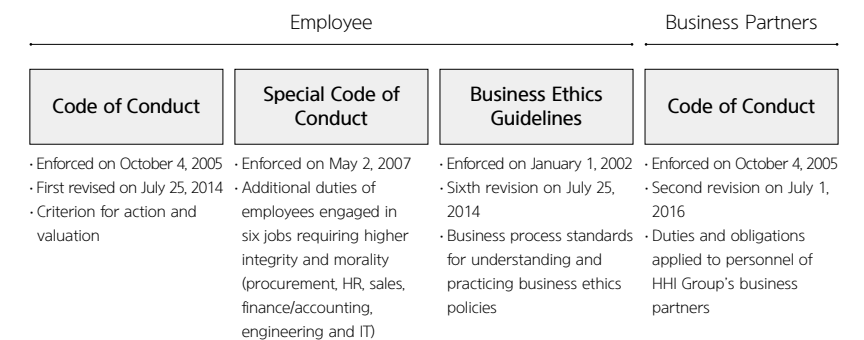
### Charter of Ethics of HHI Group

We strive to become a respected and trusted company that positively contributes to its customers, shareholders and society with the Hyundai Spirit. To achieve this goal, we hereby establish this Charter of Ethics, which defines our standards of conduct to follow in accomplishing faithfully our original role and social responsibilities as a corporate entity and we declare that we shall comply with this Charter of Ethics.

1. We shall be an ethical corporation that abides by all domestic and international laws and regulations through fair and transparent management practices.
2. We shall achieve customer satisfaction by meeting their needs and expectations.
3. We shall seek to maximize shareholder's value through fair and efficient management.
4. We shall work to fulfill our social responsibilities and duties as a member of local communities, and contribute to the development of our nation and society.
5. We shall work to create a transparent and clean corporate culture through fair competition and trading practices.
6. We shall aim to be a corporation with the highest quality human resources that offers equal opportunities to our employees in a safe and comfortable working environment.

## Materializing Business Ethics

HHI Group gives definition to the Charter of Ethics by each job, and enacts and revises the Code of Conduct, the benchmark for business and Business Ethics Guidelines. We are also regularly making revisions to reflect social demands and changes in the statutory laws and regulations against corruption.



## Achievements in Ethics Management

### Commitment to Business Ethics Management

HHI Group's employees and its partners are required to submit an annual Business Ethics Confirmation, to pledge their commitment to understanding the relevant regulations and abiding by corporate policies and guidelines. The pledge requires compliance with ethics regulations and the anti-corruption law to avoid unfair trades, corruption, illegal solicitation and graft as prohibited by laws and regulations.

**Conflicts of Interest Reporting**

When a possible conflict of interest is identified, the employee in question is obligated to report the issue in advance to prevent unfair practices.

**Ethics Violation Reporting and Whistle Blower Protection**

We have an effective system for reporting allegations of wrongdoing, which includes illegally accepting gratuities or improper treatment, obtaining unjust gains using position or authority, and abusing authority. Reports can be submitted by phone, fax, email or post, or online. We aim to protect the whistleblowers' identity and reward them in accordance with our reward guidelines.

\*Link to HHI Group Business Ethics: <https://ethics.hhigroup.kr/html/main.html>

**Ethics Management Self-Evaluation**

HHI Group's employees find improvements and enhance the understanding of business ethics through self-monitoring and evaluation.

**Training of Business Ethics**

HHI Group runs group training courses and online courses on business ethics. The materials are presented in viewer-friendly formats such as newsletters, animated movies and cartoons. HHI Group also works to promote business ethics in its business partners by introducing its ethical management system at HHI Council, a discussion forums and trainings for major partners.

**On-Site Hearings and Review of Business Ethics**

HHI Group conducts field sessions to hear from employees and partner companies and diagnose and improve the level of ethics compliance. To this end, we review how business ethics are implemented in the field and conduct additional reviews on items requiring further improvement.

**Clean Notice System**

Prior to major national holidays every year, we send out letters to our business partners asking not to provide any gift to our employees. We advise our partners to report any bribery demands, including attempts, to the Business Ethics Team. When employee unavoidably receive gifts from stakeholders, we guide them to return the gifts via our designated courier or donate to charities.

**2019 Initiatives**

Category	Initiative
Providing group training to a wider audience	· Target all new joiners and resident staff · Improve training satisfaction by catering to the specific needs and assigning full-time training coordinator staff
Engaging in activities to promote ethics management	· Accelerate promotional activities utilizing Ethics Management newsletter (webzine)
Revising Ethics Management Policy	· Review the appropriateness of the policy and any need for amendment in human rights protection and other areas
Publishing ethics audit cases	
Identifying ethical risks and taking preventive actions	

# Greater Management Transparency

HHI Group is committed to building an advanced corporate governance structure that ensures the independence of the Board of Directors and promotes management transparency. Our goal is to lay the foundation for a good corporate governance framework, to fully comply with the laws and regulations governing corporate governance and circular shareholding, operate a more efficient BoD, and protect shareholder rights.

**Board of Directors Operation**

To ensure a sound corporate governance and transparent management, HHI Group has regulations and articles of incorporation in place stipulating that more than half of BoD members must be outside directors. There are three subcommittees: Outside Director Recommendation Committee, Audit Committee and Internal Trade Committee. The BoD has authority to vote on matters mandated from the shareholders' meeting and set out the basic principles of corporate operation. The directors also have the rights to appoint the CEO and Chairman of the Board as well as the responsibility to oversee the duties of executives.

Category	Unit	HHI Holdings	HHI	Hyundai Electric	HCE	HMD
Internal Director	Persons	2	3	2	2	1
Outside Director	Persons	3	4	3	3	3
Ratio of outside directors	%	60	57.1	60	60	60
BoD meetings convened in 2018	Meetings held	12	14	13	9	12
Items BoD passed in 2018	Items	30	36	39	20	21
Outside directors' attendance rate*	%	100	93.2	97.8	96.3	94.4

\*Exclusive of interim resignations

**BoD Subcommittees**

Committee Name	Objective and Authority
Audit Committee	Oversight of directors' implementation of duties, access to material and information required for audit
Outside Director Recommendation Committee	Recommendation of qualified candidates for outside directors
Internal Trade Committee	Establishment of basic policies on internal transactions, inspection of counterparty selection standards and practices

## Remuneration of BoD Members

The ceiling of the remuneration of the BoD members is annually decided by the resolution of the Annual General Shareholders' Meeting to ensure transparency and justification. The 2018 annual remuneration ceiling for directors approved by the General Shareholders Meeting was KRW 4 billion (KRW 1.7 billion for HMD).

Category	Unit	HHI Holdings	HHI	Hyundai Electric	HCE	HMD
Directors*	Persons	6	8	5	5	5
Total remuneration paid to director	KRW 1 million	2,313	4,909	2,394	932	794
Average remuneration per director	KRW 1 million	385	614	430	186	159

\*Inclusive of retired directors

### HHI Holdings

#### BoD Composition

Type	Name	Position	Gender	Current Occupation	Committee	Appointed Date
Internal Director	Kwon Oh-gap	Chairman	Male	Vice Chairman & CEO of HHI Holdings	Outside Director Recommendation Committee	March 2018
	Seo Yoo-seong	Director	Male	COO of Robotics Division, HHI Holdings	Internal Trade Committee	December 2018
Outside Director	Kim Hwa-jin	Director	Male	Professor of Seoul National University School of Law	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	March 2019
	Shin Jae-yong	Director	Male	Professor of Seoul National University Business School	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	April 2017
	Hwang Yun-sung	Director	Male	Attorney of Law Group MinJu	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	March 2019

(As of March 31, 2019)

#### Shareholders

Category	Name	No. of Shares	Ratio (%)
Shareholders with over 5%	Chung Mong-joon	4,202,266	25.80
	National Pension Service (NPS)	1,566,487	9.62
	Chung Ki-sun	831,097	5.10
Minority shareholders		7,442,405	45.70

### HHI

#### BoD Composition

Type	Name	Position	Gender	Current Occupation	Committee	Appointed Date
Internal Director	Ka Sam-hyun	Chairman	Male	Co-President & CEO of HHI	Internal Trade Committee	March 2019
	Kwon Oh-gap	Director	Male	Vice Chairman & CEO of HHI Holdings	Outside Director Recommendation Committee	March 2018
	Han Young-seuk	Director	Male	Co-President & CEO of HHI	-	March 2019
Outside Director	Yoo Kook-hyun	Director	Male	Attorney at Law Firm Kim & Chang	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	March 2018
	Lim Suk-sig	Director	Male	Honorary professor at the University of Seoul	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	March 2017
	Choe Hyuk	Director	Male	Professor of Finance, Seoul National University	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	March 2017
	Yun Yong-ro	Director	Male	Chairman & CEO of Koramco	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	March 2019

(As of March 31, 2019)

#### Shareholders

Category	Name	No. of Shares	Ratio (%)
Shareholders with over 5%	HHI Holdings	21,907,124	30.95
	NPS	6,583,827	9.30
	KCC	4,673,962	6.60
Minority shareholders		30,655,817	62.83

#### Major Changes to Management Performance in 2018

HHI and HSHI agreed upon HSHI's split and merger\* on August 22, 2018. On October 31, HHI held a board meeting substituting for a general meeting of shareholders, and HSHI an extraordinary general meeting of shareholders, for each to approve the decision. As the split and merger process was completed on December 1, HMD transitioned from a third-tier subsidiary to a second-tier subsidiary, freeing the Group from the restrictions placed on the holding company under the Monopoly Regulation and Fair Trade Act. Also, HHI Holdings acquired 3.9% of the HHI stocks held by HMD on August 22, 2018, breaking up the cross-shareholding structure. Throughout 2018, HHI Group enhanced legal compliance and improved transparency of governance.

\*Spinning off HSHI into a business entity and an investment entity (holding HMD shares), and HHI merging with the investment entity.

## Hyundai Electric

### BoD Composition

Type	Name	Position	Gender	Current Occupation	Committee	Appointed Date
Internal Director	Jung Myung-rim	Chairman	Male	President & CEO of Hyundai Electric	Outside Director Recommendation Committee	August 2018
	Keum Seok-ho	Director	Male	Head of Human Resources Division, HHI Holdings	Internal Trade Committee	March 2018
Outside Director	Song Back-hoon	Director	Male	Professor of International Commerce, Dongguk University	Audit Committee, Internal Trade Committee, Outside Director Recommendation Committee	April 2017
	Ryu Seung-woo	Director	Male	Managing Partner of Samil PwC	Audit Committee, Internal Trade Committee, Outside Director Recommendation Committee	March 2019
	Lee Seok-hyung	Director	Male	Lawyer at Law Firm Sangyung (Executive Advisor)	Audit Committee, Internal Trade Committee, Outside Director Recommendation Committee	March 2019

(As of March 31, 2019)

### Shareholders

Category	Name	No. of Shares	Ratio (%)
Shareholders with over 5%	HHI Holdings	7,342,944	36.07
	NPS	1,596,688	7.84
	KCC	1,311,178	6.44
Minority shareholders		8,887,980	43.66

## HCE

### BOD Composition

Type	Name	Position	Gender	Current Occupation	Committee	Appointed Date
Internal Director	Kong Ki-young	Chairman	Male	President & CEO of HCE	Outside Director Recommendation Committee	March 2018
	Song Myung-jun	Director	Male	Head of Finance, HHI Holdings	Internal Trade Committee	March 2018
Outside Director	Sohn Sung-kyu	Director	Male	Professor of Accounting, Yonsei University	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	March 2019
	Lee Jeon-hwan	Director	Male	Advisor at Law Firm Bae, Kim & Lee	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	March 2019
	Shin Pil-jong	Director	Male	Lawyer at Law Firm Pyungjeon	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	April 2017

(As of March 31, 2019)

## Shareholders

Category	Name	No. of Shares	Ratio (%)
Shareholders with over 5%	HHI Holdings	6,524,628	33.12
	NPS	1,530,706	7.77
Minority shareholders		10,179,551	51.67

### Major Changes to Management Performance in 2018

HCE decided on spinning off of its Parts Business Unit on December 20, 2018, and approved the plan at the regular general meeting of shareholders on March 26, 2019. The spin-off took place on April 1, 2019, with the rest of the business units remaining as HCE while the Parts Business Unit separated into Hyundai Core Motion.

## HMD

### BoD Composition

Type	Name	Position	Gender	Current Occupation	Committee	Appointed Date
Internal Director	Shin Hyeon-dae	Chairman	Male	President & CEO of HMD	-	November 2018
Outside Director	Kap-soon Kim	Director	Male	President of tax consulting firm TAX & Accountants	Audit Committee, Internal Trade Committee, Outside Director Recommendation Committee	May 2015
	Lim Jae-dong	Director	Male	Lawyer at Law Firm Kim & Chang	Audit Committee, Internal Trade Committee, Outside Director Recommendation Committee	March 2019
	Kim So-young	Director	Male	Professor of Economics, Seoul National University	Audit Committee, Internal Trade Committee, Outside Director Recommendation Committee	March 2017
Other non-executive directors	Cho Young-cheul	Director	Male	Vice President & CFO at HHI	Internal Trade Committee, Outside Director Recommendation Committee	March 2017

(As of March 31, 2019)

### Shareholders

Type	Name	No. of Shares	Ratio (%)
Shareholders with over 5%	HHI	16,936,492	42.40
	NPS	5,188,027	12.99
Minority shareholders		17,068,277	42.73

### Major Changes to Management Performance in 2018

After HMD sold its entire stake in Hi Investment & Securities to DGB Financial Group on October 31, the Fair Trade Commission notified its exclusion as an affiliate on November 27. This allowed HHI Holdings to meet requirements as a holding company. In addition, the board of directors resolved a bonus issue on December 5, leading to an additional listing on December 26. The revaluation reserves were the base for the 1:1 bonus, where 19,942,149 shares were increased excluding buy back of 57,851.

# Pursuing Safe and Environmentally Friendly Business Practices

HHI Group strives to reduce the risk of workplace accidents, improve worker safety and health, and further minimize the environmental impact of its business operations.

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1. Safety Management 88p



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2. Health Management 93p



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3. Environmental Management 95p



# Safety Management

Amendments to the Occupational Safety and Health Act will become effective starting from January 2020, banning excessive outsourcing of risky work and reinforcing the responsibility and regulations of the contractor to prevent industrial accidents. In response to this, HHI Group is making concerted efforts to establish a safety culture that is based on principles, with a goal to become one of the safest corporations on the global stage with management policies that prioritize safety. HHI Group is operating a health and safety management system based on the global standard of OHSAS 18001, under the principle of PDCA (Plan, Do, Check, Action). In addition, we take responsibility for the health and safety of workers by inserting safety and health provisions in the collective agreement of all our affiliates.

## Management System



## Responsible Organizations in Place

HHI Group operates a safety management organization that directly reports to the CEO. In addition, the Occupational Safety and Health Committee (OSHC), which consists of 5 to 10 members both from the management and the labor union, convenes regularly to discuss the safety issues in all worksites and ensures the participation of representatives of workers in worksite environment measurements and safety event investigations. Safety and health issues covered by the Committee are reported to the CEO. For effective safety management, relevant managers are designated in each business division and partner. Safety meetings attended by the Company, representatives from partners and employees are held regularly as well.

Entity	Council	Devoted function
HHI Holdings	Occupational Safety and Health	Management Support Team
HHI	Committee (5 to 10 representatives from the management and the labor union, respectively)	Safety Management Office
Hyundai Electric		Safety & Environment Team
HCE		Safety & Environment Team
HMD		Safety Team

## Performance Indicator

Category	Unit	HHI Holdings	HHI	Hyundai Electric	HCE	HMD
Accident rate*	%	0.43	0.25	0.29	0.29	0.26
Fatalities	Persons	0	1	0	0	0
Excellent safety activities	Spot rewards cases	0	47,860	2,505	837	19,170
	Reward amount	KRW 1,000	0	239,000	12,525	78,707
Safety Academy attendees	Persons	0	329	21	20	N/A*
Emergency drills	Cases	1	54	5	3	8
Supplier safety training	Cases	12	288	61	16	96

\*Types include falls, trips, being pinned under and burns

\*Accident rate and fatalities include those of partner companies

## Major Activities and Achievements

### Operation of HiSEs

HHI, HCE and Hyundai Electric created a database covering a comprehensive range from accident cases to safety training through the HiSEs (Hyundai Integrated Health, Safety and Environment Management System). Employees can log on to the database on site using their computer at work, internet or mobile phones, and check the status of risky work in real time. Meanwhile, HMD operates the MIPOSS (MIPO Safety System), which utilizes big data on the safety management of shipbuilding yards. The system offers a checklist for safety and health, and allows the Line Safety Controller (LSC) to share and provide feedback on risk factors identified on site through computers or mobile phones in real time.

### Enhancing On-site Inspection

All levels of management from the CEO to the first-level supervisor frequently conduct on-site safety inspections to eradicate risk factors. Responsible safety management for all individuals is encouraged in order to prevent serious accidents. In addition, safety inspections are carried out for every production process to identify risk factors, which are improved immediately upon detection. A total of 11 items with high potential for accidents are subject to regular inspection on a bi-monthly basis and intensive supervision.

### Spot Rewards for Best Safety Practices

Workers with excellent safety performance are rewarded on the spot in order to build a culture where employees encourage and inspire each other to improve safety. Immediate incentives and positive feedback are provided to motivate employees to engage in on-site safety practices.

### Safety Golden Rules and Safety Academy

HHI Group established a must set of safety rules titled Safety Golden Rules for dangerous work that requires strict discipline, aiming to foster a safety culture and improve safety awareness. Violators of the rules are enrolled in a two-day program in the Safety Academy to prevent recurrence. In line with the Employee Transformation Project introduced in 2019, HMD separately established 12

Important Safety Rules for the entire company. Those failing to abide by the Important Safety Rules will be required to take the special safety training provided by the Safety & Health Department.

#### Safety Training

Systematic safety training is offered to both technicians working in the office and engineers working on site. In 2018, compulsory courses were provided twice a year to department heads, team leaders, senior foremen, heads of partner firms, and their leaders of offices and teams. Supervisors are required to receive up to 16 hours of safety training by law, and the Safety Management Office and the Business Department provide 8 hours of training respectively.

#### Supporting the Safety Management of Partner Companies

HHI Group requires business partners to appoint a safety manager in order to help them build expertise for safety management and strengthen their autonomous safety management system. We provide incentives during the grace period for the autonomous system to be developed, in order to ensure smooth transition. In addition, we created an organization dedicated to supporting the safety management of in-house partner companies to provide job-specific training.

## Activities and Achievements for Each Entity

### HHI Holdings

#### Establishment of a Human-Centered Smart Factory

The smart factory system is designed to protect workers from jamming by applying an automated conveyor system to the entire process to have machines assemble the robots from the initial automatic assembly stage. In addition, painting robots are used to protect workers from paints or other harmful substances. Completed robots are transferred using the Automatic Guided Vehicle (AGV) system, preventing industrial accidents of workers such as falling or slipping.

### HHI

#### Diagnosis of Safety Culture

HHI developed the HHI Safety Culture Assessment (SCA) as a tool for self-diagnosing its safety culture. The HHI SCA evaluates the safety awareness of executives and employees on 11 major criteria required under the safe management system. The periodic quantitative evaluation of safety awareness will be used as a benchmark for devising mid- to long-term safety policies.

#### Establishment of the Integrated Safety Training Center

At the end of 2018, HHI established the largest integrated safety training center in Korea, covering an area of 3,600 square meters. It is a comprehensive educational center resembling a real work environment, where workers can learn

safety procedures for each job duty both in theory and practice. The Center plans to offer a total of 58 curriculum programs that include compulsory courses as well as leadership sessions.

### Hyundai Electric

#### Safety Dialogue Session

Safety dialogue sessions are held twice a year for production departments which are consistently exposed to highly risky work. The shortage of signal personnel for getting on/off forklifts and for direct delivery were among 25 items identified to have significant potential risk. Each item was properly dealt with: more personnel were secured for signalling jobs and training was provided, contributing to raising safety awareness.

#### Risk Assessment Training

Risk assessment training was provided to supervisors and workers to help them preliminarily assess the seriousness and eliminability of risk factors and harmful substances. The training program helped enhance the employees' knowledge on risk assessment and bolstered their capabilities for autonomous safety management, creating a voluntary safety culture.

### HCE

#### Risk Assessment with Active Participation of Workers

In 2018, HCE started risk assessment dialogues that require the participation of every worker, aiming to identify risk factors and develop solutions for improvement through the eyes of workers. Activities of each production team are evaluated on a quarterly basis to reward the team with excellent outcomes. HCE plans to select specific dialogue topics to help workers prioritize risk factors that need to be resolved for each work situation, aiming to improve their risk assessment abilities.

#### Safety Campaigns

HCE holds the Safety Time Capsule event at the beginning of each year, in which all employees participate to seal their individual safety pledge to a time capsule to be opened at the end of each year, as a way to renew their safety commitment while reflecting on the achievement of organizational safety targets. The company has various other campaigns to raise safety awareness among employees, such as zero-accident pledge and spot award for excellent safety practices.

### HMD

#### Human Error Prevention Through Behavioral Changes

For human error prevention, HMD is shifting the focus of its safety inspections from status checks to behavior checks, thereby inducing workers to change their behavior. In 2019, the company plans to lift safety awareness through various programs, including virtual reality-based safety training. In addition, all employees in the production division are required to submit their safety pledge as part of the company's safety campaigns for raising awareness and fostering a sense of safety.

## Disaster and Emergency Responses

HHI Group adopted an enterprise-wide disaster prevention manual in order to protect employees and company assets from natural disasters such as typhoons and earthquakes. Divisional emergency response teams organized under the Corporate Disaster Prevention and Response Head Office are mobilized to promptly respond to disasters upon occurrence, according to the level of crisis. Periodic inspection and scenario-based drills are conducted to preemptively prepare against emergencies that can occur at and around business sites.

### Integrated Safety Control Center

Our Integrated Control Center is operational 24/7 to enable real-time communication, respond swiftly to disaster or emergency and protect business sites across all entities. HHI introduced a cutting-edge ICT technology, utilizing motion-detecting sensors and intelligent video analysis solutions to prevent falls into the sea near quays. In addition, employees and safety agents received emergency response training to ensure preventive safety management and a swift responsiveness.

## 2019 Initiatives

Entity	Goal	Initiative
HHI Holdings	Accident-free worksite with zero major accident, zero % accident rate	<ul style="list-style-type: none"> <li>Improve safety awareness through daily stretching exercise and checkpoint meetings twice a day</li> <li>Make practical improvement of health environment through regular OSHC meetings</li> </ul>
HHI	Zero major accident, Accident rate of below 0.184	<ul style="list-style-type: none"> <li>Strengthen practice-oriented safety management and familiarize workers with preventive activities</li> <li>Strengthen the safety education system and create a foundation for safety culture</li> <li>Reinforce safety management activities of partner companies</li> </ul>
Hyundai Electric	Zero major accident, accident rate of below 0.263 (9 cases)	<ul style="list-style-type: none"> <li>Focus on managing high-risk tasks through regional risk assessment</li> <li>Conduct special inspections on certain risks for preventing major accident</li> <li>Carry out accident prevention activities for different job categories</li> <li>Foster a voluntary safety culture through communication</li> </ul>
HCE	Four safety accidents or below, Zero violation of three major safety rules	<ul style="list-style-type: none"> <li>Prevent repetitive accident types</li> <li>Improve worker participation in risk assessment</li> <li>Review safety and take appropriate measures when investing in machinery/equipment</li> </ul>
HMD	Zero major accident, Accident rate of below 0.19	<ul style="list-style-type: none"> <li>Implement differentiated safety management for different types of ships</li> <li>Project for changing the mindset of employees</li> <li>Creating a safe work environment</li> </ul>

## Health Management

With the aim of establishing a healthy workplace, we support medical checkups and medical expenses for employees, and provide in-house medical services such as the health promotion center, oriental medicine clinic, and mind garden center. We engage in various the health promotion activities, including programs for preventing musculoskeletal and cardiovascular diseases, while continuously improving the work conditions by selecting proper personal protective equipment and managing chemicals in a systematic manner.

### Key Support and Facilities

#### Medical Examination and Expense Support System

HHI Group provides a medical examination every year, and for workers whose tasks are exposed to noise, harmful rays, metals, and organic compounds, we conduct a special checkup. The Group also offers comprehensive medical testing to long-serving employees and senior employees and customized follow-ups as needed. We also support the medical expenses for heart disease and incurable diseases (cancer and leukemia) of an employee or his or her family member, and provide health allowances and convalescence leave.

#### Health Promotion Center

HHI Group runs health promotion centers at worksites to improve employee health and help the injured recover quickly. HHI Group also provides qualified medical care in a timely manner, equipped with a clinic, a health care center, a physical therapy room, a rehabilitation center, and regional medical offices.

#### Oriental Medical Clinic

HHI Group runs its Oriental Medical Clinic with 20 beds to treat musculoskeletal pains such as backache and shoulder discomfort with acupuncture, moxibustion and cupping.

#### Mind Garden Center

HHI Group runs a counseling center that offers specialized services including psychological testing, collective counseling, and collective psychological training, as well as a program to help employees recover from disasters for psychological treatment after industrial accidents.

#### Support for Outside Rehabilitation

In order to help employees recover from an industrial accident in a fast and healthy manner, the company provides various outside rehabilitation programs in connection with Hanmaum Center.

#### Smoking Cessation Clinic

HHI Group runs a smoking cessation clinic to encourage employees to quit smoking, providing expert counseling.



### Performance Indicator

Category	Unit	HHI Holdings	HHI	Hyundai Electric	HCE	HMD
Medical service*	Cases	24	50,671	4,130	1,795	32,130
Smoking Cessation Clinic participants	Persons	N/A	96	21	N/A	95
Obesity Program participants (Success rate)	Persons (%)	N/A	100(67)	18(44)	N/A	N/A

\*Visits to oriental medical clinic, in-house hospital or health promotion center

### Major Activities and Achievements

Entity	Activities and Achievements
HHI Holdings	<ul style="list-style-type: none"> <li>Operate in-house health and physical fitness centers</li> <li>Expand the scope of flu vaccination support</li> <li>Provide health promotion activities where employees participate (work environment measurement, musculoskeletal disease)</li> </ul>
HHI	<ul style="list-style-type: none"> <li>Disease prevention program</li> <li>Obesity control program</li> <li>Health promotion program (Smoking cessation clinic, health promotion desk)</li> </ul>
Hyundai Electric	<ul style="list-style-type: none"> <li>Implement obesity program and reward for exemplary practices</li> <li>Encourage the use of stairs and reward for exemplary practices</li> <li>Distribute "Health! Hyundai Electric" email</li> <li>Conduct follow-up consultation for suspected cases of illness</li> <li>Smoking cessation clinic</li> </ul>
HCE	<ul style="list-style-type: none"> <li>Limit work hours for high-risk groups identified in health examinations</li> <li>Prevent/manage diseases through health counseling</li> </ul>
HMD	<ul style="list-style-type: none"> <li>Evaluate risk of developing cerebrovascular disease</li> <li>Operate health promotion programs (Smoking cessation clinic, health promotion desk)</li> <li>Operate preventive care programs (Musculoskeletal disease, work stress, noise-induced deafness)</li> </ul>

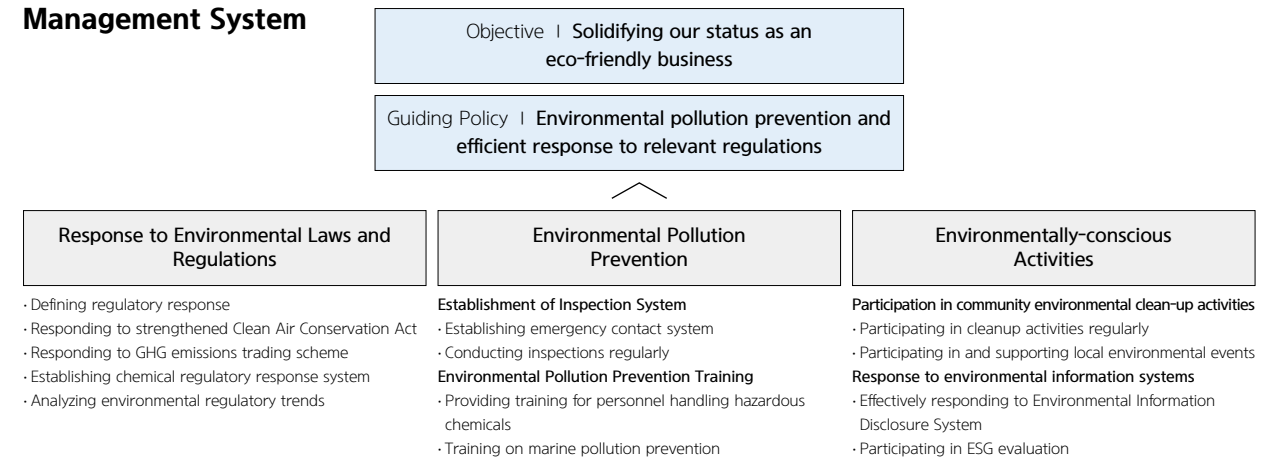
### 2019 Initiatives

Entity	Goal	Initiative
HHI Holdings	Promoting preventive activities	<ul style="list-style-type: none"> <li>Maintain fitness center (Gym) and its facilities</li> <li>Operate A/C (Cooling and heating) at the worksite</li> <li>Support in-house health promotion clubs</li> </ul>
HHI	Strengthening prevention activities for work-related diseases	<ul style="list-style-type: none"> <li>Systemize health examination and follow-ups</li> <li>Improve chemical management system</li> </ul>
Hyundai Electric	Reducing obesity rate below 43%	<ul style="list-style-type: none"> <li>Investigate/improve risk factors of musculoskeletal disease</li> <li>Prevent hearing problems by using hearing protection tight fitness tester</li> <li>Reward for people frequently using stairs</li> <li>Distribute "Health! Hyundai Electric" email</li> </ul>
HCE	Guaranteeing employee rights to health, with a focus on prevention	<ul style="list-style-type: none"> <li>Investigate musculoskeletal strain factors and implement remedies</li> <li>Engage in health promotion activities for three major diseases (high blood pressure, diabetes and hyperlipidemia)</li> </ul>
HMD	Healthy employees! Healthy workplace!	<ul style="list-style-type: none"> <li>Develop warning signage system</li> <li>Prevent heat/cold-related health problems</li> <li>Implement chemical DB for each process</li> </ul>

## Environmental Management

Both at home and abroad, regulations are tightening on pollutants and amending legislation in response to widening global interest on environmental issues such as fine dust, greenhouse gas (GHG) and recycling. Amid such trend, HHI Group is managing pollutants with an environmental management system established according to global standards (ISO 14001), with the objective of building a reputation as an eco-friendly company. In particular, company-wide efforts are made to reduce GHG emissions in alignment with KPIs, focusing on reducing its carbon footprint on the environment.

### Management System



### Acquisition of Environmental Management System Certification (ISO 14001)



### Energy and GHG-related Performance Indicator

Category	Unit	HHI Holdings <sup>1</sup>	HHI	Hyundai Electric	HCE	HMD	
Energy consumption	Fuel	TJ	7	2,730	166	130	637
	Electricity	TJ	32	5,895	593	276	2,094
	Total <sup>2</sup>	TJ	39	8,617	757	405	2,726
Energy savings		KWh	0	3,731,213	339,450	414,275	1,299,848
GHG emissions	Direct (Scope 1)	tCO <sub>2</sub> e	392	207,527	8,725	8,371	44,678
	Indirect (Scope 2)	tCO <sub>2</sub> e	1,572	286,366	28,820	13,416	101,710
	Total <sup>3</sup>	tCO <sub>2</sub> e	1,965	493,885	37,543	21,784	146,381

1 HHI Holdings is not subject to mandatory filing of GHG emissions data.

2 Energy and GHG data are calculated in accordance with the "Guidelines for Operation of Greenhouse Gas Energy Target Management Systems."

3 Differences are made as decimal points were subtracted for each site.

### Energy Management System

Based on the global standard of ISO 50001, HHI Group established an energy management system to monitor energy consumption and reflected the reduction amount into performance indicators of the department in charge of energy management. In order to promote efficient energy management, our Factory Energy Management System (FEMS) based on big data is utilized to optimize energy consumption for each factory, while our Energy Storage System (ESS) manages peak power. HHI Group adopted an energy-saving system that sends messages to each department when the gross energy consumption of factories exceeds a certain level. Also, each department designates an energy manager who is responsible for the education and knowledge-sharing of energy-saving activities, which helps create a voluntary culture of cutting energy consumption.

#### Energy Cost Savings

Category	Unit	HHI Holdings <sup>1</sup>	HHI	Hyundai Electric	HCE	HMD
Energy cost savings in 2018 <sup>2</sup>	%	N/A	14.5	16.7	39.9	6.7

1 HHI Holdings' plant to be completed in 2019.

2 Energy cost savings in 2018 = (Energy cost target for 2018 – Actual energy cost for 2018) / Energy cost target for 2018

### GHG Management System

HHI Group established the HHI Greenhouse Gas Management System (HGMS) in 2015, which calculates GHG emissions based on the IPCC global standard and Korea's GHG calculation guideline. The HGMS monitors every GHG emitting facility found in offices, factories and research centers of the Group to manage the emissions of six greenhouse gases\*. The calculations from the system are subject to stage-by-stage verification from a third party, in order to ensure accuracy.

\*CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>

### Major Climate Change Risks and Opportunities

#### Response to the Emissions Trading Scheme

Ever since the introduction of the emissions trading scheme in 2015, designated companies are mandated to comply with the GHG emission level set for each

company. Among the entities within HHI Group, HHI, Hyundai Electric, HCE (starting from 2019) and HMD have been designated for compliance. In the case the company exceeds the GHG emission level, it has to borrow the emissions allowance from another year within the designated period or purchase them from the emissions trading market. Each of the designated entities in HHI Group is making efforts to abide by the scheme and secure excess allowances by investing into energy-saving facilities and developing high-efficiency equipment.

#### IMO Ship Regulations

Effective from January 1, 2020, the IMO plans to enforce strict regulations that significantly lower the global Sulphur cap on fuel content from the present 3.5% to 0.5%. In response, shipping companies all over the world are installing scrubbers into existing ships or switching to LNG-fueled ships. As a result, orders for LNG carriers, which are flagship products of HHI Group, are on the rise, which will in turn lead to the Group's revenue growth.

### Energy and GHG Control Activities by Entity

#### HHI Holdings

HHI Holdings is planning energy saving by replacing metals used in the Daegu business site with high-efficiency LED lights. The company will also apply high-efficiency inverters to line-start motor in plants and expect that the application of high-efficiency inverters to conveyor motors will lead to around 40% of energy consumption reduction, equipment efficiency increase, and noise reduction.

#### HHI

HHI is implementing measures to reduce energy consumption such as identifying real-time energy usage through remote heating and cooling control. The company has replaced metals (250kW, 400kW) and other light bulbs in plants with high-efficiency LED lights, thereby reducing GHG and cutting down maintenance cost. In addition, the company is carrying out energy saving activities such as taking part in the Demand Response (DR) project run by the Korea Power Exchange. In 2018, we successfully saved KRW 290 million in electricity costs, with 10MW worth of energy capacity in total.

#### HCE

In attempts to reduce electricity usage, one of the key sources of GHG emissions, HCE is making electricity conservation efforts a way of life such as cutting off standby equipment power supply, turning off lights when not in use, etc. The company replaced plants' exterior lights with high-efficiency LED lights and installed flow meters of shielding gas and digital welding machines of casting bed in order to reduce energy consumption.

**HMD**

HMD has improved energy efficiency by opening and running 10MW-level ESS center in July 2018. The company is constantly implementing energy-saving efforts such as expanding the application of a painting equipment remote control system and gradually changing to high-efficiency LED lightings.

**Green Factory Activities and Achievements**

HHI and Hyundai Electric are carrying out green factory activities that contribute to GHG emission reduction by building new renewable energy generating units such as waste incineration facilities, wind turbines, solar panels, etc. within plants and self-spending and selling energy generated from those units. The company intends to expand the green factory movement to all entities of HHI Group going forward.

**Green Factory Status**

Facility	Size	Energy produced	Unit	Entity	
				HHI	Hyundai Electric
Waste incineration*	150tons	Steam	Ton	71,074	N/A
Wind power	1.65MW	Electricity	MWh	2,462	N/A
Photovoltaic	500kW	Electricity	MWh	N/A	593

\*All wastes generated from production processes such as paper, textile, wood, plastic and rubber are incinerated.

**Environmentally Friendly R&D Activities by Entity**

HHI Group is making its best efforts to develop products that comply with global environment standards including regulations for the prevention of air pollution from ships of IMO and regulations for emissions from heavy equipment of the US. In addition, in order to maintain competitive edge in an increasingly eco-friendly market, activities for developing environment-friendly technology are implemented.

**HHI**

HHI developed on independent rectangular scrubber that can be installed on the outer wall of a chimney. The strengths of this scrubber equipped with a hybrid emission system of cleaning water are that it complies with emission regulations of IMO and other countries. Furthermore, while performance is equivalent to that of European products, the size is reduced by about 30% with its square and integrated-with-ship body design.

**Hyundai Electric**

The company developed technologies for insulation and cooling design enabling change of insulating oil of transformers, the company's key product, from mineral oil to vegetable oil upon the client's request, thereby reducing soil and water pollution. The company is also contributing to preventing global warming with its Eco Gas Insulated Switchgear (EGIS) which does not use any GHG (SF<sub>6</sub>) by applying eco-friendly insulation medium, dry air.

**HCE**

HCE developed, together with Cummins, a US engine maker, 3.5-ton small-sized all-electric excavator for the first time in Korea. Although this electric excavator displays performance that is equivalent to that of existing diesel engine excavators, it emits no exhaust gas, generates less noise, and is an environmentally friendly product saving up to 60% of fuel cost. The company will continue to actively respond to market circumstances and clients' needs by investing in R&D for smart excavators.

**HMD**

HMD introduced an eco-friendly vessel technology "LNG dual fuel supply system," which can use both bunker C oil and LNG, for the first time in Korea, as well as eco-friendly ships where a cutting-edge material, high manganese steel, is applied to LNG fuel tanks for the first time globally.

**Air Pollutant Control**

	Unit	HHI Holdings	HHI	Hyundai Electric	HCE	HMD
Dust	kg	N/A	55,610	6,500	7,590	12,300
NOx	kg	N/A	719	100	0	0
SOx	kg	N/A	0	0	0	0

\*HHI Holdings, categorized into type 5 air pollution worksites group, does not own facilities subject to self-assessment.

**Air Pollutant Control Activities**

HHI Group has built and is running optimum air pollution prevention facilities to protect air quality. In order to minimize the emission of air pollutants, the Group established internal environmental standards, which are 50% (70% for HMD) stricter than statutory allowance level.

**HHI Holdings**

Daegu plant self-assesses the air pollution levels every six months to ensure the levels do not exceed the allowable concentrations. Facility operating hours (h/day) are also captured in the relevant log to make the emissions data traceable.

**HHI**

Amid increasing attention on fine dust reduction of late, HHI signed a voluntary agreement for fine dust reduction (2018-2022) in October 2018 with 30 companies based in Ulsan Nakdong River Basin Environmental Office, and Ulsan Metropolitan City. HHI established reduction plans by year to achieve the agreement goal of 40% reduction of fine dust emissions by 2022 from the 2014 level and is committed to implementing the plans. As part of these efforts, the company plans to build air pollution prevention facilities within large-scale painting factories of 50,000m<sup>3</sup> and over from 2018 to 2022 in accordance with Management Hazardous Air Pollutants (HAPs) and Fugitive Emissions. At the end of

2018, HHI completed the establishment of prevention facilities that take up 10% of total capacity of 50,000m<sup>3</sup> large-scale painting factories as per legal requirements.

**Hyundai Electric**

In order to control specific hazardous substances for air quality, the company regularly identifies raw materials of chemicals used in production processes and self-assesses every month the pollutants emitted. By regularly replacing activated charcoal filter, the company is controlling specific air pollutants below the legal threshold of 10%, and is also exploring various measures like facility investments and working method improvement to address oil mist odor caused by vacuum drying.

**HCE**

As part of efforts to reduce fine dust which has become a national issue, HCE is operating a vehicle that circles around the site to absorb dust for cleaning. The company is regularly (at least monthly) replacing pre-filters of prevention facilities to increase dust collection efficiency.

**HMD**

From 2018, HMD has been building prevention facilities to reduce the emission of volatile organic compounds, and will gradually complete the setup by 2022.

**HHI**

HHI requests water quality analysis for each discharge facility on a quarterly or semiannual basis to conduct study on specific water pollutant discharge amount taking place from 2018. The company calculates the output within the business based on the analysis results and is striving to reduce wastewater discharge, focusing on wastewater source control.

**Hyundai Electric**

Hyundai Electric has installed wastewater collection tanks at each wastewater discharge process. The treatment of wastewater is 100% outsourced. The company self-checks major wastewater discharge sources in an effort to prevent external leakage incidents.

**HCE**

Wastewater generated mostly from car washing and painting facilities is processed at the company's in-house effluent treatment plant, in which water quality is monitored regularly for the efficient operation of the plant. Wastewater control efforts are focused on minimizing the amount of wastewater discharge based on source-management.

**HMD**

The company runs an in-house wastewater treatment plant to physiochemically treat wastewater discharged within the business site and has various programs in place for water pollutant control such as real-time monitoring and regular checkup on effluent quality.

**Wastewater and Water Pollutant Control**

	Unit	HHI Holdings <sup>1</sup>	HHI <sup>2</sup>	Hyundai Electric <sup>3</sup>	HCE	HMD
Wastewater	Ton	N/A	3,849	455	5,754	1,247
BOD <sup>4</sup>	kg	N/A	20	N/A	180	6
COD <sup>5</sup>	kg	N/A	24	N/A	560	6
SS <sup>6</sup>	kg	N/A	8	N/A	10	7

- 1 No registration/license for wastewater discharge facilities as the business does not produce wastewater
- 2 Based on HHI's main yard in Ulsan
- 3 Hyundai Electric outsourced entire wastewater treatment
- 4 Biochemical Oxygen Demand
- 5 Chemical Oxygen Demand
- 6 Suspended Solids

**Wastewater and Water Pollutant Control Activities**

HHI Group employs 50% stricter internal environmental standards for effluent discharge from wastewater treatment facilities than legal requirements. Wastewater released from the business site is legitimately treated in the wastewater treatment plant within the site and by outsourced vendors. Wastewater self-treated by HHI, HCE and HMD within their business sites is discharged into the wastewater treatment plants located in Bangeojin and Yongyeon in Ulsan.

**Waste Management**

HHI Group aims to achieve zero waste through waste amount reduction every year. All waste is incinerated at our facilities, or treated by outsourced general/designated waste disposal service providers. We track our waste output in the government-run system at every disposal and monitor the disposal processes by maintaining a log. Waste amount is reported every year, and disposal and reporting are recorded in the log.

		Unit	HHI Holdings	HHI	Hyundai Electric	HCE	HMD
General waste	Reclamation	Ton	-	1,781	1,065	88	368
	Incineration	Ton	-	27,475	179	825	8,847
Designated waste	Reclamation	Ton	-	147	51	-	-
	Incineration	Ton	10	1,873	129	59	399

### Recycling of Byproducts

Waste resources generated from production site such as scrap metals, waste wood, waste paint cans, etc. are recycled. Multi-faceted efforts are made to lower the reclamation/incineration rate and raise the recycling rate of the outsourced waste.

	Unit	HHI Holdings	HHI	Hyundai Electric	HCE	HMD
Recycling rate	%	93	85	80	78	66

### Chemical Substance Management

HHI Group strictly manages the entire process of chemical substances usage from warehousing to disposal to ensure the health and safety of employees, partners, customers and community members. Inspections on chemical substance-related facilities and equipment as well as relevant trainings are regularly conducted, and worksites are required to have Material Safety Data Sheets (MSDS) on-site.

#### HHI Holdings

All chemicals used by HHI Holdings including urethane, hardener, diluent, detergent, and cleaners from the painting facilities are safely kept in the on-site storage facilities. Considering the impact on health and safety of local community residents, all chemical waste is reported to the environmental authorities and properly discharged as designated waste.

#### HHI

Amid strengthened regulations on chemical substances, HHI established chemicals purchase procedures and management system in order to legitimately treat chemical substances. For chemical products that are purchased, warehoused, or used, the ones subject to regulations are identified at the purchase estimate stage, and either these are replaced with substitutes or formal permission/approval is acquired. Furthermore, our database of chemicals subject to regulations is maintained up-to-date, and a complete survey on all chemical substances treated is conducted, thereby enhancing the fundamentals of chemical substances management. As part of its efforts to actively participate in chemical substance discharge reduction, HHI is also identifying amount of chemicals used in business sites versus the amount discharged into environment.

#### Hyundai Electric

Hyundai Electric is currently developing a purchase system for managing chemical substances and is making its best efforts to prevent chemical accidents based on thorough management from purchase to disposal.

#### HMD

In an effort to safely manage chemical substances, HMD is implementing various measures such as building and monitoring a chemicals management system, and developing eco-friendly paints.

### On-site Due Diligence/Regular Inspection

Regular on-site checkups are conducted to ensure proper operation of environment-related facilities within business sites including air pollutant discharge and prevention facilities, wastewater discharge facilities, facilities inducing soil pollution, waste paint storage site, hazardous chemicals treatment facilities, etc. Facilities generating environment pollutants and inducing marine pollution are checked every day and recorded in a log. When issues are found, measures are immediately taken in collaboration with relevant departments.

### Environmental Investment Activities and Achievements

HHI Group continues to make investments in environmental management in order to minimize our businesses' environmental impact. In 2018, in particular, massive investment was made in air pollution prevention as prevention facilities were set up in two large-scale painting factories (one in the main yard and the other in the offshore plant yard) of 50,000m<sup>3</sup> and over. The technology of these prevention facilities is Catalytic Oxidation (CO) which reduces Volatile Organic Compounds (VOCs) produced in painting factories. This technology helped significantly lower maintenance cost and reduce installation area compared to Regenerative Thermal Oxidizer (RTO) normally installed in existing painting facilities by applying microwave system and disassembling VOCs to water and CO<sub>2</sub> using a catalyst.

구분	Unit	HHI Holdings	HHI	Hyundai Electric	HCE	HMD
Investments	KRW 100 million	N/A	355	11.2	1.4	63

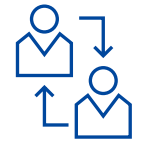
### 2019 Initiatives

	Goal	Initiative
HHI Holdings	Safe and eco-friendly management	<ul style="list-style-type: none"> <li>· Focus on eco-friendly production activities</li> <li>· Comply with environment regulations by strengthening monitoring</li> <li>· Strengthen separate garbage collection activities</li> </ul>
HHI	Building foundation for eco-friendly business	<ul style="list-style-type: none"> <li>· Strengthen environmental pollution prevention activities and conduct more practical eco-friendly activities</li> </ul>
Hyundai Electric	Zero legal/regulatory violations	<ul style="list-style-type: none"> <li>· Conduct activities of environmental pollution prevention/compliance with regulations</li> <li>· Reduce GHG emissions</li> <li>· Conserve local environment</li> </ul>
HCE	Zero legal violations through the implementation of an environmental management system	<ul style="list-style-type: none"> <li>· Maintain air vent pollution level up-to-date</li> <li>· Minimize law violations through training, targeting environmental facility operators</li> </ul>
HMD	Change in safety, health, environment paradigms	<ul style="list-style-type: none"> <li>· Respond to environmental laws and regulations</li> <li>· Reduce GHG emissions</li> <li>· Enhance waste recycling rate</li> </ul>

# Promoting Strong Labor Relations Built on Mutual Respect and Trust

HHI Group establishes a win-win corporate culture through continuous communication. We aim to create shared value by promoting trust in industrial relations and shared growth with our business partners.

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2. Learning & Development 109p



3. Evaluation and Compensation 114p



4. Employees' Quality of Life 116p



5. Shared Growth 119p



# Labor-Management Relations

HHI Group strives to establish sound business ethics and advanced labor-management relations rooted in related laws and regulations. We understand the labor union is an important partner to the management and endeavor to promote cooperative growth between the labor and the management based on mutual respect and trust.

## Collective Bargaining and Labor-Management Council Meetings

HHI Group holds Labor-Management Council meetings at each entity level to discuss the improvement of employees' working conditions and welfare on a regular basis. For better working conditions, we renew collective bargaining agreements biennially and have wage negotiations annually. In 2018, each entity renewed its collective bargaining agreements with wage negotiations and Labor-Management Council meetings held as scheduled.

## Major Labor-Management Issues

Some media reported suspicions on HHI's intervention in labor union activities in 2018, and related investigation is underway to establish the facts. The suspicions posed the need to improve labor-management practices and related organizations. As part of the efforts, HHI reorganized its labor-management organization and assigned the minimal functions required by laws (e.g. collective bargaining and labor-management council). HHI will put forth continuous efforts to build future-oriented labor-management relations based on mutual growth and cooperation.

## Performance Indicator

Category		Unit	HHI Holdings	HHI	Hyundai Electric	HCE	HMD
Collective Bargaining	Rate of Eligible Employees	%	100	100	100	100	100
	Eligible Employees	Persons	140	8,668	1,325	684	2,090
Labor Union	Union Members	Persons	106	8,541	1,256	659	2,090
	Rate of Union Membership	%	75.7	98.5	94.8	96.3	100
	Sessions	Persons	3	4	4	4	4
Labor-Management Council	Proposals Submitted	Proposals	23	40	39	37	21
	Training Participants	Sessions	2	3	2	2	31
Labor Relations Training*	Participants	Persons	9	1,492	135	106	2,922
	Sessions	Sessions	2	4	1	4	3
Management Status Briefing	Sessions	Sessions	2	4	1	4	3

\*New recruits training, team leader training, position level training, manager training, junior board, master board, management strategy seminar, etc.

## Efforts to Promote Internal Communication

### Management Status Briefing

HHI Group holds regular management status briefings for employees and labor union members to build a consensus on the need to overcome the crisis and improve competitiveness, as well as to foster an ownership mentality in employees. Under the collective bargaining agreement, each company is obliged to inform the labor union of major management changes with different deadlines by case. For example, HHI is required to notify the union members of changes to their working conditions at least 40 days before the changes take effect. HMD has the duty to give a 60-day notice to the union members about important changes such as business suspension or shutdown, spin-off/merger, and factory relocation. In 2019, HHI Group plans to increase the number of briefings to share the current management status with employees more frequently and strengthen their commitment to achieving business goals.

### Dialogue with the Management

HHI Group organizes meetings between employees and executives to establish a healthy corporate culture through effective internal communication. Business representatives, chiefs of the headquarters and heads of divisions participate in the meetings to explain corporate policies and direction, while employees are given the opportunity to suggest ideas for further development of the company.

### Monthly Team-Building Meetings

In order to improve the working environment and welfare, department heads and managers hold monthly meetings with team members. Regular communication helps enhance job satisfaction by resolving employees' concerns and grievances and build a culture of trust.

### Publication of Newsletters

HHI Group publishes newsletters on a regular basis to deliver company news and employees' stories. HHI sends 'HHI Family News' once a week. Biweekly newsletters include Hyundai Electric's 'Hyundai Electric News,' HCE's 'HCE News,' and HMD's 'HMD News.' HHI Holdings publishes a monthly newsletter called 'Hyundai Robotics News.' These newsletters serve as the central hub for information and communication.

### Family Events

HCE has invited the families of its employees to the Ulsan plant for the family month event for two consecutive years since the spin-off. Through this event, the company aims to boost employee loyalty and promote harmony and friendship among all employees and their families. It also holds various events, including spring/autumn pep rallies and foot volleyball competition, to enhance communication and cooperation. HMD provided a company tour for the families of employees in the second half of 2018 to create a sense of belonging and facilitate communication. The tour included the screening of a promotional film, photo shoot, yard tour, and souvenirs.

### Education on Labor-Management Relations

#### Labor Relations Training

HHI Group provides labor relations trainings to help employees understand the importance of sound labor-management relations and reinforce communicative capabilities. The trainings focuses on building a culture of communication and strengthening the leadership of managers based on the recognition that healthy corporate culture and leadership are required for win-win labor relations. Seven courses are offered, including various internal programs, organizational culture camps, and external training programs.

#### Mentoring Program

HHI Group operates a mentoring program for employees to help them enhance their job competencies, adapt to organizational culture, and maintain a work-life balance. The one-on-one mentor and mentee relationships between junior and senior employees contribute to developing job skills of junior staff and promoting a voluntary cooperative culture.

#### Organizational Vitality Education

HHI Holdings plans to provide organizational vitality education for all employees to strengthen communication, harmony and cooperation between individuals and divisions. HMD held an overnight program on organizational vitality for production workers in the first half of 2018 and for office workers in the second half. The program provided various activities such as empathy talk, team painting and trust building to help activate the organization and promote internal communication based on trust in co-workers and self-reflection.

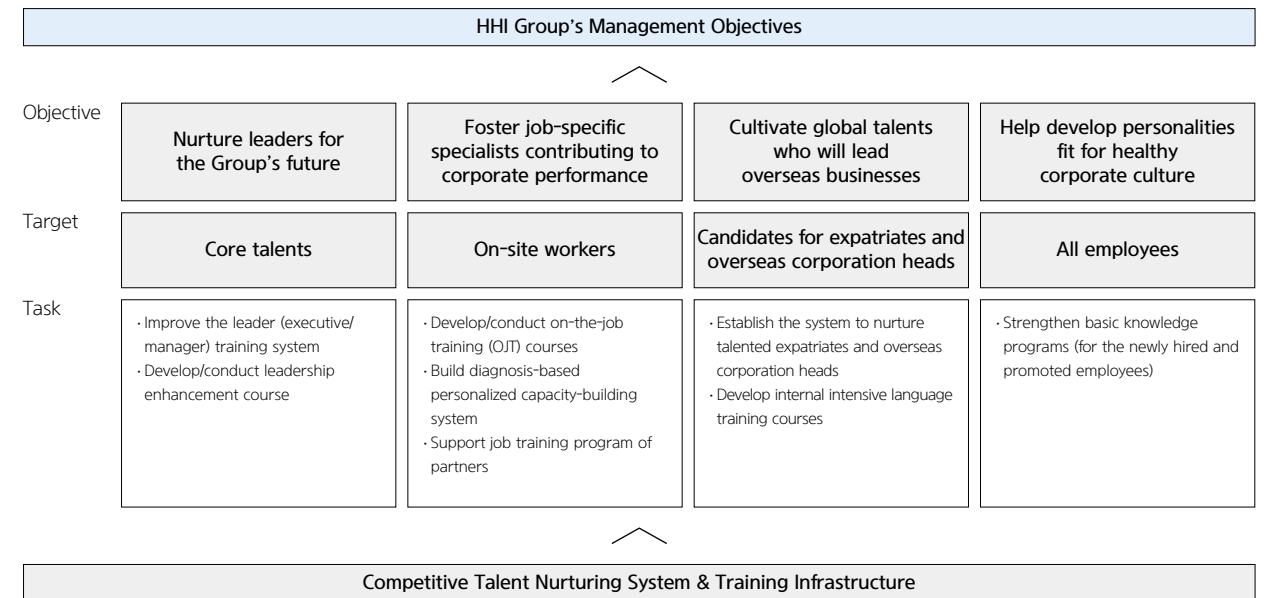
### 2019 Initiatives

Entity	Initiative
HHI Holdings	<ul style="list-style-type: none"> <li>Build an advanced labor-management culture</li> <li>Strengthen communication and teamwork through organizational vitality education to achieve 2019 business goals and mid-to long-term vision</li> </ul>
HHI	<ul style="list-style-type: none"> <li>Stabilize labor-management relations and foster an effective working culture</li> </ul>
Hyundai Electric	<ul style="list-style-type: none"> <li>Reach a consensus on the need to overcome the crisis and turn profitable</li> <li>Instill a sense of shared destiny through communication and cooperation</li> </ul>
HCE	<ul style="list-style-type: none"> <li>Establish an organizational culture of coexistence based on communication and cooperation</li> <li>Labor and management to drive CSR activities as a community-friendly company</li> </ul>
HMD	<ul style="list-style-type: none"> <li>Create a virtuous circle of healthy organizational culture and win-win labor relations</li> <li>Achieve dispute-free collective bargaining for the 23rd consecutive year</li> </ul>

## Learning & Development

HHI Group endeavors to secure business competitiveness and success through employee competency enhancement focused on nurturing next-generation leaders, convergence talents, job-specific specialists, and global talents. It emphasizes the importance of continuous self-development and provides opportunities to improve job-related capabilities for employees at the group and affiliate levels.

### Operating System



### Performance Indicator

Indicator	Unit	HHI Holdings	HHI	Hyundai Electric	HCE	HMD
Participants in Training	Persons	443	16,802	402	680	15,228
Total Training Hours	Hours	13,006	427,816	25,184	26,284	112,205
Training Time per Employee*	Hours/Persons	35	29	10	18	36
Investment in Training	KRW 10 million	16	343	2	6	126

\*Training Time per Employee = Total Training Hours / Number of Employees



### Common Training Programs

HHI Group has developed training programs to help all employees in various positions harness their full capabilities at their job. It focuses on developing job training courses by hearing the actual needs of departments and helping them develop training courses and foster instructors themselves. The developed courses contribute to improving job performance through autonomous education.

Program	Description
Fostering leaders	5-phase HLC course, junior board, master board, junior master board, newly-appointed manager training, leadership development program
Nurturing of convergence talents	Engineering education for humanities/business graduates, electricity-machinery cross-training
Job expertise program	Collective specialist training, on-job vocational training, night-time vocational training, consortium training, online training, book reading program
New hires training	Onboarding training for new/experienced employees, mentoring program
Nurturing of Global Talents	Expatriates nurturing program, overseas corporation head candidate training

Program	Unit	HHI Holdings	HHI	Hyundai Electric	HCE	HMD
Fostering leaders	Persons	2	132	21	11	63
Nurturing of convergence talents	Persons	0	16	4	2	3
Job expertise program	Persons	11	858	30	31	416
New hires training	Persons	31	614	53	46	78
Nurturing of global talents	Persons	1	35	25	18	0
Other programs	Persons	5	1,372	75	48	280

### Detailed Curriculum for Each Training Program

Rank	Required for New	Fostering Leaders	Nurturing of Convergence Talents	Job Expertise Program	Nurturing of Global Talents	Others
Executives	New executives	HLC V Special lecture for executives				
Senior Officer	Technical Master	HLC IV Leadership development program	New Dept. Head	· Collective specialist training	· Language training for candidates of expatriate roles and overseas corporation heads	· Training to support retirement planning
Officer	Senior Technician	HLC III HLC II M/B	New Team Leader	· Engineering education for humanities/business graduates	· On-job vocational training	
	Technician	HLC I J/B	New Senior Foreman	· Electricity-machinery cross-training	· Night-time vocational training	· OJT at the overseas business locations
New Hires	Seasonal gathering event for learning, adaptability training	M/B		· Business administration training for engineers	· Consortium training	
	Mentoring	Jr. M/B			· Online training	
	Onboarding training for new/experienced employees and meister high school graduates				· Book reading program	

### Key Activities and Achievements

#### Development of Job Training

HHI Group focuses on developing job training courses by hearing the actual needs of departments and helping them develop training courses and foster instructors themselves. The developed courses contribute to improving job performance through autonomous education.

#### Nurturing of Convergence Talents

HHI Group has newly introduced a program to nurture convergence talents with consilience competency and business insights. The program helps talented employees with humanities/business majors to learn engineering basics and provides cross-education for electricity/machinery engineers.

#### Diagnosis-based Learning System

The role of leaders is getting more important to flexibly respond to rapidly-changing business conditions and efficiently manage the organization. As such, HHI Group has established leadership capabilities required for each position. The managers are assessed for such capabilities and receive feedback every year. In 2018, the advanced leadership course was newly developed to provide training based on diagnosis results, allowing managers to consider which capabilities they should maintain or improve.

#### Key Activities in 2018

Entity	Key Activities
HHI Holdings	· Provided sales representatives with financial support for language training
HHI	· Established group-wide training plan and execution process · Operated convergence talents training courses and job rotation · Improved the screening and training process for expatriate candidates
Hyundai Electric	· Conducted 'Customer Satisfaction Training' to improve customer service quality · Introduced language courses and OJT (at overseas corporation) for expatriate candidates
HCE	· Strengthened early onboarding process for new hires through OJT improvement (education on products/technologies and field training) · Supported language education and opened internal courses (English, Chinese, etc.) · Built Ulsan Technology Training Center for systematic global production support
HMD	· Conducted organizational vitality education to build a consensus to overcome the crisis through communication · Operated job training courses and provided support for external education

### 2019 Initiatives

Entity	Initiative
HHI Holdings	<ul style="list-style-type: none"> <li>Strengthen next-generation leader/executive training system</li> <li>Reinforce convergence talent training program and expand job rotation</li> <li>Improve the quality of onboarding training by establishing a systematic education system for new hires</li> </ul>
HHI	<ul style="list-style-type: none"> <li>Continue to expand the participation of affiliates through the qualitative improvement of group-wide talent nurturing system</li> <li>Enhance achievements by establishing a mid-to long-term operation plan for leadership courses</li> <li>Check/improve HR development system for better work efficiency</li> </ul>
Hyundai Electric	<ul style="list-style-type: none"> <li>Boost technological competitiveness by reinforcing design/research workforce</li> <li>Strengthen next-generation leader/executive training system</li> </ul>
HCE	<ul style="list-style-type: none"> <li>Reinforce training for expatriate candidates by selecting experts on each region (OJT at overseas corporation)</li> <li>Strengthen organizational vitality and communication across ranks</li> <li>Operate specialist training courses and provide more support for self-driven learning</li> </ul>
HMD	<ul style="list-style-type: none"> <li>Strengthen managers' capabilities and foster potential leaders</li> <li>Nurture specialists for new vessel types</li> <li>Instill a spirit of change and innovation</li> </ul>

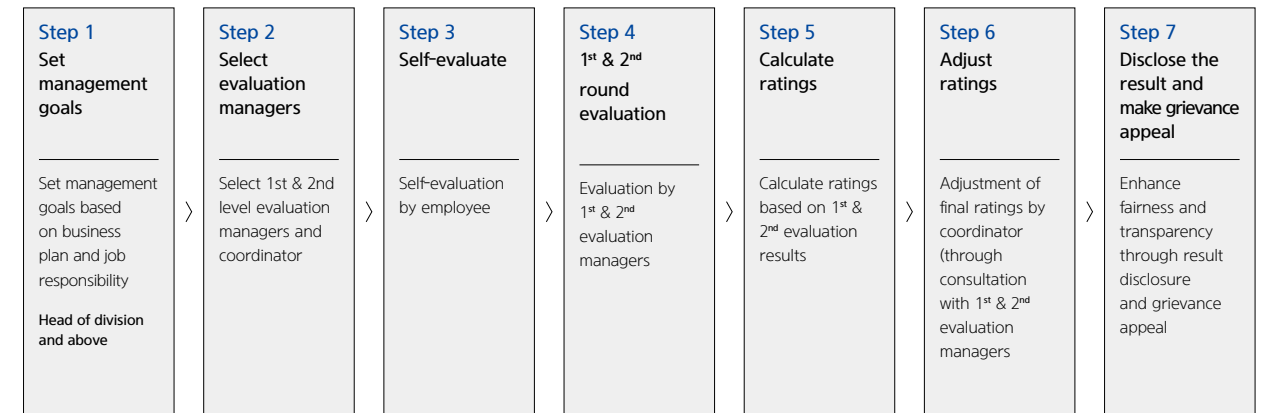
## Evaluation and Compensation

HHI Group is operating a transparent and objective performance evaluation and compensation system to assess employees' efforts with fairness. Various rewards are provided to motivate employees and promote a sense of achievement in a positive work environment.

### Evaluation System

HHI Group conducts performance evaluation on every employee in the first and second halves of each year. The results are used when making decisions on promotion, compensation, training and leader selection. Regular performance management throughout the year provides basic data for evaluation. Employees' performance and capabilities are evaluated comprehensively. The persons holding positions of department/team head or higher are subject to the Management by Objectives (MBO) process and evaluated for actual achievements. HCE applies the MBO system to all employees. Multi-dimensional leadership diagnosis is also conducted once a year to produce preliminary data used to assign positions.

#### Evaluation Process



\*HCE applies STEP 1 to all office workers.

### Performance Indicator

Category			Unit	HHI Holdings	HHI Electric	Hyundai Electric	HCE	HMD
Percentage of employees evaluated for performance*	Male	Knowledge workers	%	91.7	97.8	95.8	100	98
		Production workers	%	93.2	85.2	93.5	90.8	92.3
	Female	Knowledge workers	%	81.3	93.5	87.6	96.3	90.9
		Production workers	%	N/A	62.2	92.3	N/A	100
Wages			KRW 100 million	270	11,828	2,506	1,196	2,359

\* Exclusive of employees newly hired, on leave, or scheduled to retire

## Compensation System

HHI Group reflects inflation rates in salary settlements to help its employees lead a stable life. The persons in managerial or higher positions are subject to a performance-based salary system that provides different compensation based on the evaluation of personal/organizational performance. Assistant managers and below positions receive a bonus, merit pay, incentive and allowances for birthdays in addition to their monthly salaries. The same standard is applied to the male and female employees for equality.

## Reward Policy

Under the principle that every achievement should be rewarded, HHI Group operates the on-the-spot reward program for excellent performance. Various reward systems are in place at each affiliate with the aim to foster a culture of harmony and encouragement.

Reward System	Description
HHI Award, Hyundai Electric Award, HCE Award, Mipo Award of the Year, Hyundai Robot Award	All division heads participate in the evaluation to ensure fair selection of award winners among employees with excellent business achievements
On-the-spot reward for excellent performance	On-the-spot reward is given to employees who have contributed to cost reduction, etc. based on the profit improvement
Hidden Hero Recognition, Praise Your Colleague program	Mobile reward program to boost organizational vitality and create a culture of encouragement
Others	Recognition of best-performing employees, executives, managers and production teams, sales incentives, research performance-based pay, awards for high-performing quality and safety teams, etc.

## 2019 Initiatives

Entity	Initiative
HHI Holdings	<ul style="list-style-type: none"> <li>Ensure fair evaluation of performance</li> <li>Provide reasonable compensation based on personal performance</li> <li>Strengthen incentives for contribution to robot business growth or related achievements</li> </ul>
HHI	<ul style="list-style-type: none"> <li>Plan and operate various welfare programs to enhance employees' satisfaction</li> <li>Create a culture of work-life balance to prepare for 52-hour workweek system</li> </ul>
Hyundai Electric	<ul style="list-style-type: none"> <li>Build a consensus to overcome the crisis</li> <li>Expand performance-based reward system (sales incentives, research incentives, etc.)</li> </ul>
HCE	<ul style="list-style-type: none"> <li>Ensure fair evaluation of performance</li> <li>Provide reasonable compensation based on personal performance</li> <li>Expand rewards for contributing to corporate earnings</li> </ul>
HMD	<ul style="list-style-type: none"> <li>Establish performance-centered HR system through fair evaluation</li> <li>Foster a culture of harmony and encouragement by expanding the target and scale of rewards</li> </ul>

# Employees' Quality of Life

HHI Group operates a benefits program under the principle of providing practical supports for various needs of its employees. We help employees maintain the work-and-life balance by offering systematic support ranging from a work culture of the company to housing, family, leisure activity support and retirement preparation.

## Key Programs

Housing & Living	Family	Leisure Activities
<ul style="list-style-type: none"> <li>Loan interest support</li> <li>Housing support for single employees</li> </ul>	<ul style="list-style-type: none"> <li>Incentives for family events</li> <li>Encouragement for maternity/parental leave</li> <li>Nursing room, in-house childcare facilities</li> <li>Tuition for children</li> </ul>	<ul style="list-style-type: none"> <li>Vacation facilities</li> <li>Comprehensive leisure town</li> <li>Self-development block leave for those promoted</li> </ul>
Medical Service	Retirement Planning	Work Culture
<ul style="list-style-type: none"> <li>Medical expense support</li> <li>Medical checkup for family</li> </ul>	<ul style="list-style-type: none"> <li>Retirement planning consulting</li> <li>Retirement pension program</li> <li>Personal pension support</li> </ul>	<ul style="list-style-type: none"> <li>PC-Off program</li> <li>Flexible working program</li> <li>Workplace bullying prevention program</li> </ul>

## Performance Indicators

Category	Unit	HHI Holdings	HHI	Hyundai Electric	HCE	HMD		
Loan interest support amount	KRW 100 million	1.6	113.2	19.2	15.4	20.3		
Employees on maternity leave	Male	Persons	0	0	2	0		
	Female	Persons	0	0	0	4		
Employees on parental leave	Employees in scope <sup>1</sup>	Male	Persons	5	473	79	47	67
		Female	Persons	0	16	1	2	0
	Employees taking leave	Male	Persons	2	157	6	6	11
		Female	Persons	0	34	2	4	1
	Employees having returned to work	Male	Persons	1	126	17	3	13
		Female	Persons	0	23	6	5	3
Continued service rate <sup>2</sup>	Male	Persons	100	77	50	100	50	
	Female	Persons	N/A	50	100	0	75	
Average continued service period	Years	12.2	15.7	18.3	15.4	16.2		
Retirement planning consulting attendees	Persons	2	425	54	37	55		
Retirement pension system	DB	KRW 100 million	85	6,134	789	577	1,437	
	DC	KRW 100 million	N/A	N/A	5.6	4	N/A	
Personal pension support amount	KRW 100 million	0.65	36	8.14	3.21	7.4		
In-house employee benefits fund	KRW 100 million	1	68.16	26.7	5	64.9		

1 Estimated based on money gift for birth paid by the company

2 The percentage of workers staying at work at the end of 2018 after returning from parental leave in 2017

**Key Activities and Achievements**

**Retirement Pension Program**

HHI Group operates a retirement pension system, for which all employees become eligible after one year of service. All employees aged 56 and older are under the Defined Contribution (DC) plan, while the rest are under the Defined Benefit (DB) plan, as agreed between the management and the labor union.

**Retirement Planning Consulting**

HHI Group offers retirement planning consulting to help employees maintain a healthy and stable life even after retirement. During the consulting session, participants learn about asset and health management and share information on starting a business or a new job for a new chapter of their life. Out of 661 people retiring across HHI Group, 573 participated, recording a high completion rate of 86.7%. In 2018, there were 11 classes in five different sessions, and a total of 32 hours were spent on the consulting. Going forward, we plan to improve the program to reflect the needs of our employees as much as possible, while incorporating activities such as experiencing successful retirement, couple programs, and special lectures on IT & economy.

**PC-Off & Flexible Workhour Programs**

With the amendment to the Labor Standards Act in May 2018, the maximum workhours have now been reduced to 52 per week, including overtime/holiday work. Under the new system, HHI Group is also striving to create a flexible work environment that promotes work-life balance and efficient working conditions. We have a PC-Off system that automatically shuts down PCs of all individuals at a fixed time. In addition, employees are asked to plan their work and apply for overtime work in advance, only up to 12 hours a week. For jobs that require more than 52 hours a week in the peak period, such as commissioning and mounting, a three-month flexible working hours scheme is implemented. Currently, the system is applied to 11 cases (565 employees) since the agreement between the labor and the management in July 2018.

**Workplace Bullying Prevention Program**

HHI Group plans to change various company policies (governing employment, disciplines and others) to preemptively respond to the scheduled revisions in July 2019 to the Labor Standards Act to strictly ban workplace bullying. In addition, we will establish a process to report/investigate/handle harassment incidents in the workplace and run anti-bullying campaigns through various media such as in-house broadcasts, news, bulletin boards, and pay slips. Starting in 2019 when the revised law goes into effect, we will handle any harassment case in accordance with relevant procedures and provide preventive training every year for the establishment of a sound culture.

**2019 Initiatives**

Entity	Initiative
HHI Holdings	<ul style="list-style-type: none"> <li>· Provide benefits for settlement following relocation of worksite</li> <li>· Support retirement planning consulting for a new chapter of life</li> <li>· Create a culture that values employees taking maternity/child leave</li> </ul>
HHI	<ul style="list-style-type: none"> <li>· Develop and operate various benefits systems to enhance employee satisfaction</li> <li>· Promote work-life balance in line with the 52-hour workweek system</li> <li>· Create a workplace where employees want to come to work by caring for those taking maternity/parental leave and operating motherhood protection program</li> </ul>
Hyundai Electric	<ul style="list-style-type: none"> <li>· Motivate employees by improving the working environment (renewing the cafeteria, improving office environment)</li> <li>· Stabilize the organization and cultivate a positive work culture</li> </ul>
HCE	<ul style="list-style-type: none"> <li>· Operate an employee-friendly benefit system</li> <li>· Support retirement planning consulting for a new chapter of life</li> <li>· Create a culture that values employees taking maternity/child leave</li> </ul>
HMD	<ul style="list-style-type: none"> <li>· Strengthen support for stable living after retirement</li> <li>· Operate benefits for promoting work-life balance and childbirth</li> <li>· Improve facilities for the greater convenience of employees</li> </ul>

# Shared Growth

HHI Group pursues shared growth with partners in order to secure sustainable competitiveness and lay a foundation for a fair society. Support for financing, education, recruiting, technology and management will continue to be provided to partners in order to reinforce their growth and competitiveness, creating a healthy corporate ecosystem where everyone can grow hand-in-hand.

## Management System

Core Value	Just, Fair and Legitimate Performance		
Key Policy	Continuous System Improvements	Establishing Fair Trade Practices	Enhancing Competitiveness of Partners
	<ul style="list-style-type: none"> <li>Refrain from engaging in business in non-related fields</li> <li>Encourage businesses of small and mid-sized companies</li> <li>Build support systems and practice the three shared growth strategies</li> </ul>	<ul style="list-style-type: none"> <li>Introduce and comply with the four key guidelines of the Fair Trade Commission</li> <li>Establish reasonable trade practices</li> <li>Improve communication with partners</li> </ul>	<ul style="list-style-type: none"> <li>Support sales increase of partners</li> <li>Support training, recruitment, technology and financing</li> <li>Adjust unit price of delivery considering the situation of the partner companies</li> </ul>
Responsible Organization	Group Shared Growth Committee	Shared Growth Council	Shared Growth organizations
	Ensure company-wide consistent policy, activity planning and consultation	Develop policies for mutual growth and cooperation with primary and secondary subcontractors	Implement shared growth policy and activities, and provide performance management and for shared growth feedback

## Performance Indicators

Category	Unit	HHI Holdings	HHI	Hyundai Electric	HCE	HMD
Shared Growth Fund	KRW 100 million	N/A	3,086	N/A	N/A	690
Cash payment	%	100	100	100	100	100
Early payment	KRW 100 million	97	1,965	542	420	1,350
Trainee from partner companies	Persons	114	920	249	600	548

\*HHI Holdings, Hyundai Electric, and HCE to form separate shared growth funds at a later date due to the recent split.

## Activities and Achievements

### Financial Support for Business Partners

HHI and HMD manage a Shared Growth Fund to support the loan interest payment of 0.82% for up to KRW 3 billion per partner. HHI Holdings, Hyundai Electric and HCE also have plans to create a separate Shared Growth Fund to better support partners. Furthermore, starting from 2011, partners have been paid fully in cash for material costs, which is enhancing their liquidity. Payments are made within 10 days of bill issuance and generally earlier before the start of summer vacation or national holidays, to help the efficient funds management of partners. HHI, in particular, operates a system that monitors cash payments between primary and secondary

subcontractors to prevent issues that may arise from doing business with secondary partners and to improve their payment conditions. As for HCE, it selected 5 partners to jointly venture into overseas markets through a shared finance program, and provided loan interest support to 87 partners, promoting their financial stability.

### Vibrant Communication with Business Partners

Entities of HHI Group visit partners to listen to their grievances and challenges, and devise necessary solutions. Each year, HHI, HMD and HSHI invite committee members from business partners to a new year's party. At the party, important business updates are shared, and outstanding partners are rewarded based on quality management and on-time delivery.

### Support for Training and Human Resources

Various training programs are provided to partners to improve the capabilities of their executives and employees. Ever since the shared growth training center was launched in 2013, training opportunities have also been offered to secondary and tertiary partners. In addition, professionals are sent to support certain job duties, such as product quality inspection experts who help enhance the partners' quality management capacity. HHI utilizes the Technical Education Institute to train skilled workers and help them find jobs at partner firms. Through this Institute, 17 people were recruited by 13 business partners during 2018.

### Support for Technical Development and Sales Expansion

HHI Group provides a wide range of technological support, such as transferring new technology, partially sharing licenses or visiting partner companies to offer technological assistance. Furthermore, HHI Group jointly develops new technology and applies for a patent alongside the partners, aiming to bolster their technical competency. Each year, the Group helps increase the sales of partners by jointly venturing into overseas markets and promoting their technologies to potential customers at industry trade shows held inside and outside of Korea.

### Global Hyundai Integrated Procurement System (G-HiPRO)

HHI Group established the Global Hyundai Integrated Procurement System (G-HiPRO) in order to enhance transparency and fairness of the contract process. G-HiPRO's electronic bidding system transparently discloses our procurement in quotes, technical review, bidding and internal review, improving efficiency across the entire contract process from contract signing, delivery, issuance of transaction receipt, to payment.

**2019 Initiatives**

Entity	Initiative
HHI Holdings	· Provide training and technical support to after-purchase service providers and joint ventures in China
HHI	· Support partners to increase sales and source funding · Provide technical, training and workforce support · Operate G-HiPRO
Hyundai Electric	· Provide technical guidance for the training of professionals · Expand opportunities to participate in new product development to enhance competitiveness · Expand regular quality training and inspection support to improve quality level
HCE	· Create a shared growth fund · Provide support in conjunction with universities/research institutions by holding technology briefing sessions · Provide partner companies with guidance for quality/technical improvement
HMD	· Establish procedures for requesting technical data from suppliers · Promote the suggestion system for partner companies

# Demonstrating Our Commitment to Global Corporate Citizenship

HHI Group pursues a society of shared happiness under the core values of love, sharing and happiness. We will make a better future by creating shared values with strategic social contribution activities.



# Social Contribution

HHI Group has conducted various activities to improve the lives of local residents under its management philosophy of contributing to the development of the nation and society as a global corporate citizen. In that light, we organize various programs with the participation of employees and volunteers, to share with the marginalized in our neighborhood and redistribute profits to the society, which we take as our key social responsibility. In 2019, we plan to escalate our efforts to reach out to the local communities and make meaningful contribution by forming a volunteer group that consists of HHI Group employees.

## Key Activities

Local Community Support Activities	Sharing Activities by Employees	Arts & Cultural Activities
<ul style="list-style-type: none"> <li>Participation in the campaign encouraging every company to build a sisterhood relationship with one rural village (a.k.a One-Company One-Village Campaign)</li> <li>Participation in the traditional market revitalizing campaign</li> </ul>	<ul style="list-style-type: none"> <li>Paycheck contribution campaign</li> <li>Sharing with local senior citizen centers</li> <li>Support for the socially marginalized</li> <li>Charity Bazaar with Love</li> <li>Making Kimchi with Love</li> <li>Spring Picnic for Disabled</li> <li>Briquet Sharing for Love</li> </ul>	<ul style="list-style-type: none"> <li>Hyundai Arts Center</li> <li>Hanmaeum Center</li> <li>Supporting local arts organizations</li> <li>Lobby Concert</li> </ul>

## Performance Indicator

Category	Unit	HHI		Hyundai	HCE	HMD	
		HHI Holdings	HHI	Electric			
Sharing by Employees	Volunteering hours	Hours	N/A	10,059	N/A	2,480	3,012
	Paycheck contribution	KRW 1,000	2,055	117,156	34,720	12,000	30,007
	No. of paycheck contribution participants	Persons	312	15,296	7,104	297	2,474

## Community Development Program

### One-Company One-Village Campaign

HHI and HMD have formed sisterhood relations with many rural villages, including Dongmyung Village in Miryang, to create mutually beneficial ties with these agricultural/fisheries communities. We have purchased food ingredients for the in-house cafeterias from our sister villages in a way to provide them with stable income streams, and volunteers to help them during busy seasons.

### Traditional Market Revitalizing Campaign

HHI, Hyundai Electric and HCE have been purchasing and sharing Onnuri gift certificates that can only be used in local traditional markets since 2011 in an effort to revitalize traditional markets, which play a vital role in boosting the local economy. In 2018, we purchased KRW 105 million worth of Onnuri gift certificates and provided them to the underprivileged and social welfare facilities.

## Sharing Activities by Employees

### Paycheck Contribution Campaign

In 2018, a total of 25,000 employees participated in the wage tail-cut contribution (odd amount under KRW 1,000) campaign and raised around KRW 190 million. We also organize other campaigns, such as One Dollar for Love and Hope for Holidays, to help the less privileged in our neighborhood. The fund raised from the campaign were given to the Ulsan branch of Community Chest of Korea, Korea Heart Foundation, Korean Association for Children with Leukemia & Cancer, Korea National Council on Social Welfare, and Child Fund Korea.

### Sharing with Local Senior Citizens Centers

For over 20 years, HHI Group has been supporting local senior citizens centers to show respect for the elders and share love with neighbors. We have built relationships with senior citizen centers across Ulsan and conducted volunteer activities such as delivering rice and repairing facilities.

### Support for Gray Areas of Welfare

With the aim of promoting emergency responses and eliminating the gray areas of welfare, HHI launched an emergency support project for distressed families in April 2016. In 2018, funding of KRW 36 million was used to support children in need of social protection from 31 households, and KRW 49 million was set aside to provide tuition and textbooks to child breadwinners and students from 40 households supported by the national basic living security system. In recognition of its continued effort to improve people's daily lives, HCE was awarded a plaque of appreciation from the mayor of Seongnam City in November 2018. HCE plans to expand its volunteer activities by matching each business division with one welfare facility.

### Charity Bazaar with Love

For the 25th Charity Bazaar with Love held in November 2018, donations were received from employees of HHI Group, local community organizations, heads of external organizations, local celebrities, and Ulsan Hyundai Football Club members for the charity sales. A total of 12,000 pieces of donations were sold to local residents at bargain prices. The proceeds were used to hold the Making Kimchi with Love event and were awarded as scholarships for students in Ulsan.

### Making Kimchi with Love

This annual event is for making and sharing kimchi with neighbors in need. The event has become one of the flagship philanthropic activities of HHI Group, which began in 1991. In November 2018, about 250 employees and volunteers made kimchi from 8,000 heads of cabbage and then shared them with 30 local welfare facilities and 1,200 underprivileged households in the community.

### Spring Picnic with People with Disabilities

Since 1992, HHI Group has been a proud sponsor of Roly Poly (oddugi) Party, the largest festival for the people with disabilities in Ulsan. In 2018, we invited 1,800 students with mental disabilities from special schools and social welfare facilities and



300 volunteers and teachers to a picnic to an amusement park.

#### Sharing Activities of New Joiners

We organized volunteer activities for loving, sharing and giving with new recruits in 2018. In February, October and November, about 200 new-hired employees and 60 experienced employees participated in volunteering activities at three local welfare facilities – Taeyeon Rehabilitation Center, Hyejinwon and, Ulsan Chamsarang Center.

## Activities and Achievements by Entity

### HHI

#### Relay Sharing

HHI runs the Relay Sharing program to keep the volunteer activities and donations moving. In April 2018, we invited 150 workers and volunteers at community welfare centers for a musical, to express appreciation for their continued support and devotion for those in need in our community. A relay of donating rewards also spread among employees, not to mention contribution from diverse employee clubs and by individual employees, fostering the spirit of sharing throughout the year.

#### Praise Your Colleague Campaign

Since April 2016, HHI has been running its Praise Your Colleague Campaign, under which employees give points to a colleague they want to praise, and the company sets aside KRW 100 to donate to society for every 1 point awarded. The program has been an effective tool in not only developing a positive organizational culture where members encourage each other but also raising a fund for year-end sharing. In 2018, a funding of KRW 25 million was raised and used to organize a Christmas event in December in partnership with the Ulsan Chapter of Child Fund Korea. The employees who accumulated the most points for 2018 became Santa Clause of the day and doled out gifts to 260 children from less privileged families.

#### Environmental Protection Activity

We have been actively involved in environmental protection activities in and around mountains, rivers and seaside areas. We also organize and host various environment protection events such as one company-one stream cleaning campaign and clean seashore campaign to raise awareness about environmental protection among local residents.

#### Smoking Cessation Clinic Fund

Since 2005 when the fund was formed, HHI has raised a fund worth of KRW 134.97 million to help the less privileged. Continuing on for 14 years, the Fund collected KRW 1.7 million from 17 participating employees in 2018 and donated the money to low-income families via the Ulsan Chapter of Korean Red Cross.

#### Hamaeum Jajangmyeon Project

In collaboration with Hanmaeum Food and Ulsan Dong-gu Social Welfare Center, HHI offers jajangmyeon (black-bean-sauce noodles) and tangsuyuk (pork with sweet and sour sauce) to 250 citizens at local welfare centers on a monthly basis. HHI bears the entire expense for ingredients and chefs from Hanmaeum Food cook the food for the marginalized class to enjoy, promoting activities for sharing.

### Hyundai Electric

#### Sisterhood sponsorship agreements

In 2018, Hyundai Electric signed a sisterhood sponsorship agreement with two local welfare facilities, Love House and Arium, and started various local community support programs to fulfill its responsibility as a responsible corporate citizen.

### HCE

#### Coal Briquettes Delivery

At HCE, new hires have been delivering coal briquettes to seniors living alone and low-income families in the run-up to the cold winter season every year since 2017. Coal briquettes are purchased with the money raised from the Coin Donation Campaign the company holds every year to promote sharing and engagement with local communities.

#### Small Concert in Soi-myeon

HCE has been supporting Small Concerts in Soi-myeon, a small village where the company's Eumseong Plant is located, striving to set an example of a good corporate citizen that grows together with the local community.

### HMD

#### Scholarship Support

Since 2006, HMD has provided annual scholarships to children from low-income families through Child Fund Korea. In 2018, we granted KRW 6 million in scholarships, KRW 500,000 each for 12 children from a single parent family, on a national basic living security system, or placed in foster care.

## 2019 Initiatives

Entity	Initiative
HHI Holdings	<p><b>Launch of social contribution programs</b></p> <ul style="list-style-type: none"> <li>· Provide low-income families in the local community with meals in association with community welfare organizations</li> <li>· Support teenagers from immigrant or multicultural families and help them become settled</li> </ul>
HHI	<p><b>Local community contribution</b></p> <ul style="list-style-type: none"> <li>· Charity Bazaar with Love &amp; Making Kimchi with Love</li> <li>· Distribution of Onnuri gift certificates &amp; goods with the marginalized for holiday seasons</li> <li>· Praise Your Colleague Campaign</li> </ul> <p><b>Sponsorship·Sharing</b></p> <ul style="list-style-type: none"> <li>· Roly Poly (oddugi) Party for the disabled</li> <li>· CSR Joint Program “Special Companion, Flying Together”</li> <li>· “Walk For Sharing” with Korean Red Cross</li> </ul> <p><b>Vitalization of HHI Group social contribution</b></p> <ul style="list-style-type: none"> <li>· Form an employee volunteer corp</li> <li>· Participate in HHI Group’s volunteer organization</li> </ul>
Hyundai Electric	<ul style="list-style-type: none"> <li>· Programs for the socially marginalized households</li> <li>· Sharing at local community senior citizens center</li> <li>· Support sister social welfare facilities</li> </ul>
HCE	<ul style="list-style-type: none"> <li>· Paycheck contribution (Wage tail-cut, coin collection)</li> <li>· Continued volunteering (Division-specific volunteering at welfare facilities, support sister welfare facilities)</li> </ul>
HMD	<ul style="list-style-type: none"> <li>· Create one volunteer team per division</li> <li>· Vitalize employee volunteering with focus on kids from low-income families and orphans</li> </ul>

## Arts & Culture

HHI operates Hyundai Arts Center and *Hanmaeum* Center in order to provide access to high-quality cultural activities for local residents. Based on our accumulated experiences of management know-how, we contribute to expanding the horizon of culture and arts for the benefit of the local residents by providing a variety of cultural programs.

### Cultural Facilities

Facility	Foundation year	Introduction
Hyundai Arts Center	1998	The largest cultural center in Ulsan with a high-quality performance theater, art gallery, cinema and sport facilities
<i>Hanmaeum</i> Center	1991	Provider of continuing education programs for local communities with sports facilities (swimming pool and gym), cinema, gallery and an art academy

### Facility Operation Status

Facility		Unit	Record
Hyundai Arts Center	Concert Hall	Planned Programs	No. 21
		Seat Occupancy	% 84
		Visitors	Persons 27,591
	Chamber Hall	Planned Programs	No. 4
		Seat Occupancy	% 98
		Visitors	Persons 10,107
Cinema	Screenings	No. 141	
	Visitors	Persons 205,940	
Exhibition	Exhibitions	No. 6	
	Visitors	Persons 12,514	
<i>Hanmaeum</i> Center	Cultural courses	No. 57	
	Sports courses	No. 105	

### Performances & Exhibitions at Hyundai Art Center in 2018

Category	Title
Performance	Piano Recital by Cho Sung-jin
	Piano Recital by Yuhki Kuramoto
	Guitar Recital by David Russell
	La Boheme by Korea National Opera
	Musical Man of La Mancha
	Musical 42 <sup>nd</sup> Street
	Universal Ballet Giselle
Exhibition	The Great Graffiti
	Leiji Matsumoto Exhibition : Galaxy Express 999
	Meeting with Young Writers from Ulsan : Splendor of Youth
	When Blooming Spring Comes
	Korean Contemporary Craft

## Culture & Arts Promotion Activities

### Supporting Local Arts Organizations

Hyundai Arts Center provides four local amateur arts organizations – Ulsan Hyundai Philharmonic Orchestra, Ulsan Men’s Choir, Dong-gu Ladies Choir, and Hyundai Boy’s and Girl’s Choir – with a permanent practice hall, concert hall, and performance cost support. It has also been supporting the USP Chamber of Commerce, which was founded with Ulsan University, with expenses for operation since 2007. These organizations continue to actively engage in activities such as holding regular concerts and contribute to the development of community by performing arts and winning prizes at national competitions.

### Lobby Concert

On the 2nd and 4th Wednesdays of every month, we provided professional and amateur artists with a chance to perform at a lobby concert held in the lobby

of Hyundai Arts Center. We provide a free stage and musical instrument for the performers and provide local residents with the opportunity to enjoy musical performances in their daily lives.

**2019 Initiatives**

HHI Group will contribute to improving the quality of life and the access to cultural & art content for local residents through popular and quality performances and exhibitions. In addition, we plan to organize performances and exhibitions that can be enjoyed by audiences of various generations, including students, young people, and middle-aged people.

**Performances Scheduled for 2019**

Category	Classical music	Musical	Play	Ballet	Live concert	Kids	Total
No. of performances	4	5	1	1	8	1	20

## PART 4. APPENDIX

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## Summary Consolidated Financial Statements

HHI Holdings		(Unit: KRW 1 million)
Title of Account	2018	2017
Current assets	8,884,243	7,827,203
Cash and cash equivalents	1,099,824	1,126,274
Trade and other receivables	2,798,650	3,155,867
Short-term financial assets	238,611	40,183
Inventories	4,329,883	3,301,983
Other current assets	417,277	202,894
Non-current assets	14,463,576	13,061,367
Investments in associates and joint ventures	4,075,972	3,411,467
Long-term trade and other receivables	208,090	119,168
Long-term financial assets	5,908	8,603
Investment property	10,635	10,635
Property, plant & equipment	7,885,741	7,233,872
Intangible assets	2,091,826	2,159,375
Other non-current assets	185,404	118,247
<b>Total assets</b>	<b>23,347,820</b>	<b>20,888,570</b>
Current liabilities	8,660,183	6,528,696
Non-current liabilities	4,133,477	4,258,009
<b>Total liabilities</b>	<b>12,793,660</b>	<b>10,786,706</b>
Capital stock	81,433	81,433
Capital surplus	4,783,119	6,774,613
Capital adjustments	(543,101)	(500,444)
Accumulated other comprehensive income	104,031	185,989
Retained earnings	3,302,009	946,761
Non-controlling interests	2,826,668	2,613,513
<b>Total equity</b>	<b>10,554,160</b>	<b>10,101,865</b>
Title of Account	2018	For the 9 months ended Dec. 31, 2017
Revenue	27,256,650	14,299,512
Operating profit	861,427	843,038
Net profit	283,985	1,013,033
Equity attributable to owners of the parent	268,619	933,514
Non-controlling interests	15,367	79,520
Total comprehensive income	284,500	992,913
Equity attributable to owners of the parent	279,667	917,213
Non-controlling interests	4,834	75,700
Earnings per share (Unit: one KRW)	18,371	74,413

HHI			
(Unit: KRW 1 million)			
Title of Account	2018	2017	2016
Current assets	12,316,693	17,663,720	25,864,819
Cash and cash equivalents	3,041,786	3,239,727	4,326,493
Trade and other receivables	1,477,334	1,942,374	5,195,834
Contract assets	3,677,787	-	-
Due from customers for contract work	-	3,357,947	5,275,520
Inventories	1,009,063	845,360	3,879,526
Other current assets	3,110,723	8,278,312	7,187,446
Non-current assets	12,413,206	12,745,128	23,084,441
Investments in associates and joint ventures	403,980	142,287	454,028
Long-term financial assets	125,061	134,966	502,567
Investment property	144,828	233,864	240,607
Property, plant & equipment	10,269,011	11,046,256	18,729,240
Intangible assets	89,483	105,443	1,962,484
Other non-current assets	1,380,843	1,082,312	1,195,515
<b>Total assets</b>	<b>24,729,899</b>	<b>30,408,848</b>	<b>48,949,260</b>
Current liabilities	9,410,253	15,614,871	23,237,005
Non-current liabilities	2,208,682	2,421,939	7,925,693
<b>Total liabilities</b>	<b>11,618,935</b>	<b>18,036,810</b>	<b>31,162,698</b>
Capital stock	353,866	283,327	380,000
Capital surplus	2,483,377	1,049,896	1,124,896
Hybrid securities	428,589	428,589	428,589
Capital adjustments	(8,448,228)	(8,355,403)	(1,367,899)
Accumulated other comprehensive income	1,020,901	1,478,130	1,937,430
Retained earnings	16,043,717	16,236,902	13,433,929
Non-controlling interests	1,228,742	1,250,597	1,849,616
<b>Total equity</b>	<b>13,110,963</b>	<b>12,372,038</b>	<b>17,786,562</b>
Title of Account	2018	2017	2016
Revenue	13,119,891	15,468,836	22,300,438
Operating profit	(522,520)	14,646	391,530
Net profit from continuing operations	(644,987)	(93,390)	15,543
Net profit from discontinued operations	191,377	2,786,532	611,448
Net profit	(453,610)	2,693,142	626,991
Equity attributable to owners of the parent	(489,060)	2,457,750	545,171
Non-controlling interests	35,450	235,392	81,820
Total comprehensive income	(551,775)	2,607,049	2,460,390
Equity attributable to owners of the parent	(581,614)	2,376,638	2,247,730
Non-controlling interests	29,839	230,411	212,660
Earnings per share from continuing operations (Unit: one KRW)	(10,434)	(3,550)	(718)
Earnings per share from discontinued operations (Unit: one KRW)	2,579	48,348	9,487

Hyundai Electric			
(Unit: KRW 1 million)			
Title of Account	2018	2017	
Current assets	1,651,652	1,490,453	
Cash and cash equivalents	376,329	241,374	
Trade and other receivables	649,019	841,533	
Due from customers for contract work	-	5,185	
Contract assets	145,931	-	
Inventories	424,705	357,615	
Other current assets	40,668	44,746	
Non-current assets	674,404	604,124	
Long-term financial assets	3,098	1,790	
Long-term trade and other receivables	1,194	1,140	
Property, plant & equipment	527,967	471,562	
Intangible assets	17,410	55,463	
Other non-current assets	124,733	74,168	
<b>Total assets</b>	<b>2,326,056</b>	<b>2,094,577</b>	
Current liabilities	1,123,316	588,831	
Non-current liabilities	351,441	465,631	
<b>Total liabilities</b>	<b>1,474,757</b>	<b>1,054,463</b>	
Capital stock	101,786	51,029	
Capital surplus	874,149	925,475	
Capital adjustments	(15,241)	(15,241)	
Accumulated other comprehensive income	63,625	62,923	
Retained earnings	(173,308)	15,625	
Non-controlling interests	287	303	
<b>Total equity</b>	<b>851,299</b>	<b>1,040,114</b>	
Title of Account	2018	For the 9 months ended Dec. 31, 2017	
Revenue	1,940,412	1,449,573	
Operating profit	(100,581)	62,419	
Net profit	(178,926)	14,281	
Equity attributable to owners of the parent	(178,910)	14,281	
Non-controlling interests	(16)	-	
Total comprehensive income	(188,246)	13,098	
Equity attributable to owners of the parent	(188,230)	13,098	
Non-controlling interests	(16)	-	
Earnings per share (Unit: one KRW)	(8,812)	3,379	

※ The Consolidated Statement of Comprehensive Income presents income from continuing and discontinued operations separately, with the comparative numbers of the preceding periods restated for the ease of reference.

HCE			
(Unit: KRW 1 million)			
Title of Account	2018	2017	
Current assets	2,203,851	1,553,478	
Cash and cash equivalents	322,445	426,006	
Short-term financial assets	199,784	-	
Trade and other receivables	595,939	425,471	
Inventories	1,024,779	691,156	
Other current assets	60,904	10,845	
Non-current assets	922,664	675,179	
Property, plant & equipment	650,496	539,002	
Intangible assets	152,968	121,600	
Other non-current assets	44,095	12,440	
<b>Total assets</b>	<b>3,126,515</b>	<b>2,228,657</b>	
Current liabilities	945,143	785,619	
Non-current liabilities	613,205	272,100	
<b>Total liabilities</b>	<b>1,558,348</b>	<b>1,057,719</b>	
Capital stock	98,504	49,381	
Capital surplus	974,479	1,024,120	
Capital adjustments	(26,689)	(12,431)	
Accumulated other comprehensive income	64,118	65,639	
Retained earnings	125,555	44,993	
Non-controlling interests	332,200	(764)	
<b>Total equity</b>	<b>1,568,167</b>	<b>1,170,938</b>	
Title of Account	2018	For the 9 months ended Dec. 31, 2017	
Revenue	3,233,935	1,886,747	
Operating profit	208,732	95,233	
Net profit	141,055	46,609	
Equity attributable to owners of the parent	89,937	46,609	
Non-controlling interests	51,118	-	
Total comprehensive income	134,015	46,495	
Equity attributable to owners of the parent	85,474	46,495	
Non-controlling interests	48,541	-	
Earnings per share (Unit: one KRW)	4,585	3,119	

HMD			
(Unit: KRW 1 million)			
Title of Account	2018	2017	2016
Current assets	1,801,360	6,776,201	6,546,317
Cash and cash equivalents	280,463	562,238	804,379
Short-term financial assets	358,102	23,112	4,038,565
Trade and other receivables	66,767	234,126	534,966
Inventories	160,144	95,935	161,881
Other current assets	146,457	147,260	199,426
Assets held for sale	-	5,080,519	-
Non-current assets	1,662,374	1,543,238	2,680,000
Investments in associates	-	-	12,486
Long-term financial assets	16,131	286,420	1,281,007
Property, plant & equipment	1,518,943	1,089,747	1,126,344
Intangible assets	2,929	3,112	178,850
Other non-current assets	9,202	27,018	8,090
<b>Total assets</b>	<b>3,463,734</b>	<b>8,319,439</b>	<b>9,226,317</b>
Current liabilities	1,076,380	5,904,637	5,471,850
Non-current liabilities	70,180	75,660	1,496,078
<b>Total liabilities</b>	<b>1,146,560</b>	<b>5,980,298</b>	<b>6,967,928</b>
Capital stock	199,711	100,000	100,000
Consolidated capital surplus	82,290	82,500	82,500
Consolidated capital adjustments	(40,863)	(40,854)	(41,041)
Consolidated accumulated other comprehensive income	231,762	356,266	721,303
Consolidated retained earnings	1,816,670	1,718,864	1,279,692
Non-controlling interests	27,604	122,365	115,935
<b>Total equity</b>	<b>2,317,174</b>	<b>2,339,141</b>	<b>2,258,389</b>
Title of Account	2018	2017	2016
Revenue	2,403,016	2,453,433	3,446,458
Operating profit	70,896	107,949	191,070
Consolidated net profit	120,655	445,157	39,600
Equity attributable to owners of the parent	85,014	436,934	34,573
Non-controlling interests	35,641	8,223	5,027
Earnings per share from continuing operations (Unit: one KRW)	1,483	13,858	7,333
Earnings per share from discontinued operations (Unit: one KRW)	649	(2,903)	(5,599)

# Independent Auditors' Report

To the Shareholders and Board of Directors of  
HYUNDAI HEAVY INDUSTRIES HOLDINGS CO., LTD.

## Opinion

We have audited the consolidated financial statements of HYUNDAI HEAVY INDUSTRIES HOLDINGS CO., LTD. and its subsidiaries ("the Group"), which comprise the consolidated statements of financial position as of December 31, 2018 and 2017, the consolidated statements of comprehensive income, changes in equity and cash flow for the year ended December 31, 2018 and the nine-month period ended December 31, 2017 and notes, comprising significant accounting policies and other explanatory information.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2018 and 2017, and its consolidated financial performance and its consolidated cash flows for the year ended December 31, 2018 and the 9-month period ended December 31, 2017 in accordance with Korean International Financial Reporting Standards ("K-IFRS").

## Basis for Opinion

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

## Emphasis of Matter

Without qualifying our audit opinion, users of this audit report need to pay attention to the following matter. As described in Note 45 to the consolidated financial statements, the Group has restated its consolidated financial statements of comprehensive income, consolidated statement of changes in equity and cash flows for the period from April 1, 2017 to December 31, 2017, based on determination that Hyundai Oilbank Co., Ltd. has no control over the Hyundai and Shell Base Oil Co., Ltd. As a result of the accounting error, the net assets of the Group decreased by KRW 124,059 million as of December 31, 2017 and the net income for the period from April 1, 2017 to December 31, 2017 decreased by KRW 29,861 million.

## Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements as of and for the year ended December 31, 2018. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

### Assessment of impairment on cash-generating unit (CGU)

The management performed an impairment test for the CGU by estimating the recoverable amount of CGU at the end of the reporting period. As described in Note 4(12) to the consolidated financial statements, an impairment loss is recognized for a CGU if the carrying amount of the CGU exceeds its recoverable amount.

The recoverable amount used for the impairment assessment at the end of the current year is the value – in-use. In estimating the recoverable amount, key assumptions such as sales, operating expenses, growth rates and discount rates are used. Considering significant degree of judgment in estimating the value – in-use, the likelihood of management bias and potential effects of the impairment on the consolidated financial statements, we identified the assessment of impairment on goodwill and intangible assets as a key audit matter.

The primary procedures we performed to address this key audit matter included the following:

- Assessed the qualification and independence of the external institution engaged by the Group for the impairment assessment
- Evaluated the key assumptions used to estimate the value-in-use which included the discount rates and others and the methodology of the assessment, by engaging our internal valuation specialist.
- Compared the financial data used for impairment assessment and mid- to long-term business plans confirmed by the management
- Compared the future cash flows forecasts prepared in the prior year with the current year's performance to assess the Group's ability to accurately forecast .

## Other Matter

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

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

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

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease

## Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

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

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

Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used in the preparation of the consolidated financial statements and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

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

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

Seoul, Korea  
March 19, 2019

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

The engagement partner on the audit resulting in this independent auditors' report is Jeon, Won-Pyo.

*KPMG Samjong Accounting Corp.*

Seoul, Korea  
March 19, 2019



This report is effective as of March 19, 2019, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that the above audit report has not been updated to reflect the impact of such subsequent events or circumstances, if any.

# Information Disclosure Activities

Disclosure Channel	Content
HHI Group Website	Our official website introduces the group's history, management philosophy and business models from a comprehensive perspective. It also provides links to other related websites including the ethics management website, recruitment website and those of individual entities within our group for user convenience.
Investor Presentations	We regularly hold investor conference calls for analysts and institutional investors. By providing timely and accurate information on our performance and outlook, we strive to enhance investors' trust and confidence.
HHI Group Business Ethics Website	HHI Group operates a separate website dedicated to updating stakeholders on major developments of our ethics management, to further strengthen their confidence. The website introduces the group's direction, structure and practice of business ethics and receives reports on unethical business practices, helping the group set an example of fair and transparent management.
Integrated Report	This report describes HHI Group's efforts and achievements to grow into a sustainable business. Since 2015, we have integrated integrated our annual report and sustainability report to present HHI Group's management activities from a more comprehensive perspective.
Webzine	Our monthly magazine, Magazine H, is available on the Group's website to disclose the management activities of HHI Group, as well as major events inside and outside the Group. It also serves as a communication channel between entities across the group.

## About Supply Chains

HHI Group's supply chains consist primarily of suppliers of raw materials required to manufacture our products. In 2018, the combined amount of procurement spend by entities with annual report filing requirements recorded approximately KRW 13.609 trillion.

Entity	Raw Materials	Key Products	Purpose	Procurement Amount(KRW 1 bln.)
HHI Holdings*	Casting materials, copper	Driving devices, tools, electrical parts	Robot manufacturing	172
HHI*	Steel plates, structural steel, etc.	Equipment, steel parts, outfitting, etc.	Shipbuilding, etc.	8,274
Hyundai Electric	Steel plates, electrolytic cathode copper	Electric devices, steel outfitting, steel, etc.	Transformer manufacturing, etc.	1,466
HCE	Excavator bucket assy, wheel loaders main control valves, etc.	Excavator parts, wheel loader parts, etc.	Construction equipment manufacturing, etc.	3,697
Total				13,609

\*HHI Holdings' spend is for its robot business, and HHI's spend is inclusive of HMD's.

## About Government Grants

We recognize government grants only when there is reasonable assurance that we will comply with conditions attached to the grants and the grants will be received. The government grants we receive come with conditions that they shall be used for acquisition or construction of non-current assets. Such grants utilized are deducted from the carrying value of the acquired or constructed assets, recognized in profit or loss over the useful life of the depreciable assets. For 2018, amortized government grants for PP&E were KRW 15.359 billion at HHI Holdings on a consolidated basis (See page 220 of HHI Holdings' annual report 2018 for further details), and KRW 3.112 billion at HHI on a consolidated basis (See page 172 of HHI's annual report 2018 for further details).

## About Sanctions Imposed

Of the sanctions disclosed on pages 506 through 510 of HHI Holdings' annual report 2018, none is related to confirmed incidents of corruption (GRI 205-3), anti-competitive behavior (GRI 206-1) or non-compliance with laws and regulations in the social and economic area (GRI 419-1) during the year. For those related to occupational health and safety management (GRI 403-1) and non-compliance with environmental laws and regulations (GRI 307-1), please refer to pages 506 through 510 of HHI Holdings' annual report 2018.

# Third-Party Assurance Statement



## Relating to the HHI Group's Integrated Report for the 2018 calendar year

This assurance Statement has been prepared for Hyundai Heavy Industries Co., Ltd. in accordance with our contract but is intended for the readers of this Report.

## Terms of engagement

Lloyd's Register Quality Assurance Limited (LR) was commissioned by Hyundai Heavy Industries Co., Ltd. (Hyundai Heavy Industries) to provide independent assurance on its '2019 HHI Group Integrated Report' ("the report") against the assurance criteria below to a moderate level of assurance using AA1000AS (2008), where the scope was a Type 2 engagement.

Our assurance engagement covered the operations and activities of Hyundai Heavy Industries Holdings and its four major affiliates - Hyundai Heavy Industries, Hyundai Electric & Energy Systems, Hyundai Construction Equipment and Hyundai Mipo Dockyard (HHI Holdings and its four major affiliates) in Korea specifically the following requirements:

- Evaluating adherence to AA1000 AccountAbility principles of inclusivity, materiality and responsiveness, and reliability of performance indicators
- Confirming that the report is in accordance with:
- GRI Standards: Core option
- Evaluating the accuracy and reliability of data and information for only the selected indicators listed below:
  - GRI 103 (Management Approach): 103-1, 103-2, 103-3
  - GRI 200 (Economic): 201-1, 201-2, 201-4, 203-1, 205-1, 205-2, 206-1
  - GRI 300 (Environmental): 302-1, 302-4, 302-5, 305-1, 305-2, 305-7, 306-1, 306-2, 307-1
  - GRI 400 (Social): 401-2, 401-3, 402-1, 403-1, 403-4, 404-1, 404-2, 404-3, 413-1, 419-1
  - Other topic-specific disclosures: R&D Investments, Quality Internal Audit

Our assurance engagement excluded the data and information of HHI Holdings and its four major affiliates' suppliers, contractors and any third-parties mentioned in the report.

LR's responsibility is only to Hyundai Heavy Industries. LR disclaims any liability or responsibility to others as explained in the end footnote. Hyundai Heavy Industries' responsibility is for collecting, aggregating, analyzing and presenting all the data and information within the report and for maintaining effective internal controls over the systems from which the report is derived. Ultimately, the report has been approved by, and remains the responsibility of Hyundai Heavy Industries.



## LR's Opinion

Based on LR's approach nothing has come to our attention that would cause us to believe that Hyundai Heavy Industries has not, in all material respects:

- Met the requirements above
- Disclosed accurate and reliable performance data and information as all errors or omissions identified during the assurance engagement were corrected
- Covered all the issues that are important to the stakeholders and readers of this report.

The expressed opinion is formed on the basis of a moderate level of assurance and at the materiality of the professional judgement of the verifier.

Note: The extent of evidence-gathering for a moderate assurance engagement is less than for a high assurance engagement. Moderate assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a moderate assurance engagement is substantially lower than the assurance that would have been obtained had a high assurance engagement been performed.

## LR's approach

LR's assurance engagements are carried out in accordance with our verification procedure. The following task, though, were undertaken as part of the evidence gathering process for this assurance engagement:

- Assessing HHI Holdings and its four major affiliates' approach to stakeholder engagement to confirm that issues raised by stakeholders were captured correctly. We did this through reviewing documents and associated records.
- Reviewing HHI Holdings and its four major affiliates' process for identifying and determining material issues to confirm that the right issues were included in their report. We did this by benchmarking reports written by HHI Holdings and its four major affiliates, and their peers to ensure that sector-specific issues were included for comparability. We also tested the filters used in determining material issues to evaluate whether HHI Holdings and its four major affiliates make informed business decisions that may create opportunities that contribute to sustainable development.
- Auditing HHI Holdings and its four major affiliates' data management systems to confirm that there were no significant errors, omissions or mis-statements in the report. We did this by reviewing the effectiveness of data handling procedures, instructions and systems, including those for internal verification. We also spoke with those key people responsible for compiling the data and drafting the report.
- Reviewing supporting evidence made available by HHI Holdings and its four major affiliates at Hyundai Heavy Industries' head office in Ulsan City, its office in Seoul and Hyundai Mipo Dockyard's head office in Ulsan City.
- Checking that the GRI Content Index allows stakeholders to access sustainability indicators.

## Observations

Further observations and findings, made during the assurance engagement, are:

- Stakeholder inclusivity: We are not aware of any key stakeholder groups that have been excluded from HHI Holdings and its four major affiliates' stakeholder engagement process.

- Materiality: We are not aware of any material issues concerning HHI Holdings and its four major affiliates' sustainability performance that have been excluded from the report. It should be noted that HHI Holdings and its four major affiliates have established extensive criteria for determining which issue is material and that these criteria are not biased to the company's management. However, HHI Holdings and its four major affiliates should develop and implement awareness-raising activities for material sustainability topics.
- Responsiveness: Hyundai Heavy Industries has conducted due diligence to effectively deal with corruption, and other affiliates have established plans to conduct due diligence for corruption. However, HHI Holdings and its four major affiliates should extend its due diligence process for other material topics to understand and assess the nature of the broader sustainability risk in relation to its activities and products.
- Reliability: HHI Holdings and its four major affiliates have reliable data management systems for the indicators in the report.

## LR's standards, competence and independence

LR implements and maintains a comprehensive management system that meets accreditation requirements for ISO/IEC 17021 Conformity assessment – Requirements for bodies providing audit and certification of management systems that are at least as demanding as the requirements of the International Standard on Quality Control 1 and comply with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants.

LR ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

LR provides shipping classification services to Hyundai Heavy Industries. The ship classification and verification engagement are the only work undertaken by LR for Hyundai Heavy Industries and as such does not compromise our independence or impartiality.

May 20, 2019

LR Lead Verifier **Kim, Tae-Kyoung**



On behalf of Lloyd's Register Quality Assurance Limited  
17th Floor, Sinsong Building, 67 Yeouinaru-ro, Yeongdeungpo-gu, Seoul, Korea

LR reference: SEO00000466



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# GRI Content Index

## GRI Universal Standards

GRI Standards	Disclosure	Content	Page	Remark
GRI 102: General Disclosures 2016	102-1	Name of the organization	13	
	102-2	Activities, brands, products, and services	2~7, 22~43	
	102-3	Location of headquarters	13	
	102-4	Location of operations	13, 15	
	102-5	Ownership and legal form	81~85	
	102-6	Ownership and legal form	15	
	102-7	Scale of the organization	13, 22~43	
	102-8	Information on employees and other workers	13	The employees of business partners work at the company's processing, assembly, outfitting, and cabin production lines
	102-9	Supply chain	140	
	102-10	Significant changes to the organization and its supply chain	22~43	
	102-11	Precautionary principle or approach	95	
	102-12	External initiatives	50~53, 144~147	
	102-13	Membership of associations	148	
	102-14	Statement from senior decision-maker	10~11, 22, 28, 32, 36, 40	
	102-15	Key impacts, risks, and opportunities	22~43, 58~59	
	102-16	Values, principles, standards, and norms of behavior	12, 79	
	102-17	Mechanisms for advice and concerns about ethics	78~80	
	102-18	Governance structure	81~85	
	102-23	Chair of the highest governance body	81~85	
	102-40	List of stakeholder groups	47	
	102-41	Collective bargaining agreements	106~108	
	102-42	Identifying and selecting stakeholders	47	
	102-43	Approach to stakeholder engagement	47, 54, 140	
	102-44	Key topics and concerns raised	47, 54~55	
	102-45	Entities included in the consolidated financial statements	14	
	102-46	Defining report content and topic boundary	55	
	102-47	List of material topics	55	
	102-48	Restatements of information	N/A	
	102-49	Changes in reporting	Refer to 'Reporting Overview'	
	102-50	Reporting period	Refer to 'Reporting Overview'	
	102-51	Date of most recent report	Refer to 'Reporting Overview'	
	102-52	Reporting cycle	Refer to 'Reporting Overview'	
	102-53	Contact point for questions regarding the report	Refer to 'Reporting Overview'	
	102-54	Claims of reporting in accordance with the GRI Standards	Core option	
	102-55	GRI content index	144~147	
	102-56	External assurance	141~143	

## GRI Topic-Specific Standards

GRI Standards	Disclosure	Content	Page	Remark
<b>Economic Performance</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	22~43, 95~103	
	103-2	The management approach and its components	22~43, 95~103	
	103-3	Evaluation of the management approach	22~43, 95~103	
GRI 201: Economic Performance 2016	201-1	Direct economic value generated and distributed	20~21	
	201-2	Financial implications and other risks and opportunities due to climate change	96	
	201-4	Financial assistance received from government	140	
<b>Indirect Economic Impacts</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	124~130	
	103-2	The management approach and its components	124~130	
	103-3	Evaluation of the management approach	124~130	
GRI 203: Indirect Economic Impacts 2016	203-1	Infrastructure investments and services supported	124~130	
<b>Anti-corruption</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	76~80	
	103-2	The management approach and its components	76~80	
	103-3	Evaluation of the management approach	76~80	
GRI 205: Anti-corruption 2016	205-1	Operations assessed for risks related to corruption	77	Training and education are not provided to outside directors
	205-2	Communication and training about anti-corruption policies and procedures	78	
<b>Anti-competitive Behavior</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	76~80	
	103-2	The management approach and its components	76~80	
	103-3	Evaluation of the management approach	76~80	
GRI 206: Anti-competitive Behavior 2016	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	140	
<b>Socioeconomic Compliance</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	76~80	
	103-2	Explanation of the material topic and its boundary	76~80	
	103-3	Evaluation of the management approach	76~80	
GRI 419: Socioeconomic Compliance 2016	419-1	Non-compliance with laws and regulations in the social and economic area	140	

## GRI Topic-Specific Standards (continued)

Topic	Disclosure	Content	Page	Remark
<b>Energy</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	95~103	
	103-2	The management approach and its components	95~103	
	103-3	Evaluation of the management approach	95~103	
GRI 302: Energy 2016	302-1	Energy consumption within the organization	96	
	302-4	Reduction of energy consumption	96	
	302-5	Reductions in energy requirements of products and services	98~99	
<b>Emissions</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	95~103	
	103-2	The management approach and its components	95~103	
	103-3	Evaluation of the management approach	95~103	
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	96	
	305-2	Energy indirect (Scope 2) GHG emissions	96	
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	99	
<b>Effluents and Waste</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	95~103	
	103-2	The management approach and its components	95~103	
	103-3	Evaluation of the management approach	95~103	
GRI 306: Effluents and Waste 2016	306-1	Water discharge by quality and destination	100~101	
	306-2	Waste by type and disposal method	101	
<b>Environmental Compliance</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	95~103	
	103-2	The management approach and its components	95~103	
	103-3	Evaluation of the management approach	95~103	
GRI 307: Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations	140	
<b>Employment</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	116~118	
	103-2	The management approach and its components	116~118	
	103-3	Evaluation of the management approach	116~118	
GRI 401: Employment 2016	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	116~118	
	401-3	Parental leave	116	
<b>Labor/Management Relations</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	106~108	
	103-2	The management approach and its components	106~108	
	103-3	Evaluation of the management approach	106~108	
GRI 402: Labor/Management Relations 2016	402-1	Minimum notice periods regarding operational changes	107	

## GRI Topic-Specific Standards (continued)

Topic	Disclosure	Content	Page	Remark
<b>Occupational Health and Safety</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	88~94	
	103-2	The management approach and its components	88~94	
	103-3	Evaluation of the management approach	88~94	
GRI 403: Occupational Health and Safety 2016	403-1	Workers representation in formal joint management – worker health and safety committees	88	
	403-4	Health and safety topics covered in formal agreements with trade unions	88	
<b>Training and Education</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	109~115	
	103-2	The management approach and its components	109~115	
	103-3	Evaluation of the management approach	109~115	
GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	109	The average hours are not provided by gender and employee category
	404-2	Programs for upgrading employee skills and transition assistance programs	109~113, 116~117	
	404-3	Percentage of employees receiving regular performance and career development reviews	114	
<b>Local Communities</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	124~130	
	103-2	The management approach and its components	124~130	
	103-3	Evaluation of the management approach	124~130	
GRI 413: Local Communities 2016	413-1	Operations with local community engagement, impact assessments, and development programs	124~130	
<b>Material Topic: Developing new technology through R&amp;D</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	59~63	
	103-2	The management approach and its components	59~63	
	103-3	Evaluation of the management approach	59~63	
N/A	-	R&D Investments	60	
<b>Material Topic: Quality management for customer satisfaction</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	64~69	
	103-2	The management approach and its components	64~69	
	103-3	Evaluation of the management approach	64~69	
N/A	-	Quality Internal Audit	64	
<b>Material Topic: Creating value with change and innovation</b>				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its boundary	58~59	
	103-2	The management approach and its components	58~59	
	103-3	Evaluation of the management approach	58~59	

# Membership Status

HHI Holdings	Korea Association of Robot Industry
	Korea Electric Engineers Association
HHI	Construction Association of Korea (KAC)
	Korea Specialty Contractors Association
	Ulsan Chamber of Commerce & Industry
	Korea Association of Machinery Industry
	Korea Defense Industry Association
	Korean Association for Industrial Technology Security
	Korea Industrial Technology Association
	Korea Federation of Combustion Engines
	Korea LNG Bunkering Industry Association
	Korea Association for Space Technology Promotion
	Korea Marine Equipment Association
	Korea Offshore & Shipbuilding Association
	Korea Society of Ocean Engineers
	Hyundai Electric
Korea Electric Association	
Korea Smart Grid Association	
Korea Atomic Industrial Forum	
Korea Electrical Contractors Association	
Korea Electrical Manufacturers Association	
HCE	AEB-CEC (Association of European Businesses-Construction Equipment Committee in the Russian Federation)
	Korea Construction Equipment Manufacturers Association
HMD	Society of Naval Architect of Korea
	Ulsan Chamber of Commerce & Industry
	Korea Offshore & Shipbuilding Association

## Those Credited with Helping Issue This Report

HHI Holdings	Management Planning Team	Hyundai Electric	Technology Planning Team
	Management Support Team		Symbiosis Team
	Procurement Team		Safety & Environment Team
	Robot Production Team		Sales Planning Dept.
	Finance Team		Talent Team
HHI	Quality Management Team	HCE	Finance Team
	IR Team		Strategic Procurement Team
	Procurement Planning Team		General Affairs Team
	Technical Education Institute		Quality Management Dept.
	Technology Planning Team		Accounting Team
	Health Management Team		Component Financial Management Team
	Compensation & Reward Team		Industrial Vehicle Financial Management Team
	Social Contribution Team		Production Technology Dept.
	Symbiosis Team		Service Technology Team
	Safety Planning Team		Safety & Environment Team
	Engine Quality Management Dept.		Marketing Dept.
	Ethics Planning Team		HR Strategy Team
	Talent Support Team		HR & General Affairs Team
	Talent Development Team I		Finance Team
Hyundai Global Service	Finance Team II	HMD	Strategic Procurement Team
	Treasury Stock Team		Product Development Dept.
	Electricity Planning Team		Quality Planning Team
	Shipbuilding Quality Management Dept. I		Employee Benefits Team
	Shipbuilding Quality Management Dept. II		Education & Training Team
	Compliance Team		Labor-Management Cooperation Team
	Quality Planning Team		Safety Team
	Marine Plant Quality Management Dept.		Raw Material & Facility Procurement Team
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Hyundai Oilbank	Management Analysis Team	HHI Green Energy	Financial Performance Analysis Team
	HR & General Affairs Team		General Affairs Team
Hyundai Arts Center	Management Analysis Team	HHI Green Energy	Quality Management Dept.
	Brand & Marketing Team		Environment & Health Team
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