

**K S O E**  
INTEGRATED REPORT



# KSOE INTEGRATED REPORT 2020

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# 2019 HIGHLIGHT

## KSOE



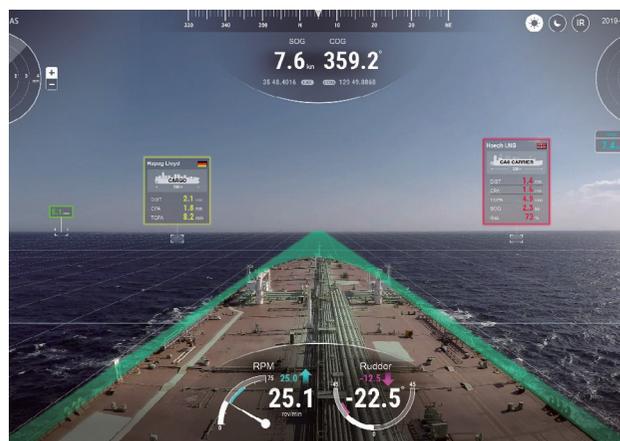
### Foundation of KSOE

On June 1, 2019, Hyundai Heavy Industries (HHI) was split into two entities: Korea Shipbuilding & Offshore Engineering (KSOE: HHI Group's sub-holding company) and a reorganized HHI. As the sub-holding company of the Group, KSOE aims to maximize shareholder value by further improving the Group's governance transparency and enhancing management efficiency. Going forward, we will spearhead the Group's efforts to evolve into a technology-oriented shipbuilding and offshore business player equipped with the world's top-notch engineering capabilities, by actively investing in and supporting our shipbuilding subsidiaries while also focusing on future technology R&D projects.



### Developing Technologies for New-Concept, Environmentally Friendly Ships

KSOE is committed to developing technologies for building environmentally friendly and energy efficient ships. In 2019, we developed a VLCC capable of sensing changes in cargo weight and other conditions to maintain optimum performance, improving the average fuel economy by 4%. We also established and started full-fledged operation of a demonstration center with a capacity of 200kw to develop hybrid-electric ships. We develops a vapor recovery system that collects volatile organic compounds (VOCs) emitted from crude oil for re-absorption into the cargo to use as fuel, placing us in a leading position in the global efforts to develop new-concept, environmentally friendly ships.



### Taking the Lead in Development of Digital Ships

KSOE is spearheading the efforts to develop high-tech digital ships. We are currently working on the commercialization of a self-developed DC grid electric propulsion system following a successful ground demonstration, after completing the development of Hyundai Intelligent Navigation Assistant System (Hi-NAS), a state-of-the-art autonomous navigation system utilizing AI (artificial intelligence) technology. Further, we succeeded in developing an integrated simulation technology that allows users to run a digital pre-test on and optimize the performance of various ship systems, including Hyundai intelligent Equipment Management Solution (HiEMS) which diagnoses engine conditions and improves energy efficiency.

## HHI



### Selected as RINA's Significant Ships for 36th Consecutive Year

Last year marked the 36th consecutive year that Hyundai Heavy Industries' (HHI) highest quality was officially recognized by the Royal Institution of Naval Architects (RINA), a world-renowned international professional institution based in London whose members are involved in the shipbuilding and offshore business. Four of HHI-built ships—a crude oil carrier, an ore carrier and two LNG floating storage and regasification units (FSRU)—were bestowed the Significant Ships 2019 awards by RINA. The crude oil carrier and ore carrier were recognized as environmentally friendly ships with desulfurization technology and LNG propulsion technology, respectively, while the LNG-FSRUs were praised for the flawless welding of the 46-kilometer long cargo containment.



### Advancing Smart Shipyard Platform

By applying a 5G-based digital transformation solution to our production sites, we are enhancing the productivity and industrial safety. 5G-based kiosks installed across key locations of these sites have enabled our people to quickly download large-size three-dimensional design drawings with ease, and the quality of communications technologies during sea trials have been further improved. Also, 5G-based wearable neckbands provided to field safety officers are enabling high-quality videos to be sent in real time to Integrated Control Center, making possible a faster rescue in case of an emergency.



### 1st Anniversary of Integrated Safety Training Center

HHI's Integrated Safety Training Center, Korea's largest professional safety training facility, celebrated its first anniversary after the opening in late 2018. In 2019, the center provided a total of 30 courses, training 16,000 people. Thanks to its hands-on training programs that made the trainees keenly aware of the importance of safety and the danger of accidents, 2019 saw an approximately 30% drop in the number of in-house workplace safety accidents from the previous year.

## HMD



### 2 Carriers Certified as MOTIE's World Class Products 2019

A 50,000-ton LNG dual-fuel bulk carrier and a 30,000-ton LNG carrier built by Hyundai Mipo Dockyard (HMD) were bestowed the '2019 World Class Products of Korea' awards by the Ministry of Trade, Industry and Energy (MOTIE). Having been first awarded with this prize in 2003 for its mid-sized PC tankers, HMD now boasts a total of 13 MOTIE-certified World Class Products, including a feeder ship, a RO-RO/container carrier, an asphalt carrier, a mid-sized LPG carrier, a PCTC, a juice carrier, an ethylene carrier, an LNG bunkering vessel and a methanol carrier.



### Expanding Global Reach with Diversified Product Lineups

HMD is stepping up efforts to expand its market reach by continuously diversifying product lineups to include new types of vessels such as gas carriers and car ferries. Following the successful delivery of a large car ferry sailing from Korea to China in 2018, we won an additional car ferry order in 2019, which has cemented our position in the global market for ferries. In addition, the LNG carrier scheduled for delivery in January 2021 is attracting much attention from the industry as Korea's first ship equipped with a cargo container built using 9% nickel steel.



### Laying the Foundation for Smart Shipyard

HMD is laying the foundation to build a smart shipyard capable of actively responding to the Fourth Industrial Revolution. Based on professional consultation on PLM (product lifecycle management), we are working to establish a comprehensive product information management system effective for the entire work process from design to delivery, promoting digital transformation and innovation across all sectors of our business.

## HSHI



### Winner of Next Generation Ship Award 2019

The 114,000-ton crude oil carrier Hyundai Samho Heavy Industries (HSHI) delivered to Sovcomflot, Russia's state-owned shipping company, won the Next Generation Ship Award at the world-renowned maritime trade fair Nor-Shipping 2019 held in Oslo, Norway. This vessel is the world's first LNG-fueled large oil carrier, boasting a dual-fuel engine system able to run on either LNG or bunker C oil. Nor-Shipping commented this HSHI-built carrier has set a milestone in the world's transition efforts to LNG-fueled ships in the run-up to the new International Maritime Organization (IMO) Low Sulphur Regulation effective from January 2020.



### Winning Order for Very Large Container Cranes

HSHI won from Singapore's PSA an order for four very large container cranes for the Tuas Mega Port project. These state-of-the-art container cranes will be equipped with unmanned systems, featuring high levels of automation and remote controllability. In particular, the double trolleys to be installed in the cranes for efficient stacking and unloading are expected to help maximize the productivity at the port. Having signed this contract on a turn-key basis, HSHI is scheduled to deliver the products in 2022.



### Successive Construction System for LNG Carriers in Full Swing

In an effort to enhance its competitiveness in the market for LNG carriers, HSHI brought into full operation a successive construction system under which up to eight LNG carriers can be built a year one after another without any break. In April 2020, we successfully completed the load-out of the hull of our first ship built on the 'tera-block' method, a key process of the successive construction system, onto a floating dock. The successive construction system is expected to shorten the construction period of any LNG carrier by approximately four weeks. Once the final outfitting process at the quay of the shipyard can be completed within an eight-month period thanks to this system, HSHI's annual LNG carrier construction capacity will double from the current four units to eight units.

PART. 1

# Business Overview

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# Korea Shipbuilding & Offshore Engineering (KSOE)

## Greetings



Co-CEOs of KSOE  
Kwon Oh-gap & Ka Sam-hyun

We aim to become the world's best shipbuilding group with the finest technologies

### Dear stakeholders,

Throughout the past year, we at KSOE focused our efforts on seeking new possibilities and laying the foundation for a leap forward in the face of uncertainties in the global economy. We signed a definitive agreement with Korea Development Bank to acquire Daewoo Shipbuilding & Marine Engineering, and Korea Shipbuilding & Offshore Engineering (KSOE) was launched with an ambitious goal of shifting the shipbuilding industry's paradigm to 'technology.' Also, its subsidiary Hyundai Energy Solutions successfully completed the initial public offering.

In this new year of 2020, our priority is placed on solidifying HHI Group's position as the world's No. 1 shipbuilding group. We will spare no support to further enhance the competitiveness of each of our shipyards including HHI, HMD, and HSHI, and

to maximize their technological synergies. Late last year, we broke ground for the Group's Global R&D Center that will serve as KSOE's key growth driver, and our smart ships equipped with cutting-edge technologies are already producing visible achievements.

We are also putting our CSR commitment into action consistently. As evident in the fact that KSOE was rated A in the 2019 comprehensive ESG evaluation by Korea Corporate Governance Service, we are growing into a trusted, sustainable company. Going forward, by further enhancing our sustainable management system for better ESG practices as well as greater financial value, we will continue making strides toward the goal of evolving into a business admired and trusted by all stakeholders.

Thank you.

## Mission

### 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 personnel 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-Management Relations Built on Mutual Respect and Trust
- 5 Demonstrating Our Commitment to Global Corporate Citizenship

## Business Policy

### 2020 Slogan

Innovate Technology & Lead the Way!

### 2020 Business Guidelines

1. Initiating the Group's Shared Vision
2. Spearheading Future Technology
3. Fostering Top Talent
4. Achieving Autonomy & Responsibility

## Business Overview

Duly established under the Monopoly Regulation and Fair Trade Act (MRFTA), KSOE is a holding-operating company that exercises control over other entities and engages in its own business of future technology projects at the same time. The major business sectors of our subsidiaries consolidated under the Korean International Financial Reporting Standards (K-IFRS) include Shipbuilding, Offshore & Industrial Plant, and Engine & Machinery.

## 2019 Achievements

On June 1, 2019, HHI's market-facing businesses (namely, Shipbuilding, Special & Naval Shipbuilding, Offshore & Industrial Plant, and Engine & Machinery)-i.e., those other than investment-related businesses-were spun off into a reorganized HHI. The remaining part of the company was renamed KSOE, revamped into a holding company as defined under the MRFTA. We also signed a definitive agreement with Korea Development Bank to acquire Daewoo Shipbuilding & Marine Engineering to further solidify HHI Group's position as the world's No.1 shipbuilder. In addition, we broke ground for the Group's Global R&D Center that will serve as KSOE's key growth driver. The center is scheduled to be completed by 2022, which will mark the Group's 50th anniversary.

## 2020 Outlook and Targets

Our successful transition to a holding company structure is expected to help improve shareholder value, based on enhanced transparency of governance structure and better managerial efficiency. We will put in place a responsible management system by introducing an independent management scheme through empowerment and a reasonable performance evaluation tool. Also, keeping pace with the era of digital transformation, we will take the lead in building a smart and sophisticated working environment for the shipbuilding industry utilizing 5G mobile communication, ICT convergence, big data, and AI, with a view to becoming the world's No. 1 shipbuilding and offshore business group boasting cutting-edge technologies.

## Main Products by Business<sup>1</sup>

<sup>1</sup> Inclusive of HHI, HMD, and HSHI's products

<b>Shipbuilding</b>	<p><b>Commercial Ship</b> Tanker, Containership, PC Tanker, Bulk Carrier, LNG Carrier, FSRU, LPG Carrier, LEG Carrier, PCTC, Ro-Pax, RO-RO, LNG-BV (Bunkering Vessel)</p> <p><b>Special-Purpose Ship</b> Drillship, Semi Rig, OSV</p> <p>FSRU Floating, Storage, Re-Gasification Unit OSV Offshore Support Vessel</p>
<b>Offshore &amp; Industrial Plant Engineering</b>	<p><b>Offshore Plant</b> Fixed Platform, Floating Unit (FPSO, FLNG, FPU, FSO, TLP, Spar, Jack-Up Rig)</p> <p><b>Industrial Plant</b> Power Plant (Thermal Power Plant, Combined-Cycle Power Plant, Co-Generation Plant), Petrochemical Plant (Refinery Plant, Petrochemical Plant, LNG Plant)</p> <p>FPSO Floating Production Storage &amp; Offloading      FLNG Floating Liquefied Natural Gas FPU Floating Production Unit      FSO Floating Storage &amp; Offloading TLP Tension Leg Platform</p>
<b>Special &amp; Naval Shipbuilding</b>	<p><b>Surface Combatant</b> Destroyer, Frigate, Corvette, Logistics Support Vessel, Landing Ship Tank, Mine Laying Ship, Research Vessel, Tug &amp; Salvage Ship, Training Vessel, Fleet Support Vessel, Fast Attack Craft, Patrol/Salvage Vessel (Coast Guard)</p> <p><b>Underwater Combatant</b> 1,200-ton/1,800-ton/3,000-ton Class Submarines</p>
<b>Marine Engine &amp; Machinery</b>	<p><b>Marine Engine</b> Two-Stroke Engine, Four-Stroke HiMSEN Engine (diesel, gas, dual fuel)</p> <p><b>Propulsion System</b> Propeller, Shaft &amp; Rudder Stock</p> <p><b>Marine Eco-Machinery</b> Scrubber, Selective Catalytic Reduction System, Ballast Water Treatment System</p> <p><b>LNG Fuel Gas Supply System</b> Hyundai Integrated Gas Supply System (Hi-GAS), Hyundai Integrated ReGASification System (Hi-ReGas), Hyundai Innovative Economical Re-Liquefaction System (Hi-ERS)</p>
<b>Industrial Machinery &amp; Energy</b>	<p>Engine Power Plant (diesel/gas power plant, containerized packaged power station), Industrial Boiler (CFBC, HRSG), Solar Module &amp; System, Process Equipment (RFCC, vessel, column, reactor), ITER, Space Launch Complex, Industrial Crane</p> <p>CFBC Circulating Fluidized Bed Combustion      HRSG Heat Recovery System Generator RFCC Residue Fluid Catalytic Cracking      ITER International Thermonuclear Experimental Reactor</p>

## Financial Highlights

Category	Unit	2017	2018	2019
Total Revenue	KRW 100M	154,910	131,610	151,826
Shipbuilding	KRW 100M	104,767	102,535	133,137
Offshore & Industrial Plant	KRW 100M	40,198	22,711	14,584
Engine & Machinery	KRW 100M	12,680	10,772	12,650
Electrical & Electronic Systems	KRW 100M	1,140	-	-
Green Energy	KRW 100M	2,598	3,476	4,604
Construction Equipment	KRW 100M	711	783	1,060
Others	KRW 100M	5,747	5,439	3,830
Operating Profit (Loss)	KRW 100M	368	-4,814	2,902
Net Profit (Loss)	KRW 100M	26,931	-4,536	2,131
Total Assets	KRW 100M	304,088	247,299	250,554
Total Liabilities	KRW 100M	180,368	116,189	121,291
Total Equity	KRW 100M	123,720	131,110	129,263
Debt Ratio	%	145.8	88.6	93.8
Net Debt-to-Equity Ratio	%	13.4	-1	19.3
Operating Margin	%	0.2	-3.7	1.9
Return on Assets	%	8.9	-1.8	0.9
Credit Rating <sup>2</sup>	Grade	A-	-	-

<sup>1</sup> Unpresented as deposits exceed loans

<sup>2</sup> Corporate bond rating

## Value Distribution to Stakeholders

Recipient	Means of distribution	Unit	2017	2018	2019
Partner companies	Raw material procurement (major raw material purchasing prices, inclusive of intercompany transactions)	KRW 100M	74,050	82,737	84,917
Employees	Salary and benefits	KRW 100M	19,892	17,862	17,717
Shareholders and investors	Interest expense	KRW 100M	906	1,385	1,657
Government	Corporate tax (profit)	KRW 100M	1,478	426	251
Local communities	Donations	KRW 100M	97	74	70

# Hyundai Heavy Industries (HHI)

## Greetings



CEO of HHI  
Han Young-seuk

Our indomitable spirit will pave the way for us to become the world's best shipbuilder

### Dear stakeholders,

2020 marks the beginning of a new decade. Experts view the global economy is not likely to regain momentum this year due to the global downturn and trade conflicts. Still, we are determined to make it the first milestone in HHI's ambitious journey of another giant takeoff for the next 10 years.

With the new IMO regulations taking effect in January this year, the market for environmentally friendly ships is expected to tread along a significant growth track. We will actively respond to this major change in the market by concentrating on further sophisticating our technologies of greener, IMO-compliant ships. Our focus will be placed on reducing GHG emissions and developing technologies compliant with the

international environmental regulations, as well as enhancing cost competitiveness via better construction methods and processes.

At the same time, we will bolster our sustainable management system. Since our Integrated Safety Training Center, the nation's largest professional safety training facility, went into full operation in 2019, HHI has spread the culture of constant commitment to safety as a top priority across various sites. Also, the recent launch of our Co-Prosperity Business Office, the first of its kind in the shipbuilding industry, is a testimony to our commitment to building a new co-prosperity model with our partner companies.

The importance of CSR is growing with each passing year. Our continuing efforts to make a better company and to build a better future will never stop. We ask for your continued trust and patronage down the road.

## Business Policy

**2020 Slogan**  
Global Leader Breaking  
Through Limits

- 2020 Business Guidelines**
1. Innovative Cost Reduction
  2. Spearheading Future Technology & Innovating Quality
  3. Open Communication & Mutual Trust
  4. Safety on Top Priority

## Business Overview

### Shipbuilding

With over 40 years of experience and know-how in shipbuilding as well as 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 environmentally friendly ships and smart ships, but we also have secured price competitiveness by integrating the function of sales and purchasing across all our shipbuilding affiliates.

### Offshore & Industrial Plant

In a seamless process, we design, purchase, manufacture, transport, install, and test-run offshore facilities used for developing offshore oil fields and projects. 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 offshore projects around the world.

### Engine & Machinery

Equipped with all facilities required for the entire stages from material production to advanced material processing, assembly, and commissioning, we supply two-stroke engines, HiMSEN engines, and land-based engine power plants, among others. We are the only Korean engine maker with its own original technology to manufacture four-stroke engines, while also actively responding to the tightened IMO environmental regulations by developing our own environmentally friendly products such as gas engines.

## 2019 Achievements

The overall shipbuilding orders fell far below forecasts in 2019 as shipping companies remained on a wait-and-see stance in fear of a global economic slowdown triggered by major international disputes. Even under these circumstances, HHI secured orders for 43 new ships last year valued at USD 6.1 billion in total. As of the year-end, 111 ships were either on order or under construction (approximately USD 15.6 billion), a volume large enough to keep us busy for over two years. Since the split-off on June 1, 2019, we have reached KRW 5.4567 trillion in revenue and KRW 129.5 billion in operating profit as our efforts to improve ship pricing and enhance shipbuilding efficiency paid off.

## 2020 Outlook and Targets

The current momentum in the demand for LNG carriers is expected to continue thanks to the rising global demand for LNG mainly coming from emerging industrial countries such as India and China, while the tightened IMO environmental regulations to cut sulfur dioxide emissions will likely increase the demand for container ships and crude oil tankers, among others. Against this backdrop, HHI is expected to maintain a high level of share in the market for environmentally friendly ships such as LNG carriers, based on our distinctive competitiveness in technology and sales competencies. For 2020, HHI has set the annual target for new orders at USD 7.2 billion for Shipbuilding, up about 17% from the previous year. The aggregate new order target, inclusive of Shipbuilding, Offshore & Industrial Plant, and Engine & Machinery, totals USD 11.6 billion. We aim to achieve annual revenue of KRW 9.3 trillion in 2020, a 6% increase year-on-year.

## Core Competencies

### Finest Technologies and Infrastructure in the Global Shipbuilding Industry

- World's largest cumulative shipbuilding volume
- A variety of world-class products registered
- Delivered a seawater/glycol LNG-FSRU (floating storage regasification unit) (2019)
- Produced the largest number of professional shipbuilding engineers in the industry (2019)
- Received AiP from Lloyd's Register on a fuel supply system for LPG-fueled ships (2019)
- Received ABS approval for the self-developed ISS (Integrated Smart-Ship Solution)
- World's first to deliver an LNG-FSRU (floating storage regasification unit) (2014)
- 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 Customer Interactions

- All shipyards of HHI Group acting as a single, integrated channel to interact with customers for a high level of efficiency and flexibility in communication

#### Cost Competitiveness

- Comparing designs of overlapping hull forms across shipyards for additional improvements in specifications, including fuel efficiency, and for cost savings

#### Organizational Efficiency

- Integrated sales and marketing as a shared organization and periodic personnel rotations across shipyards to deepen knowledge and understanding of the Group's entire array of product models
- Utilizing the Group-Level sales organization's global network

## Growth Strategy

### Short-Term Strategy (by 2020)

- Construction period reduction via volume improvement and annual shipbuilding capacity expansion for gas carriers
- Production competitiveness improvement via further collaboration with outside partner companies and optimal operation
- Cost reduction via optimal design and strategic procurement

### Mid/Long-Term Strategy (by 2023)

- Leading the market for environmentally friendly and energy efficient ships with the world's finest technologies
- Making inroads into future growth markets via 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

## Financial Highlights<sup>1</sup>

Category	Unit	2019
Total Revenue	KRW 100M	54,567
	Shipbuilding	38,204
	Offshore & Industrial Plant	8,080
	Engine & Machinery	7,832
	Others	450
Operating Profit	KRW 100M	1,295
Net Loss	KRW 100M	-889
Total Assets	KRW 100M	138,695
Total Liabilities	KRW 100M	82,466
Total Equity	KRW 100M	56,229
Debt Ratio	%	146.7
Net Debt-to-Equity Ratio	%	48.4
Operating Margin	%	2.4
Return on Assets	%	-0.6
Credit Rating <sup>2</sup>	Grade	A-

<sup>1</sup> FY2019 is the first reporting period after HHI was established anew through the split-off from KSOE on June 1, 2019.

<sup>2</sup> Corporate bond rating

## Value Distribution to Stakeholders

Recipient	Means of distribution	Unit	2019
Partner companies	Raw material procurement (major raw material purchasing prices, inclusive of intercompany transactions)	KRW 100M	31,656
Employees	Salary and benefits	KRW 100M	5,683
Shareholders and investors	Interest expense	KRW 100M	802
Government	Corporate tax (profit)	KRW 100M	41
Local communities	Donations	KRW 100M	2

# Hyundai Mipo Dockyard (HMD)

## Greetings



President & CEO of HMD  
Shin Hyeon-dae

We strive for an insurmountable competitive edge in building mid-sized ships

### Dear stakeholders,

Amid the lingering protectionism characterized by the US-China trade tensions, the COVID-19 pandemic is adding to the uncertainties in the business environments in 2020. Against this backdrop, HMD has the following business plans for this year to overcome the current challenges while also laying the foundation for future growth.

Our shipbuilding goal is 56 ships in terms of keel laying (down by 7 from 2019) and 56 ships in terms of delivery (same as 2019). We have set our annual revenue target at KRW 3 trillion (same as 2019), planning to focus more on nurturing the core competencies.

In addition, further focus will be placed on laying the foundation for future growth to create an insurmountable competitive edge in the market for mid-sized ships. As part of these efforts, HMD is actively leveraging big data and ICT to build digital-transformation based smart shipyard environments and next-generation smart ships.

Guided by the 2020 slogan of "Great Challenges Beyond Limits," we will focus on achieving our goals based on the four business guidelines of Safety-First Workplace; Insurmountable Competitive Edge in Quality; Management for Sustainable Growth; and Factory Optimization & Smart Shipyard.

Thank you.

## Business Policy

### 2020 Slogan

Great Challenges Beyond Limits

### 2020 Business Guidelines

1. Safety-first Workplace
2. Insurmountable Competitive Edge in Quality
3. Management for Sustainable Growth
4. Factory Optimization & Smart Shipyard

## Business Overview

HMD claims the world's largest market share for mid-sized ships with its top-quality products tailored to different customers. Further, our production base in Vietnam, HVS (Hyundai Vietnam Shipbuilding) is adding an average of 20 ships to our annual production capacity.

### PC Tanker

Our product & chemical tankers (PC tankers) are 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.

### Containership

The feeder ships of HMD boast superior fuel efficiency compared to our competitors'. Notably, our improved hull forms and various eco-friendly ship technologies successfully applied to our ships such as electronically controlled engines are highly acclaimed by shipping companies.

### Gas Carrier

In addition to various gas carriers for LPG, LEG and LNG transport, we build LNG bunkering vessels that can refuel LNG at sea, further strengthening our foothold in the market for small/mid-sized gas carriers.

## 2019 Achievements

Faced with the US-China trade war and a prolonged global economic downturn, HMD still managed to achieve its revenue and operating profit targets and enhanced core competencies in 2019, recording zero material accidents and stabilizing processes for its offshore business and at Yongyeon Plant. Also, our business portfolio has been expanded to include new hull forms, including a 12,000m<sup>3</sup> LNG bunkering vessel and a 5,000m<sup>3</sup> LPG carrier. At the same time, a 10-year roadmap toward building a 'future smart shipyard' was established as a key growth driver down the road.

## 2020 Outlook and Targets

In accordance with our 2020 targets, HMD aims to win shipbuilding orders for 93 ships, USD 3.65 billion in contract value, and KRW 3 trillion in revenue this year. Although the market conditions, after showing signs of recovery at the beginning of the year, have become highly volatile and unpredictable due to the global COVID-19 pandemic, our resilience as evident in how we coped with numerous hardships in the past will once again enable us to overcome the current crisis and maintain an unbeatable market share.

## Growth Strategy

### Maintaining Competitiveness of Flagship Models

#### PC Tanker

- Building PC tankers superior in quality, price, and competitiveness
- Developing environmentally friendly and energy efficient new hull forms
- Advancing into the market for stainless steel chemical tankers

#### Gas Carrier

- Improving competitiveness of small/mid-sized LPG and LNG carriers
- Building more small/mid-sized dual-fuel LPG carriers featuring double hulls with improved safety
- Developing our own technologies for type-C tanks and cargo handling systems
- Developing small-sized LPG carrier hull forms

#### RO-RO & PCTC

- Improving cost competitiveness with enhanced designs and construction methods
- Diversifying hull forms for eco-friendly RO-RO and PCTC ships

#### Containership

- Diversifying feeder ship models by developing new standard hull forms
- Improving cost competitiveness
- Improving performance and Energy Efficiency Design Index (EEDI)

### Expanding Market Share of Strategic Models

#### Small-Sized LNG Carrier

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

#### RO-PAX

- Strengthening collaboration with domestic interior companies
- Improving cost competitiveness
- Establishing an optimal construction system for RO-PAX ships
- Securing orders for coastal passenger vessels from domestic customers and high-end ferries from overseas

#### Multi-Purpose Special Carrier

- Securing capabilities to build high value-added special carriers
- Making entry into the market for polar ships such as shuttle tankers
- Securing in-house design capability for OSVs/PSVs

### Reinforcing Capabilities for Sustainable Growth

#### Talent Development

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

#### Expanding Profitable Businesses

- Increasing revenue and profit from overseas business (HVS)
- Expanding technology-export businesses
- Securing additional production bases

#### Securing Top-Notch Technologies and Design Capabilities

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

#### Creating an Optimal Smart Workplace

- Creating a smart shipyard based on digital transformation
- Establishing a product lifecycle management (PLM) system
- Implementing an integrated safety system

## Financial Highlights

Category	Unit	2017	2018	2019
Total Revenue	KRW 100M	24,534	24,030	29,941
Operating Profit	KRW 100M	1,079	709	926
Net Profit	KRW 100M	4,452	1,207	612
Total Assets	KRW 100M	83,194	34,637	33,806
Total Liabilities	KRW 100M	59,803	11,466	10,267
Total Equity	KRW 100M	23,391	23,172	23,540
Debt Ratio	%	255.7	49.5	43.6
Operating Margin	%	4.4	3.0	3.1
Return on Assets	%	5.4	3.5	1.8
Credit Rating <sup>1</sup>	Grade	BBB+	A3+ <sup>2</sup>	-

<sup>1</sup> Corporate bond rating

<sup>2</sup> Commercial paper rating

## Value Distribution to Stakeholders

Recipient	Means of distribution	Unit	2017	2018	2019
Partner companies	Raw material procurement (major raw material purchasing prices, inclusive of intercompany transactions)	KRW 100M	13,756	14,891	19,390
Employees	Salary and benefits	KRW 100M	3,088	3,080	3,323
Shareholders and investors	Interest expense	KRW 100M	283	168	96
Government	Corporate tax (profit)	KRW 100M	398	589	244
Local communities	Donations	KRW 100M	18	19	19

# Hyundai Samho Heavy Industries (HSHI)

## Greetings

Vice President & CEO of HSHI  
**Kim Hyung-kwan**



We will further strengthen our position as the market leader for LNG-fueled ships

**Dear stakeholders,**

At HSHI, relentless efforts are underway to secure future competitiveness by introducing environmentally friendly, smart technologies to more and more of our construction sites. To date, HSHI, with its superior technological advantage, has built the largest cumulative number of LNG-fueled ships in the industry, taking the lead in the market for environmentally friendly ships.

In 2020, we will expand the use of ICT at our construction sites in this era of the Fourth Industrial Revolution to further enhance our competitiveness. Our goal in the long run is to create a smart shipyard that will further sharpen our competitive edge-for this, we will continue to invest in informatization, automation and mechanization.

At the same time, we will not forget to fulfill our CSR commitment as a member of this society. At HSHI, our people's safety and health firmly stand as an irreplaceable core value in management. We will constantly strive for safety management by offering proactive safety trainings to our people and partner companies and constructing necessary infrastructure. We will also ensure customer satisfaction by fulfilling base quality, striking the right balance between cost and quality, and sophisticating our technical skills. By developing a series of environmentally friendly products, we aim not only to increase sales but also to help reduce adverse environmental impacts.

HSHI stands ready to take another leap forward to rise to the highest level, propelled by our cumulative experience and continued hard work. We appreciate your support going forward.

## Business Policy

### 2020 Slogan

Another Leap to the Highest Level!

### 2020 Business Guidelines

1. Making a Safe and Happy Workplace
2. Establishing a Working Environment Distinguished for Superior Efficiency
3. Delivering Customer Satisfaction Through Proactive Quality Management
4. Creating a Corporate Culture of Communication and Alignment

## Business Overview

### Shipbuilding

Since our dockyard was established in Yeongam, South Jeolla Province in 1992, we have evolved into the world's fourth largest shipbuilder capable of constructing 40 ships annually. Our advanced technologies for environmentally friendly ships enabled us to deliver the world's first SOx scrubber-equipped ship and to secure the world's largest cumulative number of LNG-fueled ships on order for construction.

### Industrial Equipment

Based on our superior technologies accumulated for more than 40 years, we have manufactured different types of cranes and bulk handling plant since our acquisition of HHI's Transporting Equipment Business Unit in 2004. We are the first Korean manufacturer to have succeeded in developing an automated terminal system and equipment.

### Offshore

We have been pushing ahead with offshore projects to diversify our business and sophisticate our technological capabilities. We successfully built a floating production storage offloading (FPSO) in collaboration with HHI in 2007. We also built and delivered a floating-production unit (FPU) and a semi-submersible drilling rig in 2015 and 2018, respectively.

## 2019 Achievements

In 2019, HSHI posted KRW 3.5 trillion in revenue and USD 4.17 billion in contract value. Revenue rose by approximately 30% from 2018, achieving 96% of the targeted amount set at the beginning of the year-as a result, we were able to swing back to profit. Notably, as on-ground shipbuilding method made successive construction of LNG carriers possible, our construction volume doubled last year. We are now capable of building eight units in a row annually, which accounts for nearly half the annual revenue. As for the industrial equipment business, we won an order for four container cranes with double trolleys featuring automated and unmanned technologies, creating the impetus for additional orders.

## 2020 Outlook and Targets

In 2020, we are targeting KRW 4.18 trillion in revenue and USD 4.25 billion in contract value. Although a boost in orders was initially expected in 2020 thanks to the rising global demand for LNG and the new IMO regulations, the unexpected COVID-19 pandemic has dampened the global economy, making the outlook somewhat uncertain. Despite these circumstances, we are determined to overcome the current crisis through continued development of environmentally friendly, smart technologies. We will focus on the successful building of LNG-fueled containerships and bulk carriers as scheduled for 2020 as well as on further stabilization of the successive construction system for LNG carriers launched last year. Also, we will do our utmost to win orders for environmentally friendly ships, smart cranes, and environmentally friendly coal silos.

## Core Competencies

### Leader in Building Environmentally Friendly Ships

- World's first to deliver a SOx scrubber-equipped VLCC (2018)
- World's first to deliver a 114,000-ton LNG DF tanker (2018)
- Started successive construction of LNG carriers, capable of building 8 units annually (2019)
- World's record for moving the heaviest object ever transported on ground (2020)

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

#### Integrated Customer Interactions

- All shipyards of HHI Group acting as a single, integrated channel to interact with customers for a high level of efficiency and flexibility in communication

#### Cost Competitiveness

- Comparing designs of overlapping hull forms across shipyards for additional improvements in specifications, including fuel efficiency and for cost savings

#### 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
- Utilizing the Group-Level sales organization's global network

## Growth Strategy

### Short-Term Strategy (by 2020)

- Establishing a working environment distinguished for superior efficiency
- Delivering customer satisfaction through proactive quality management
- Improving profitability through cost reduction
- Enhancing competitiveness through active technological development

### Mid/Long-Term Strategy (by 2023)

- Leading the market for environmentally friendly, highly efficient ships with our unparalleled technologies
- Making entry into the future growth market through active technology development
- Establishing a technology-oriented management system
- Expanding development of environmentally friendly and smart products

## Financial Highlights

Category	Unit	2017	2018	2019
Total Revenue <sup>1</sup>	KRW 100M	27,710	26,197	34,883
Shipbuilding (continuing) <sup>2</sup>	KRW 100M	27,710	26,197	34,883
Shipbuilding (discontinued)	KRW 100M	24,439	21,580	-
Financial (discontinued)	KRW 100M	7,792	5,821	-
Operating Profit (Loss)	KRW 100M	60	-2,289	52
Net Profit (Loss)	KRW 100M	3,689	-855	115
Total Assets	KRW 100M	122,632	40,260	43,145
Total Liabilities	KRW 100M	78,421	20,892	23,821
Total Equity	KRW 100M	44,211	19,369	19,325
Debt Ratio	%	177.4	107.9	123.3
Net Debt-to-Equity Ratio	%	- <sup>3</sup>	14.9	37.8
Operating Margin	%	0.2	-8.7	0.1
Return on Assets	%	3.0	-2.1	0.3
Credit Rating <sup>4</sup>	Grade	BBB+	BBB+	BBB <sup>5</sup>

<sup>1</sup> Exclusive of revenue from discontinued operations

<sup>2</sup> Reported on a separate basis starting from 2018, following HMD's exclusion from the scope of consolidation during that year

<sup>3</sup> Unpresented as deposits exceed loans

<sup>4</sup> Corporate bond rating

<sup>5</sup> Rated on March 6, 2020

## Value Distribution to Stakeholders

Recipient	Means of distribution	Unit	2017	2018	2019
Partner companies	Raw material procurement (major raw material purchasing prices, inclusive of intercompany transactions)	KRW 100M	28,541	18,643	21,909
Employees	Salary and benefits	KRW 100M	5,711	2,842	3,039
Shareholders and investors	Interest expense	KRW 100M	462	182	213
Government	Corporate tax (profit)	KRW 100M	445	69	70
Local communities	Donations	KRW 100M	39	12	14

# Global Network

KSOE's consolidated subsidiaries (23 entities) supply products and services necessary for production and operation of ships, engaging in shipbuilding, shipping and equipment manufacturing.

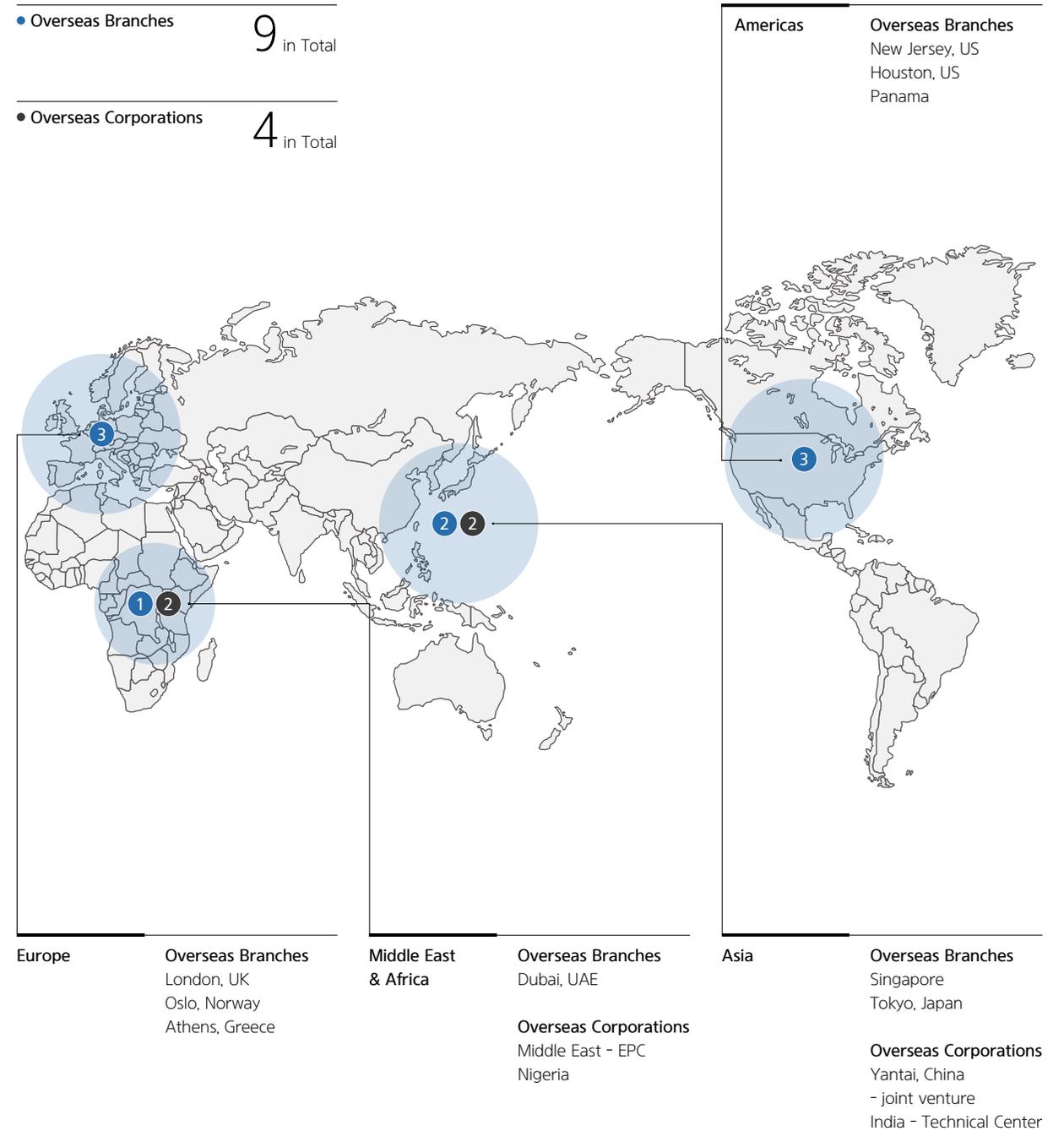
## Consolidated Entities

(Unit: KRW 1M)

Entity Name	Foundation Date	Location	Main Business	2019 Total Assets
Hyundai Heavy Industries (HHI) Co., Ltd.	Jun. 3, 2019	Ulsan City	Shipbuilding	13,869,459
Hyundai Samho Heavy Industries (HSHI) Co., Ltd.	Nov. 4, 1998	South Jeolla Province	Shipbuilding	4,314,466
Hyundai Mipo Dockyard (HMD) Co., Ltd.	Apr. 28, 1975	Ulsan City	Shipbuilding	3,392,555
KOMAS Corporation	Jul. 15, 2008	Ulsan City	Shipping	40,591
Hyundai E&T	Dec. 3, 2004	Ulsan City	Other engineering services	19,862
HHI Sports	Feb. 22, 2008	Ulsan City	K-league football club operation	7,991
Hyundai Heavy Industries Mos Co., Ltd.	Jul. 25, 2016	Ulsan City	Business facilities management services	43,397
Hyundai Energy Solutions Co., Ltd	Dec. 21, 2016	Gyeonggi Province	Manufacture of diodes, transistors and similar semiconductor devices	430,363
HHI Power Systems Co., Ltd	Aug. 6, 2018	Gyeonggi Province	Manufacture of utility boilers and scrubbers	162,250
Hyundai Seen Tec Co., Ltd	Dec. 20, 2019	South Gyeongsang Province	Design of boilers	11,425
Hyundai (Shandong) Heavy Industries Machinery Co., Ltd.	Jun. 23, 2010	China	Manufacture and sale of wheel loaders, etc.	15,029
Hyundai Vietnam Shipbuilding Co., Ltd.	Sep. 30, 1996	Vietnam	Shipbuilding	440,663
Hyundai Transformers and Engineering India PVT, Ltd.	Nov. 11, 2011	India	Manufacture and sale of transformers	-
PHECO Inc.	Mar. 21, 2005	US	Design services	275
HHI Brasil-Manufacturing and Trading of Construction Equipment	Jul. 11, 2011	Brazil	Manufacture, trade and repair of heavy equipment	139,650
HHI Miraflores Power Plant Inc.	Sep. 14, 2012	Panama	Other manufacturing	-
HHI Mauritius Limited	Sep. 19, 2002	Mauritius	Other manufacturing	-
Hyundai West Africa Limited	Nov. 5, 2012	Nigeria	Manufacture of other transport equipment	67
Hyundai Arabia Company L.L.C	Nov. 10, 2012	Saudi Arabia	Industrial plant construction	25,390
HSHI Panama, Inc.	Jan. 20, 2011	Panama	Civil engineering services	1,826
Yantai Hyundai Moon Heavy Industries Co., Ltd.	Mar. 17, 2004	China	Manufacture and sale of industrial boilers	68,043
Hyundai Energy Solutions America, Inc.	Apr. 19, 2019	US	Sale of photovoltaic (PV) modules	63,251
HHI Technology Center India Private Limited	Nov. 26, 2019	India	R&D	2,187

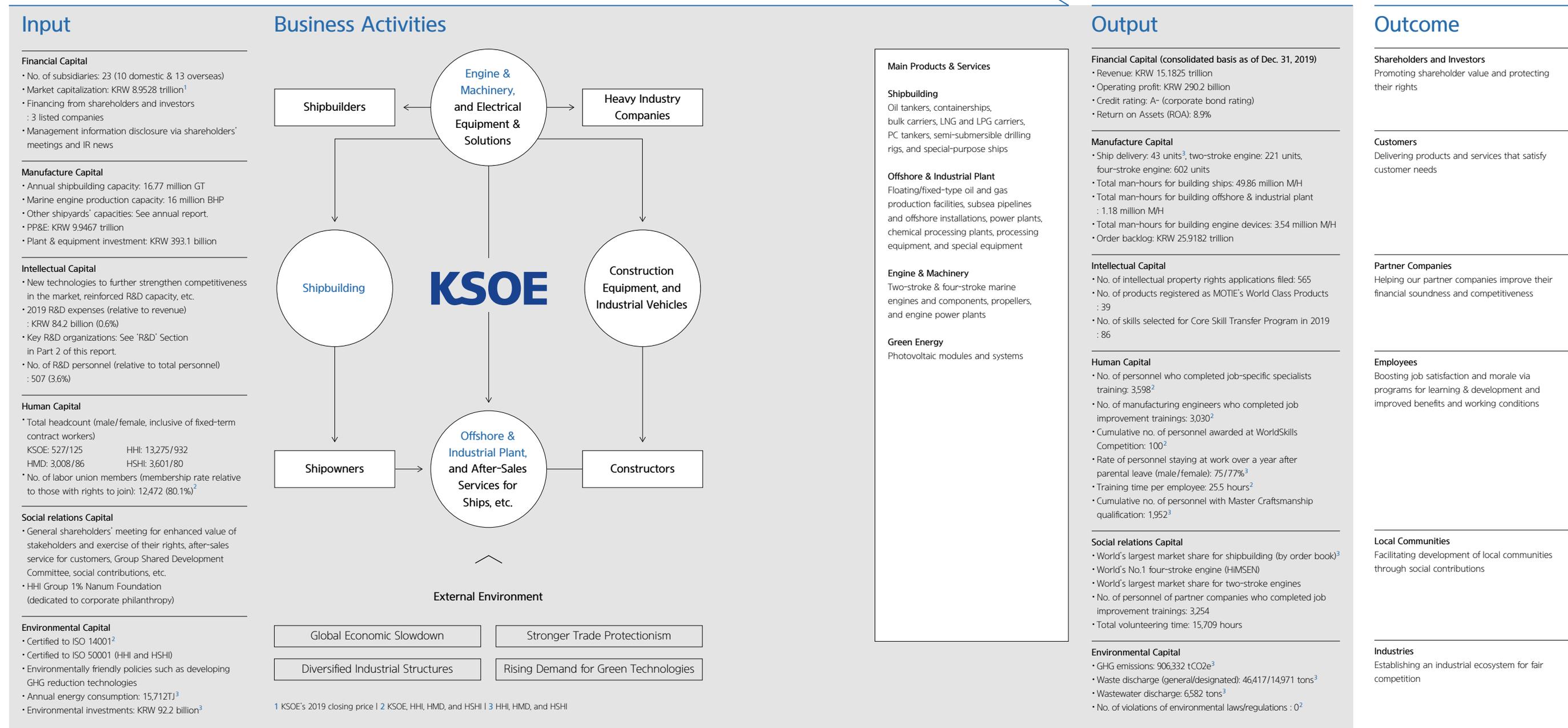
## Overseas Branches and Corporations

- Overseas Branches **9** in Total
- Overseas Corporations **4** in Total



# Value Chain

KSOE and its subsidiaries generate value using their 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 each business model built on our management philosophy and visions.



PART. 2

# Sustainability Performance

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# Sustainable Management System

KSOE 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. KSOE 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 as below, we plan and perform various activities for each category and continuously disclose key achievements to stakeholders. KSOE is leading the efforts to make a better tomorrow by actively responding to the needs of our society, and by analyzing and improving our performance as well as strengthening our areas of excellence.

## System and Operational Policy

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



### Transparent Disclosure

- Operating communication channels customized to different groups of stakeholders
- Disclosing sustainable management activities and achievements



### Systematic Performance Management

- Following up on each area of sustainable management activities and performance under the five management philosophies



### Continuous Improvement

- Conducting a multidimensional analysis of sustainable management activities and performance
- Addressing shortcomings and enhancing strengths

## Communication with Stakeholders

Customers, shareholders and investors, partner companies, local communities, industries, and our employees are the key stakeholders that influence and are influenced by KSOE, across all management activities. KSOE operates various communication channels for these stakeholders' participation in sustainable management.



### Customers

#### Issues of Interest

- Customer satisfaction improvement
- Excellent quality
- Safe use of products

#### Key Communication Channels

- Warranty & lifetime service
- Feedback service
- Smart service

#### Direction of Approach

- Offering products and services as well as receiving feedback based on regular communication
- Endeavoring to improve customer satisfaction



### Shareholders and investors

#### Issues of Interest

- Corporate value increase
- Protection of shareholder interests
- Stable growth
- Transparent disclosure of information

#### Key Communication Channels

- Shareholders' meeting
- Annual report
- IR meeting

#### Direction of Approach

- Enhancing transparency of management information
- Building a consensus on vision and new growth engines



### Employees

#### Issues of Interest

- Safe working environment
- Career development
- Benefits
- Respecting diversity/non-discrimination

#### Key Communication Channels

- Collective bargaining and wage negotiations
- Labor-management council
- Industrial Health & Safety Committee
- HHI Group webzine

#### Direction of Approach

- Inducing interest and participation in sustainable management through active internal communication
- Striving to build a cooperative labor-management relationship



### Partner companies

#### Issues of Interest

- Co-prosperity
- Fair transactions
- Long-term partnership

#### Key Communication Channels

- Group Shared Development Committee
- Shared Growth Expansion Council
- Conference
- New Year's meeting

#### Direction of Approach

- Laying the foundation for co-prosperity and shared growth
- Offering trainings and consulting services to partner companies



### Industries

#### Issues of Interest

- Creation of an industrial ecosystem
- Improvement of industrial competitiveness

#### Key Communication Channels

- Activities at Korea Offshore & Shipbuilding Association and others of similar nature
- Working group meetings of the same industry

#### Direction of Approach

- Strengthening competitive edge through fair competition
- Benchmarking, sharing information, and forming partnerships to resolve common issues



### Local communities

#### Issues of Interest

- Revitalization of local economies
- Local environmental protection
- Social contribution activities

#### Key Communication Channels

- Interactions via donations and other contributions to local communities

#### Direction of Approach

- Contributing to growth and development of local communities through various activities

# Strategic Direction and Performance Indicators

Based on the management philosophy of Hyundai Heavy Industries Group, KSOE is promoting long-term and strategic sustainable management activities. The management philosophy of a company is the value shared and practiced by all its employees in order to faithfully the CSR. Accordingly, KSOE annually sets the implementation direction for sustainable management and metrics for the relevant goals, which we aim at in everything we do.

Philosophy	Direction	Metrics for Strategic Goal	Stakeholder	Category	Indicator	Unit	KSOE	HHI	HMD	HSHI
Enhancing Corporate Value through Continual Growth	<ul style="list-style-type: none"> <li>Securing core capability to drive future growth</li> <li>Implementing flexible business management and global business system</li> </ul>	<ul style="list-style-type: none"> <li>R&amp;D expenses, and no. of patent applications filed</li> <li>Operation/evaluation of Quality Management System, and personnel who completed quality management trainings</li> <li>No. of manufacturing engineers who completed job improvement trainings</li> </ul>	<ul style="list-style-type: none"> <li>Customers</li> <li>Employees</li> <li>Partner companies</li> <li>Shareholders</li> </ul>	R&D	R&D expenses (relative to revenue) <sup>1</sup>	KRW 100M (%)	← (Combined) 842 (0.6)			
					Patent applications filed <sup>2</sup>	Casecount	← (Combined) 396			
				Quality Management	Rate of worksites certified to ISO 9001	%	100	100	100	100
					Internal evaluation of Quality Management System	Casecount	-3	48	49	36
					Personnel who completed quality management trainings	Headcount	19	82	983	164
				Technology Empowerment	Manufacturing engineers who completed job improvement trainings	Headcount	N/A	2,269	637	124
Upholding Fair and Transparent Business Practices	<ul style="list-style-type: none"> <li>Supporting open and fair competition in accordance with free market economy</li> <li>Promoting sound and transparent corporate governance structure</li> </ul>	<ul style="list-style-type: none"> <li>No. of participants in compliance and ethics management trainings</li> <li>No. of legal/regulatory violations</li> <li>Attendance rate of outside directors</li> </ul>	All	Compliance Management	Personnel who completed compliance management trainings	Headcount	449	1,361	215	170
				Business Ethics	Personnel who completed business ethics trainings	Headcount	← (Combined) 18,018			
				Greater Management Transparency	Attendance rate of outside directors	%	91.7	100	100	100
Pursuing Safe and Environmentally Friendly Business Practices	<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>Accident rate and amount of spot rewards for exemplary safety practices</li> <li>No. of personnel who used company-provided medical services</li> <li>GHG emissions</li> </ul>	<ul style="list-style-type: none"> <li>Employees</li> <li>Local communities</li> </ul>	Safety Management	Accident rate <sup>5</sup>	%	0	0.17	0.18	0.19
					Amount of spot rewards for exemplary safety practices	KRW 1,000	N/A	299,075	705	13,290
				Health Management	Company-provided medical service users <sup>6</sup>	Headcount	109	94,843	10,941	53,638
				Environmental Management	GHG emissions	tCO <sub>2</sub> e	7,647	509,780	155,864	240,688
Promoting Strong Labor-Management Relations Built on Mutual Respect and Trust	<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>Union membership rate</li> <li>No. of personnel who completed talent nurturing course, and amount of investment in talent nurturing</li> <li>Fair performance evaluation, and improvement in employees' quality of life</li> </ul>	Employees	Labor-Management	Union membership rate	%	34.6	97.9	100	88.5
				Relations Advancement	Rate of personnel eligible for collective bargaining	%	100	100	100	100
				Learning & Development	Training time per employee	Hour	28	28	30	16
					Investment in training	KRW 10M	18	230	87	130
				Evaluation & Compensation	Rate of personnel evaluated for performance <sup>7</sup>	%	87.0	92.2	92.2	91.7
				Employees' Quality Of Life	Rate of personnel staying at work over a year after parental leave (male)	%	N/A <sup>8</sup>	59.6	78.6	87.3
					Rate of personnel staying at work over a year after parental leave (female)	%	N/A <sup>8</sup>	63.2	66.7	100
Demonstrating Our Commitment to Global Corporate Citizenship	<ul style="list-style-type: none"> <li>Contributing to mankind prosperity by creating social values</li> </ul>	<ul style="list-style-type: none"> <li>Amount of shared growth funds and early payment for deliveries</li> <li>Amount of salary donation</li> </ul>	<ul style="list-style-type: none"> <li>Partner companies</li> <li>Employees</li> <li>Local communities</li> </ul>	Shared Growth	Amount of shared growth funds executed	KRW 100M	N/A	1,570	546	546
					Amount of shared growth funds collected	KRW 100M	N/A	3,086	690	810
					Amount of early payment for deliveries	KRW 100M	N/A	2,212	1,116	901
				Social Contribution	Amount of salary donation	KRW 1,000	-9	108,201	28,926	15,016

<sup>1</sup> On a consolidated basis at KSOE

<sup>2</sup> Integrally managed at KSOE

<sup>3</sup> Starting 2020

<sup>4</sup> Integrally managed at KSOE through classroom and online sessions

<sup>5</sup> No. of personnel involved in accidents/total headcount \* 100

<sup>6</sup> Visits to oriental medical clinics, in-house hospitals, or health promotion centers

<sup>7</sup> Exclusive of personnel newly hired, on leave, or scheduled to retire

<sup>8</sup> Non-existent as KSOE was established on June 1, 2019

<sup>9</sup> Uncounted, to be tallied from the following year

\* Sanctions imposed

KSOE: for missing safety & health signs (administrative fine of KRW 800,000)

HHI: pursuant to Joint Penalty Provision under the Industrial Safety and Health Act for employees' violation (fine of KRW 5.84 million)

HMD: for unperformed general health checkup (administrative fine of KRW 560,000), non-compliance in process safety reporting (administrative fine of KRW 3.2 million)

## 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.

KSOE and its shipbuilding subsidiaries continuously work on strategies for the Group's mid/long-term growth by identifying key global trends through the UN SDGs. Of the 17 goals, our focus mainly lies on 11 goals (3, 4, 6-10, 12-14, and 16) and 26 targets, as we strive to contribute to implementing this blueprint to achieve a better and more sustainable future for all.

Key SDGs	Targets	KSOE and its shipbuilding subsidiaries' contribution to achieving SDGs
 <b>Ensure 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>Ensure 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 through programs such as Core Skill Transfer Program, and nurturing outstanding experts through well-organized technical training programs</li> <li>Participating in National Human Resources Development Consortium</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 people and children in vulnerable situations.	
 <b>Ensure availability and sustainable management of water and sanitation for all.</b>	6.3 Reduce untreated wastewater and improve water quality by reducing pollution, minimizing release of hazardous chemicals, and increasing water recycling	<ul style="list-style-type: none"> <li>Employing internal environmental standards for effluent discharge stricter than legal requirements, minimizing the amount of untreated wastewater by proactively managing wastewater sources, and monitoring water quality real-time</li> </ul>
 <b>Ensure 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>Developing environmentally friendly and energy efficient ships</li> <li>Reducing energy consumption by using energy efficient LED lights, etc.</li> </ul>
	7.3 Double the global rate of improvement in energy efficiency.	
 <b>Promote 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>Expanding high value added business, improving economic productivity, and creating jobs by building smart shipyards based on digital transformation (DT)</li> <li>Creating quality jobs through employment</li> <li>Implementing a fair and objective performance evaluation &amp; compensation system for all personnel</li> <li>Offering trainings and financial services to partner companies to promote shared growth</li> <li>Creating a roadmap for human rights management at the Group level</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/mid-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.	
	8.7 Prohibit forced and child labor.	
 <b>Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.</b>	9.4 Increase resource-use efficiency and adopt clean and environmentally sound technologies.	<ul style="list-style-type: none"> <li>Reducing fuel costs and optimizing energy usage through smart ship solutions and intelligent equipment management solutions</li> </ul>
 <b>Reduce 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, pursuing co-prosperity with local communities, and promoting independence for future generations</li> </ul>

Key SDGs	Targets	KSOE and its shipbuilding subsidiaries' contribution to achieving SDGs
 <b>Ensure sustainable consumption and production patterns.</b>	12.2 Achieve sustainable management and efficient use of natural resources. 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. 12.5 Reduce waste generation through prevention, reduction, recycling and reuse. 12.6 Encourage companies to adopt sustainable practices and to integrate sustainability information into their reporting cycle.	<ul style="list-style-type: none"> <li>· Acquiring international certification for environmental management system</li> <li>· Minimizing pollutant discharge through prevention facilities, environment personnel training, and regular monitoring of concentration</li> <li>· Finding substitutes for hazardous chemicals and inspecting facilities regularly</li> </ul>
 <b>Take urgent action to combat climate change and its impacts.</b>	13.2 Integrate climate change measures into national policies, strategies and planning.	<ul style="list-style-type: none"> <li>· Monitoring and managing energy usage and GHG emissions by worksite and facility, based on the IPCC global standard and Korea's GHG calculation guideline</li> <li>· Operating Energy Storage System (ESS)</li> <li>· Participating in KPX's demand response programs</li> </ul>
 <b>Conserve and sustainably use the oceans, seas and marine resources for sustainable development.</b>	14.1 Prevent and reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution. 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.	<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>Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.</b>	16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all. 16.5 Reduce corruption and bribery in all their forms. 16.6 Develop effective, accountable and transparent institutions at all levels. 16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels.	<ul style="list-style-type: none"> <li>· Implementing transparent and responsible management by valuing compliance and business ethics</li> <li>· Implementing reasonable governance structure to maintain checks and balances</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

Each year, to select core topics of the annual integrated report, KSOE conducts a materiality assessment regarding stakeholders' interests, improvements, and business impact levels on corporate activities. The assessment of 2020 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 levels of public attention and business impact.

This report discloses KSOE and its shipbuilding subsidiaries' (HHI, HMD, and HSHI) 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.

### Step 01. Identify Sustainable Management Topics

Identified 28 topics that affect KSOE and its shipbuilding subsidiaries' sustainable management activities and value creation, taking into account sustainable management trends and the requirements under global guidelines.

### Step 02. Assess Public Interest

1. Analyzed global guidelines. (e.g., GRI Standards and UN SDGs)
2. Analyzed media exposure by categorizing items into three groups: economic, environmental, and social issues. (3,138 items)
3. Analyzed the sustainable management reports of the peer group within the same industries.
4. Conducted a survey on stakeholders' interest. (March 2020)

### Step 03. Assess Business Impact

1. Surveyed stakeholders, including KSOE and its shipbuilding subsidiaries' employees, on business impact. (3,060 respondents)
2. Analyzed key performance index (KPI) per function.

### Step 04. Verify Effectiveness

Reported the materiality assessment result to and obtained approval from the decision maker.

## Materiality Assessment Result

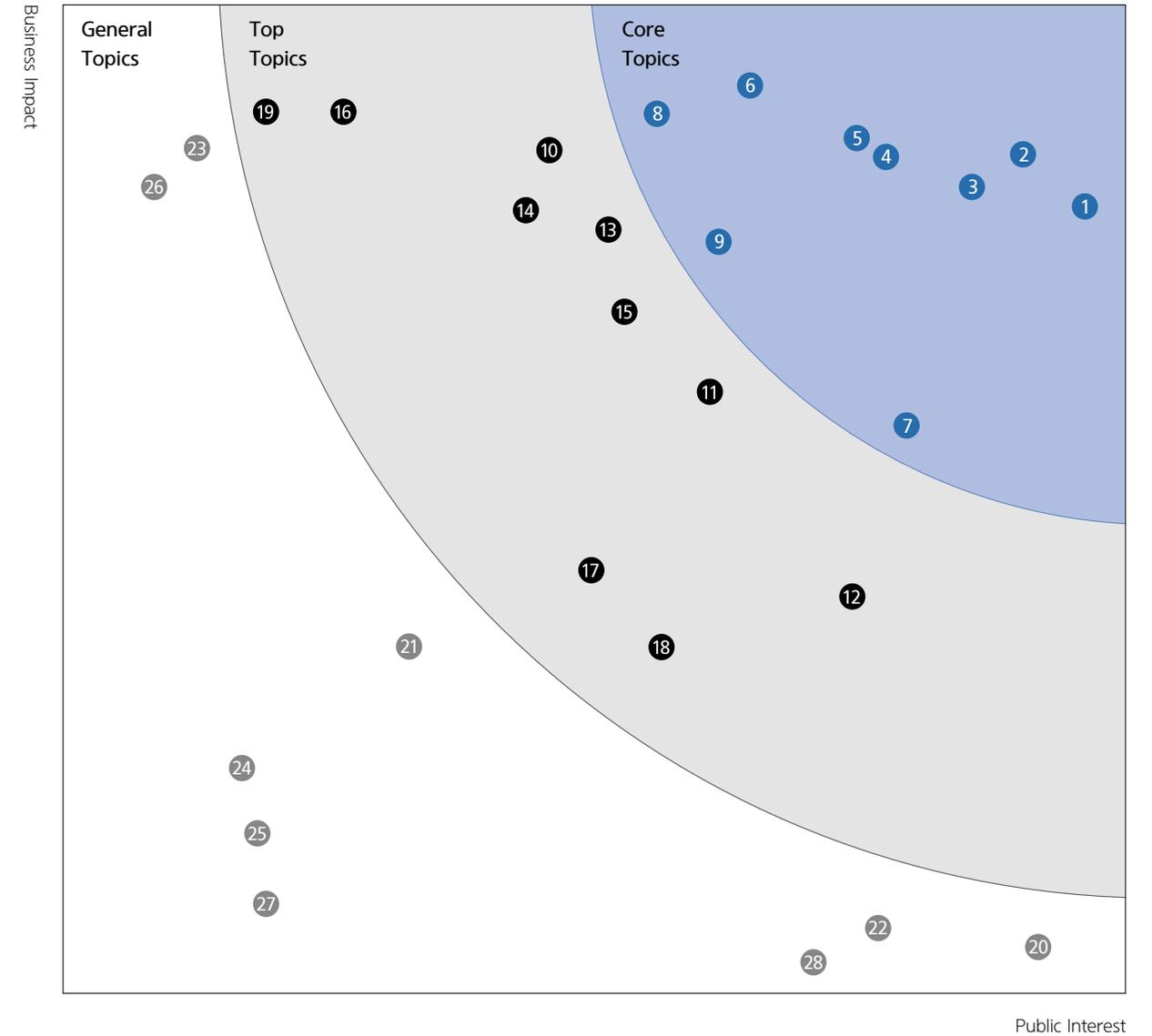
### Five Key Management Philosophies

1. Enhancing Corporate Value Through Continual Growth **1 5 6**
2. Upholding Fair and Transparent Business Practices **3 9**
3. Pursuing Safe and Environmentally Friendly Business Practices **1 8**
4. Promoting Strong Labor-Management Relations Built on Mutual Respect and Trust **2 4**
5. Demonstrating Our Commitment to Global Corporate Citizenship **7**

Core Topic	Topic Boundary	GRI Topic	Ranking by Category	
			by Public Interest	by Business Impact
<b>1</b> Pursuing environmental management by developing more environmentally friendly technologies	<ul style="list-style-type: none"> <li>Internally : R&amp;D and production</li> <li>Externally : local communities</li> </ul>	302-5	1	13
<b>2</b> Enhancing job security and promoting sound labor-management relations	<ul style="list-style-type: none"> <li>Internally : all companies</li> </ul>	102-41, 402-1	3	6
<b>3</b> Compliance management and business ethics	<ul style="list-style-type: none"> <li>Internally : R&amp;D, procurement, production, and sales &amp; marketing</li> </ul>	102-16~17, 205-2, 206-1, 307-1, 419-1	4	11
<b>4</b> Reinforcing competencies of personnel (HRD)	<ul style="list-style-type: none"> <li>Internally : all companies</li> </ul>	404-1~3	8	9
<b>5</b> Expanding R&D and securing new technologies	<ul style="list-style-type: none"> <li>Internally : R&amp;D</li> <li>Externally : research institute</li> </ul>	N/A	9	7
<b>6</b> Improving product /service quality and enhancing customer satisfaction	<ul style="list-style-type: none"> <li>Internally : R&amp;D and production</li> <li>Externally : customers and partner companies</li> </ul>	N/A	11	1
<b>7</b> Promoting shared growth with partner companies	<ul style="list-style-type: none"> <li>Internally : procurement</li> <li>Externally : partner companies</li> </ul>	203-1, 203-2	5	18
<b>8</b> Creating a safe workplace and raising safety awareness	<ul style="list-style-type: none"> <li>Internally : production</li> <li>Externally : partner companies</li> </ul>	403-1~4	13	2
<b>9</b> Ensuring sound governance	<ul style="list-style-type: none"> <li>Internally : all companies</li> <li>Externally : shareholders and investors</li> </ul>	102-18	12	15

## Materiality Assessment Matrix

- |                       |  |
|-----------------------|--|
| <b>Core Topics</b>    | <ul style="list-style-type: none"> <li>① Pursuing environmental management by developing more environmentally friendly technologies</li> <li>② Enhancing job security and promoting sound labor-management relations</li> <li>③ Compliance management and business ethics</li> <li>④ Reinforcing competencies of personnel (HRD)</li> <li>⑤ Expanding R&amp;D and securing new technologies</li> <li>⑥ Improving product/service quality and enhancing customer satisfaction</li> <li>⑦ Promoting shared growth with partner companies</li> <li>⑧ Creating a safe workplace and raising safety awareness</li> <li>⑨ Ensuring sound governance</li> </ul>         |
| <b>Top Topics</b>     | <ul style="list-style-type: none"> <li>⑩ Attracting and retaining talent</li> <li>⑪ Respecting human/labor rights of partner companies' personnel</li> <li>⑫ Improving material and energy efficiency</li> <li>⑬ Enhancing fair trade system</li> <li>⑭ Ensuring customer safety and health</li> <li>⑮ Diversifying business and exploring new opportunities</li> <li>⑯ Respecting human rights of all personnel</li> <li>⑰ Addressing climate change issues, including GHG emissions control</li> <li>⑱ Reducing waste and pollutant emissions</li> <li>⑲ Improving the quality of life for all personnel, including through a better welfare system</li> </ul> |
| <b>General Topics</b> | <ul style="list-style-type: none"> <li>⑳ Contributing to co-prosperity of local communities</li> <li>㉑ Operating an integrated risk management system</li> <li>㉒ Reducing adverse environmental impacts of partner companies</li> <li>㉓ Ensuring fair distribution of earnings</li> <li>㉔ Communication with stakeholders</li> <li>㉕ Ensuring diversity and inclusion</li> <li>㉖ Ensuring information security, including through protecting confidential and personal information</li> <li>㉗ Building and operating resource circulation, reuse, and recycling framework</li> <li>㉘ Social contribution activities</li> </ul>                                   |



Public Interest

# Enhancing Corporate Value Through Sustainable Growth

Creating new growth engines through continual change and innovation is crucial to sustainable growth in the fast-paced global business environment. KSOE will enhance corporate and shareholder value and deliver customer satisfaction by identifying quality and technology as top priorities.

R&D	p.43
Quality Management	p.48
Technology Empowerment	p.57

## R&D

As the sub-holding company of HHI Group's shipbuilding and offshore business, KSOE is fulfilling its pivotal role of presenting the mid/long-term development directions and growth strategies. It continues expanding infrastructure and nurturing research talent to spearhead the growth and development of the Group while maximizing R&D efficiency with clear R&R between R&D divisions of itself and its subsidiaries.

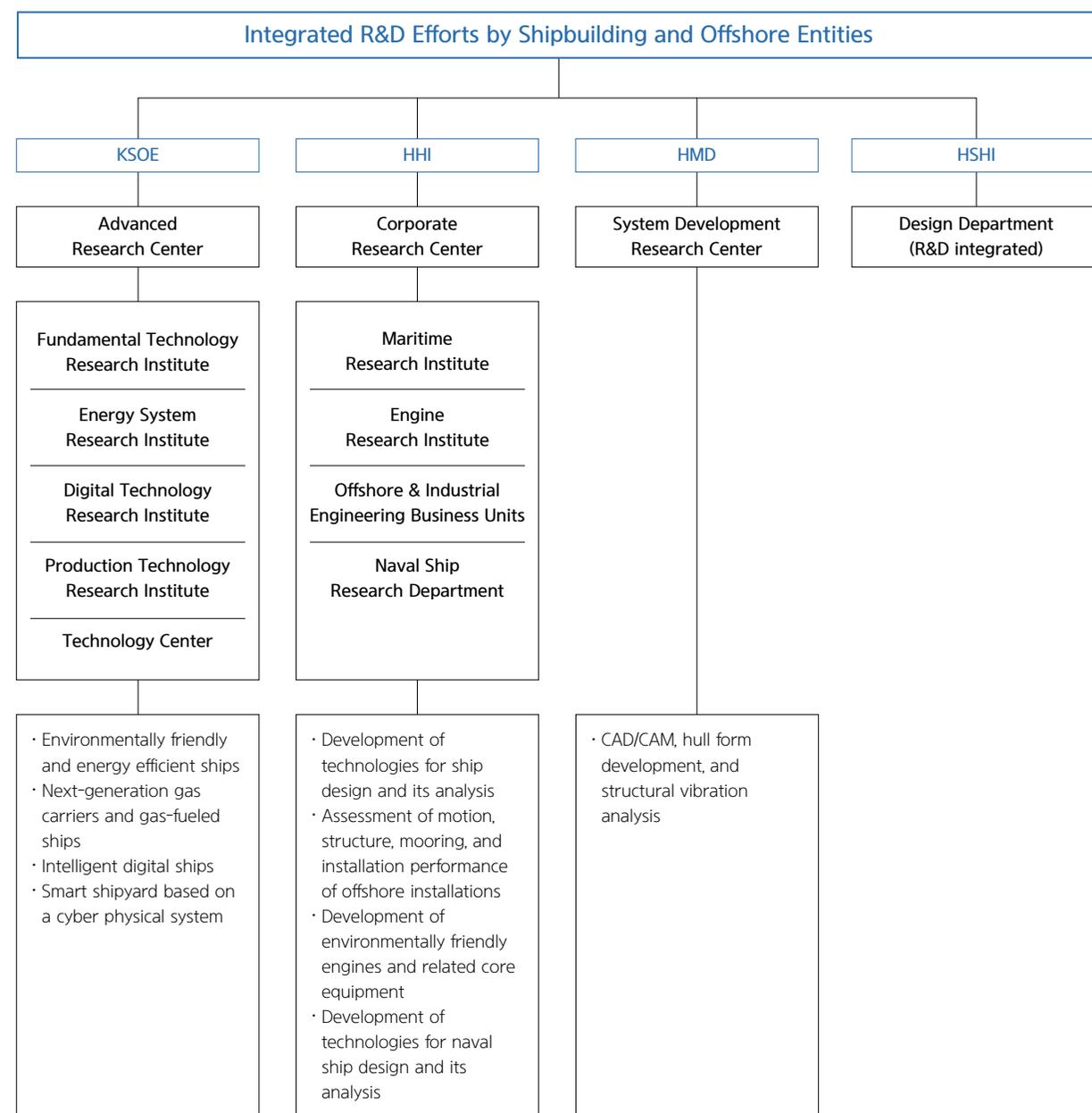
### Management System

	KSOE	HHI		
		Shipbuilding	Offshore & Industrial Plant	Engine & Machinery
Vision	<ul style="list-style-type: none"> <li>Global top-tier research center leading the shipbuilding and offshore business focused on technological advance</li> </ul>	<ul style="list-style-type: none"> <li>Market-leading research center with its differentiated technologies and performance</li> </ul>	<ul style="list-style-type: none"> <li>Research center providing engineering solutions for innovative offshore installations that will drive more offshore project orders</li> </ul>	<ul style="list-style-type: none"> <li>Research center providing environmentally friendly and smart energy solutions</li> </ul>
Mission	<ul style="list-style-type: none"> <li>Securing unrivaled technological capabilities to operate the world's best shipbuilding and offshore business</li> </ul>	<ul style="list-style-type: none"> <li>Securing global top-tier core technologies with high value added and price competitiveness</li> </ul>	<ul style="list-style-type: none"> <li>Developing engineering technologies regarding motion, structure, offshore installation, and foundation of offshore installations</li> </ul>	<ul style="list-style-type: none"> <li>Developing competitive and differentiated technologies, products, and solutions</li> </ul>
Strategy and Direction	<ul style="list-style-type: none"> <li>Securing an innovative technology that will set our products apart from all others in the shipbuilding and offshore sector</li> <li>Setting the global standard for environmentally friendly and smart ships</li> <li>Establishing an R&amp;D structure based on our original technologies</li> <li>Building a smart yard based on manufacturing technologies with outstanding superiority</li> <li>Securing and supporting technologies specialized for each shipbuilding company</li> </ul>	<ul style="list-style-type: none"> <li>Developing environmentally friendly and energy efficient hull forms and propulsion systems</li> <li>Advancing technologies for designing and manufacturing cryogenic cargo tanks</li> <li>Optimizing hull and outfitting structures</li> <li>Advancing technologies for evaluation of ship speed and navigation performance</li> </ul>	<ul style="list-style-type: none"> <li>Creating offshore &amp; industrial plant business models with optimal construction periods and cost reductions</li> <li>Developing technologies for digital twin of offshore &amp; industrial plant and their operation</li> </ul>	<ul style="list-style-type: none"> <li>Enhancing fundamental design capabilities and expanding support for sales and order-winning efforts</li> <li>Creating new products and enhancing product competitiveness based on the roadmap (PRM/TRM)</li> <li>Assuring a solid quality level by enhancing the advanced product quality planning and design process</li> </ul>

### Organizations

Advanced Research Center of KSOE has four research institutes and one technology center while HHI operates research institutes (or departments) within its Business Units of Shipbuilding, Offshore & Industrial Plant, and Engine & Machinery. They develop market-oriented and optimized technologies for

high value added ships, offshore installations, core parts of engines, and naval ships. System Development Research Center of HMD has studied high value added ship models, hull forms, and their manufacturing technologies in a continuous cooperation with research centers of KSOE and HHI, with its current focus placed on developing programs for automated ship designing and manufacturing. HSHI organized Ship & Ocean Research Center in an aim to secure base technologies for shipbuilding, which has been integrated into and operated as part of its Design Department since 2007.



### Performance Indicators<sup>1</sup>

Category	Unit	2017	2018	2019
R&D expenses	KRW 100M	907	708	842
R&D expenses relative to revenue	%	0.6	0.5	0.6
R&D personnel <sup>2</sup>	Headcount	426	457	507
No. of patent applications <sup>2</sup>	Caseload	355	432	396
No. of patent applications of environmentally friendly technologies <sup>2,3</sup>	Caseload	148	201	151
No. of intellectual property right applications <sup>2,4</sup>	Caseload	669	587	565

<sup>1</sup> Inclusive of KSOE and its shipbuilding subsidiaries

<sup>2</sup> As of the application date

<sup>3</sup> Patent applications of technologies for low environmental footprint such as SOx and VOCs reduction equipment and LNG-applied equipment, counted separately from other applications

<sup>4</sup> Inclusive of patents, model utility rights, design rights, and trademark rights

### R&D Achievements

#### KSOE

##### Development of New-Concept, Eco-Friendly Ships

In active response to increasingly tighter environmental regulations, KSOE has been developing environmentally friendly and energy efficient ships. In 2019, we developed a VLCC which can maintain an optimal performance by taking into account cargo loads and navigation conditions, thus improving the average fuel consumption by 4%. We have been working on the improvement of fuel efficiency by developing ships with new structures and ships using renewable energy. Moreover, we established and started full-fledged operation of a demonstration center with a capacity of 200kW to develop hybrid-electric ships, while obtaining a type approval from DNV-GL, a shipping classification society of Norway and Germany, for our hybrid electric propulsion system for a 114,000-ton crude oil carrier. Our initiative to spearhead the development of new-concept, eco-friendly ships also includes a system which collects VOCs emitted from crude oil and reuses it as fuel.

##### Development of Next-Generation LNG Carriers and LNG-fueled Ships

KSOE developed an SMR (single mixed refrigerant), our LNG re-liquefaction technology boasting the world's highest energy efficiency applied to next-generation LNG carriers, and has recently succeeded in actual application. In relation to our SMR which can re-liquefy 100% of the evaporate gas generated during low-speed navigation or moorage, we developed an FGSS (fuel gas supply system) with our own technology and proved the safety and superiority of our technological capabilities. Also, for the commercialization of the LNG fuel tank made of high manganese steel for LNG dual-fuel ships, we obtained a shipping classification approval for its environmentally friendly welding devices, materials, and techniques, and completed demonstration by producing a mock-up.

##### Development of Digital Ships

KSOE has led the development of cutting-edge digital ships featuring electric propulsion systems and autonomous navigation. We developed and finished the ground demonstration of our DC grid electric propulsion system, now working on its commercialization. Hi-NAS, a state-of-the-art navigation support system with AI technology, has recently been developed. In addition, we developed the integrated simulation technology that allows users to run a digital pre-test on and optimize the performance of various ship systems.

**Development of Robot System for Producing Unstructured Hull Blocks**

KSOE has enhanced the accuracy and productivity of unstructured hull blocks by developing a collaborative robot system for welding and an automatic curved plate forming device. The collaborative welding robot system boasts a stable manufacturing quality and strengthened productivity and safety, enabling collaborative works between a human engineer and multiple robots. KSOE will continue expanding human-robot collaboration projects by developing intelligent and autonomous robot systems.

**HHI**

**Development of Integrated Automation System for Ship**

The Shipbuilding Business Unit developed HiCON, an integrated automation system, and obtained type approvals from Classification Societies such as ABS, BV, DNVGL, KR, LR, NK and RINA. HiCON centrally controls the distributed control systems in the ship’s main equipment by integrating systems. It is a major system for implementing the smart-ship by collecting and analyzing operational data while navigating. It features an advanced cyber security technology that protects ship data from viruses and hacking attacks.

**Development of Independent LNG Fuel Tank**

The Shipbuilding Business Unit developed Hi-PIX (Hyundai heavy industry Prismatic Independent tank eXcellence) with our own design which is an independent IMO type-B tank and Hi-CIX (Hyundai heavy industry Cylindrical Independent tank eXcellence) with our own design which is an independent IMO type-C tank. HiPIX has been developed with integral structure through advanced evaluation technology, and it is possible to design optimally for various shapes and sizes. Applied to 14,700TEU containerships for the first time in the world, Hi-PIX is being built by HHI and HSHI now. Hi-CIX is the best solution as it can be installed on the upper deck which does not affect cargo capacity. It was used in 114,000DWT Class crude oil carriers for the first time in the industry and is applied to 180,000DWT Class bulk carriers, which is being built by HSHI now.

**Development of Air Lubrication System**

The Shipbuilding Business Unit developed Hi-ALS (Hyundai Air Lubrication System) with our own technology and is now applying it to 174,000CMB twin-skeg LNG carriers. Hi-ALS is an energy-saving device, which reduces the frictional resistance of the hull by blowing air bubbles on the bottom surface of the ship.

**Development of Mid-Sized FPSO Standard Models**

The Offshore & Industrial Plant Business Unit developed three types of mid-sized FPSO standard models which can store 1 million to 1.5 million barrels of oil. Building on HHI’s knowhow and design experiences, these standard models are designed to automate hull form selection, motion and structure analysis, structure quantity takeoff, and calculation of mooring system dimensions. Its manufacturing cost is expected to be remarkably reduced as in-house engineering database will help cut its design period.

**Development of Dual-Fuel Engine with Maximum Power and Efficiency**

The Engine & Machinery Business Unit developed a four-stroke medium-speed dual-fuel engine that boasts the world’s best power and energy efficiency for a propulsion or generating, and obtained a type approval from six classification societies. It is an environmentally friendly engine as it selectively runs on diesel or natural gas to meet the stricter environmental regulations on NOx and SOx emissions, producing up to 36,000 horsepower. Its greatly

enhanced energy efficiency is attributed to HHI’s up-to-date efficiency enhancement technologies such as a two stage turbo charging system and a variable valve timing device. This achievement has paved the way for HHI to make inroads into the market for polar LNG carriers with over 10,000 horsepower, FSRUs, and passenger vessel engines.

**Development of Smart Solution Based on HiEMS**

The Engine & Machinery Business Unit has applied HiEMS (Hyundai intelligent Equipment Management Solution), an IoT-based system for managing ship equipment launched in 2018, to a total of 48 ships. HiEMS stores big data and real-time information from generator engines of a ship, integrates and analyzes the information by using AI, figures out a way to optimize fuel consumption, and then gives orders across the on-board equipment accordingly, thereby reducing fuel consumption remarkably. It diagnoses engine failure and helps crew to address simple failure cases by providing guidance within the system. Later it will be further equipped with a guidance feature to inform users of a ship’s operation time and the replacement timing of engine parts.

**2020 Initiatives**

Entity		Initiatives
KSOE		<ul style="list-style-type: none"> <li>· Setting global standards for environmentally friendly ships</li> <li>· Developing significantly differentiated LNG systems</li> <li>· Developing new-concept smart ships</li> <li>· Accelerating the establishment of smart yards</li> </ul>
HHI	Shipbuilding	<ul style="list-style-type: none"> <li>· Optimizing performance in navigation and speed</li> <li>· Advancing LNG fuel tank technologies</li> <li>· Applying fuel efficiency devices to a broader range of ship models</li> </ul>
	Offshore & Industrial Plant	<ul style="list-style-type: none"> <li>· Developing the technologies of low-motion floating platform FEED with a new shape and its sales model</li> <li>· Developing the technologies of low-weight fixed platform FEED with a new engineering method and its sales model</li> <li>· Developing smart digital engineering technologies for offshore &amp; industrial plant</li> </ul>
	Engine & Machinery	<ul style="list-style-type: none"> <li>· Developing an environmentally friendly gas engine with mega power and GHG reduction technologies</li> <li>· Enhancing competitiveness of environmentally friendly products (SCR, BWTS, and FGSS) and developing new models with our own technology</li> <li>· Developing control systems for engines and environmentally friendly products, and smart solutions</li> <li>· Developing electric propulsion systems for small/mid-sized ships</li> </ul>

## Quality Management

KSOE and its shipbuilding subsidiaries are committed to winning customer confidence by delivering excellent products and services. To that end, each company has acquired and is maintaining Quality Management Systems (ISO 9001), the international standard for a quality management system (QMS). KSOE continues to improve quality management by incorporating customer feedback while engaging in various activities so that every employee becomes aware of the importance of quality management.

### Management Policy

KSOE	HHI	HMD	HSHI
<ul style="list-style-type: none"> <li>Promoting Group-Wide collaboration for quality improvement</li> <li>Developing technologies with quality competitiveness</li> <li>Focusing on customer-oriented quality management</li> </ul>	<ul style="list-style-type: none"> <li>Minimizing quality failure costs</li> <li>Establishing a quality culture in compliance with quality standards</li> <li>Promoting a quality collaboration system</li> </ul>	<ul style="list-style-type: none"> <li>Providing self-driven, independent quality assurance</li> <li>Preventing overlapping work</li> <li>Raising quality levels to customer satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>Identifying customer interests and proactive interaction</li> <li>Sharing quality problems and taking preventive actions</li> <li>Securing technological competitiveness by fostering experts</li> </ul>

## Quality Management System

Company	Management Tool	Discussion Forum for Quality Management	Responsible Organization	
HHI	ISO 9001 (accredited in 1992)	<ul style="list-style-type: none"> <li>Executives meeting and breakfast meeting</li> <li>Briefing session on quality failure costs and current quality level</li> <li>Briefing session on quality management achievements</li> </ul>	<ul style="list-style-type: none"> <li>Process checkup meeting for indoor work and field work</li> <li>Meeting to improve quality related to after-sales complaints</li> <li>Quality management meeting</li> <li>Quality meeting with customers</li> <li>Production management meeting</li> <li>Meeting on integrated procedures for each construction project</li> <li>Shipyard CM (Coordination Manager) meeting</li> <li>Meeting for 'zero quality issues' with outside partner companies</li> <li>Field inspection meeting with internal departments and outside partner companies</li> </ul>	<ul style="list-style-type: none"> <li>Shipbuilding QM Dept. I, II</li> <li>Offshore &amp; Industrial Plant QM Dept.,</li> <li>Offshore Production Support Dept.</li> <li>Offshore &amp; Industrial Plant Planning Dept.</li> <li>Engine &amp; Machinery Performance QM Dept.</li> <li>Engine &amp; Machinery Parts QM Dept.</li> </ul>
HMD	ISO 9001 (accredited in 1997)	<ul style="list-style-type: none"> <li>Briefing session on current quality level</li> <li>Special Committee on Quality, Precision, and After-Sales Services</li> </ul>	<ul style="list-style-type: none"> <li>QM Dept.</li> </ul>	
HSHI	ISO 9001 (accredited in 1998)	<ul style="list-style-type: none"> <li>Quality Start Meeting/Quality Siren Meeting</li> <li>Quality Improvement meeting</li> <li>Meeting to improve precision of hulls and outfitting</li> </ul>	<ul style="list-style-type: none"> <li>QM Dept. I, II</li> </ul>	

### Performance Indicators<sup>1</sup>

Category	Unit	KSOE	HHI	HMD			HSHI			
		2019	2018	2019 <sup>3</sup>	2017	2018	2019	2017	2018	2019
Quality audit of partner companies <sup>4</sup>	Caseload	- <sup>2</sup>	409	206	290	271	485	330	271	276
Personnel who completed quality training courses <sup>5</sup>	Headcount	19	137	82	771	678	983	150	146	164
Rate of worksites certified to ISO 9001	%	100	100	100	100	100	100	100	100	100

<sup>1</sup> Scope: All domestic business establishments

<sup>2</sup> KSOE has no in-house or outside partner companies.

<sup>3</sup> Total number of employees decreased due to the spin-off.

<sup>4</sup> HHI tallied the number of partner companies audited.

<sup>5</sup> For HHI tallies, only the number of persons who completed quality courses at Hyundai Learning Center were counted.

For HMD tallies, the number of trainees from partner companies was included.

### QMS Operation and Assessment<sup>1</sup>

The effectiveness of our QMS is ensured through periodic internal assessments conducted annually to check on each team’s work process and compliance.

Company	Internal audits in 2019	No. of cases where the order of preventive or corrective actions was issued (action completion rate)	Expected effect	
HHI	Shipbuilding	· 14 internal quality audits based on ISO 9001	· 35 (100%)	· Setting and achieving quality targets which take into account opportunities and risks arising from internal and external issues
	Offshore & Industrial Plant	· 8 internal quality audits based on ISO 9001	· 10 (100%)	· Managing and improving quality systemically by aligning each department’s quality target with related plans · Providing trainings by identifying required capability standards for each construction and individual training needs to meet the standards · Achieving independent quality improvements through preventive quality management, executive-level quality monitoring, and implementing quality vision and detailed action plans
		· 7 internal quality audits based on ASME Non-Nuclear Code · 10 internal quality audits for ITER project · 4 internal quality audits for King's Quay project		
Engine & Machinery	· 26 internal quality audits based on ISO 9001	· 26 (100%)	· Updating improvement plans by department through the review of actions taken according to the previous audit · Improving QMS access following the organizational restructuring and building a process to deal with non-conforming products	
HMD	· 49 internal quality audits based on ISO 9001 (including off-site plants)	· 73 (100%)	· Building/amending checklists for special-purpose ship designs to promote standardization, thereby enhancing design quality after ship type diversification · Enhancing preventive capabilities by minimizing errors in analyzing various design requirements	
HSHI	· 36 internal quality audits based on ISO 9001 · 19 internal quality audits based on ISO 9001 for in-house partner companies	· 172 (100%) · 90 from in-house partner companies (100%)	· Following standard procedures by complying with HSHI policy on the preparation, review, and approval of standard documents · Establishing a periodic monitoring system for in-house partner companies’ maintenance and use of effective measuring equipment	

<sup>1</sup> Internal quality audit of KSOE will begin in 2020

### Quality Failure Costs

We identify and manage quality failure costs as KPI. Target allocation to each department encourages every member of the department to recognize the importance of managing quality failure costs and achieve the allocated target. In an effort to reduce quality failure costs, we conduct campaigns on base quality and share after-sales complaints through case presentations.

### Quality Training

KSOE and the shipbuilding subsidiaries offered in 2019 various courses by engaging internal and external instructors, including courses on quality issue root cause analysis, advanced product quality planning (APQP), and analysis and utilization of quality costs, etc. To foster QMS experts, we annually offer an internal quality auditor certification course and an ISO-accredited auditor certification course, with experts with international quality certificates providing support to improve the companywide QMS.

Category	KSOE	HHI			HMD	HSHI
		Shipbuilding	Offshore & Industrial Plant	Engine & Machinery		
Courses	<ul style="list-style-type: none"> <li>· ISO 9001 internal quality auditor certification training</li> <li>· ISO 9001 accredited quality auditor certification training</li> <li>· Training on analyzing the root cause of quality issue</li> <li>· Training on the analysis and utilization of quality costs</li> <li>· ISO 9001 certified quality auditor training</li> <li>· Training on analyzing the root cause of quality issue</li> <li>· Training on the analysis and utilization of quality costs</li> <li>· APQP training</li> </ul>	<ul style="list-style-type: none"> <li>· ISO 9001 Internal quality auditor certification training</li> <li>· ISO 9001 Accredited quality auditor certification training</li> <li>· Training on analyzing the root cause of quality issue</li> <li>· Training on the analysis and utilization of quality costs</li> <li>· Electric &amp; automation systems</li> <li>· ISO 31000 Risk management</li> <li>· APQP Practical training</li> <li>· LNG-fueled ships &amp; hazardous area classification</li> <li>· MARPOL &amp; SOLAS</li> <li>· Materials engineering and corrosion</li> <li>· Explosion-proof practices for shipbuilding and Offshore &amp; Industrial Plant</li> </ul>	<ul style="list-style-type: none"> <li>· ISO 31000 Risk management</li> <li>· APQP Practical training</li> </ul>	<ul style="list-style-type: none"> <li>· ISO 31000 Risk management</li> <li>· APQP Practical training</li> </ul>	<ul style="list-style-type: none"> <li>· Quality management by work process</li> <li>· Special lecturer seminar (Quality Jump)</li> <li>· QMS</li> <li>· Equipment lecture from the equipment maker</li> <li>· Specialized QM training by department</li> </ul>	<ul style="list-style-type: none"> <li>· Training on job improvement and development</li> <li>· Consortium audit training</li> <li>· LNG expert training</li> <li>· Job competency improvement for collaboration inspectors</li> <li>· Training by external lecturers (shipping classification society, manufacturer, design expert)</li> <li>· New or supplementary LQC/LPT training</li> <li>· On-site training for low-quality departments</li> </ul>

## Quality Management for Partner Companies

Through regular quality audits and diagnoses, we identify the root cause of each of the critical quality issues, while helping improve the partner companies' QMS levels. Quality review meetings are held with the partner companies to find issues and share ideas to prevent recurrence. We also hold a quality contest and reward excellent partner companies to encourage focus on quality improvement.

Category	HHI	HMD	HSHI
Major Activities	<ul style="list-style-type: none"> <li>Quality inspection for new partner companies</li> <li>Regular/subsequent/ad hoc assessment of quality systems of in-house and outside partner companies</li> <li>Monitoring meeting on critical quality issues</li> <li>Quality inspection and improvement of negative inspection findings</li> <li>Certification training to in-house quality auditors and provision of certificates</li> <li>Quality contest</li> </ul>	<ul style="list-style-type: none"> <li>Quality grading system for outside partner companies</li> <li>Technical guide for low-quality partner companies</li> <li>Invitation meeting and onboard experience through GT (Growing Together) activities</li> </ul>	<ul style="list-style-type: none"> <li>Support for in-house partner companies' ISO 9001 accreditation</li> <li>Technical support by dispatching internal quality experts to outside partner companies</li> <li>Rewarding program for excellent quality of partner companies</li> <li>Weekly quality management reporting to share issues</li> <li>New and supplementary training on manufacturer quality management</li> <li>Quality training by visiting low-quality partner companies</li> <li>Quality workshop with outside partner companies</li> <li>Assessment of outside partner companies' QMS</li> </ul>

## Activities and Achievements by Entity

### KSOE

#### Joint Quality Workshop Across All Shipyards

KSOE and the shipbuilding subsidiaries, to improve work efficiency and create synergies at the Group level by sharing knowledge, have held a joint quality workshop semiannually since 2018. Workshop participants gathered together to standardize quality management procedures through the development of common quality indicators, etc. and to share and spread each entity's best practices.

#### Improvement of Customer Satisfaction Survey

KSOE strengthened the quality management system by integrating customer satisfaction surveys conducted separately by each shipbuilding entity. The centralized management resulted in more convenient survey and analysis with more objective results.

#### Quality Enhancement of Group-Manufactured Equipment Supplied to HHI

KSOE enhances the quality of shipbuilding equipment and materials supplied to HHI from the Group companies by addressing recurrent quality issues through quality diagnosis and establishing a collaboration framework among Group companies.

### HHI Shipbuilding Business Unit

#### High-Pride Zone

The Shipbuilding Business Unit upgrades its quality level by conducting quality campaigns, base quality activities by function, and a quality assurance policy which ensures a stricter quality management when products are handed over from preceding departments. Excellent worksites are operated as High-Pride Zones where product quality is inspected by the manufacturing and quality departments without the presence of the shipowner and shipping classification society. The 'non-inspection by shipowner' system is being operated at a project level, which will be expanded further.

#### Centralized Welder Qualification Management System for the 3 shipbuilding Subsidiaries

The Shipbuilding Business Unit has obtained and is applying the accreditation of ISO 3834-2 (Welding Quality Management System) to ensure a welding quality satisfying the international standards. We established an Integrated management system based on HHI Group's standard procedures for managing welding qualifications, accredited by six major shipping classification societies, and will expand the system to HMD and HSHI.

#### WeDAS 2.0

The Shipbuilding Business Unit effectively manages welding quality through WeDAS 2.0 system which monitors welding current/voltage and collects related data in real time during welding. The system analyzes the data transferred to the server through the telecommunications card of welding equipment and will be expanded to the entire indoor factories.

#### Quality Management for Safety of End Users

Considering the safety of crew who will operate the delivered ship, the Shipbuilding Business Unit has established safety measures for each work duty (R&D, Sales, Design, etc.) to prevent product defects according to the companywide standard on product liability. During shipbuilding, we prepare an inspection and test plan (ITP) which reflects specifications, design requirements and laws together with shipowners and shipping classification societies, and verify safety through various tests. Next, we test the final performance and safety through a pilot operation before delivering the ship.

### HHI Offshore & Industrial Plant Business Unit

#### Renewal of ASME Non-Nuclear Certificates

The Offshore & Industrial Plant Business Unit renews its ASME (American Society of Mechanical Engineers) Non-Nuclear Certificate for Boiler and Pressure Vessel every three years. It is an international certification required for winning contracts of building Boiler and Pressure Vessel. The ASME joint-review team visited the Offshore & Industrial Plant Business Unit in January 2020 to monitor sales, designing, manufacturing, procurement and quality systems in general. We obtained certificates for not only the existing plant yard but also offshore yard to strengthen our Boiler and Pressure Vessel manufacturing capability.

#### Preemptive Quality Management and Preventive Actions

Quality engineers and inspectors constantly monitor construction quality and take a corrective action or correction as soon as quality issues are found. The quality issues are being registered into the computerized system to record

and manage the result of actions taken as lesson and learned material sharing within organization. In addition, we develop a key stage quality management process which decides the key stage to be inspected for quality and determines minimum quality requirements for the each inspection stage. The key stage quality management process should be satisfied to move to the next stage, thus encouraging to meet the minimum quality requirements, reducing the quality cost from unnecessary re-work, re-inspection or reverse engineering, and achieving a preemptive and preventive quality management. For further Advanced Quality Management, Quality Leading Indicators (QLI) are under development in alignment with Implementation Strategy for Quality Management and the enhancement of a preventive quality is expected accordingly.

#### Quality Management for Safety of End Users

To provide safe products to customer's, we consider customer's requirements, international standards and regulations at the design and engineering level. We have our product safety verified by international authorized agencies thorough HAZID (Hazard Identification Study), HAZOP (Hazard and Operability Study), and Material Handling Study, and reflect the result to the product design. At the manufacturing and construction levels, the function and safety of the product are assessed through quality inspection which decides whether the product is being manufactured according to the design approved in the design phase. We also provide end users with documents necessary for their safe use of products.

#### Establishment of Self-Driven, Independent Quality Culture (Action strategy for quality management)

To deliver the quality vision of Client Value Creation by 'Quality First,' the Offshore & Industrial Plant Business Unit has set and driven the Implementation Strategy for Quality Management. This Strategy aims to deliver high-quality products that would satisfy customers by changing the way our employees understand quality and establishing an independent quality culture through a systematic quality system improvement. In addition to the quality vision, the Business Unit has set its own quality slogan and logo to raise employees' awareness of quality.

### HHI Engine & Machinery Business Unit

#### Quality Assurance System Up and Running

The Engine & Machinery Business Unit has in place a 'mass production approval process for initial samples' that were developed or manufactured by the Business Unit in order to specify the sample's quality specifications and processes at each phase and thus ensure durability and reliability of mass products.

#### Quality Index Target Management

To prevent quality issues in advance, we manage quality indices such as verification of initial samples and Gas/DF engine parts, quality failure costs, NCR (Non-Conformance Report), and timely VOC (Voice of the Customer) response rate. We aim for a constant quality improvement by reporting monthly target achievement level to executives, sharing it with related departments, analyzing the root cause of any underachieved index, and establishing measures to prevent recurrence. In 2020, we will raise targets based on previous target achievements to maintain the best quality.

#### Aiming for Zero Pending Cases of FAT and VOC

Our constant quality improvement efforts include reducing pending cases of FAT (Factory Acceptance Test) and VOC to zero. We manage pending rates by product category such as two-stroke engines, the HiMSEN engine,

and environmentally friendly machines. We had set the target pending rate for 2019 at below 6.90% and overachieved the target with the final pending rate of 4.50%.

#### Quality Management for Safety of End Users

To provide engine and machinery products and services which prioritize the safety of end users, the Engine & Machinery Business Unit verifies the durability and reliability of products that are newly developed, changed in design, or whose parts are changed to domestically produced ones according to the detailed policy of mass production approval for initial samples. To assess user safety at the manufacturing level, in particular, we included product safety into the checklist in the detailed policy of our key item management plan.

### HMD

#### Accredited to ISO 3834-2

Conditions for the renewal of welder qualification are tightened in 2020 under IACS W32. To respond to these tightened conditions preemptively, we obtained the ISO 3834-2 (Welding Quality Management System) certification from the Korean Register.

#### Quality Management Consulting for Partner Companies

Tailored quality consulting on four categories-design improvement, engineering method, facility, and technological support-was provided to two in-house partner companies of HMD. The consulting enhanced the quality and quality awareness of these companies and brought positive business results such as a greater productivity and reductions of material consumption. HMD will continue the consulting efforts, selecting other partner companies in need of support in 2020.

#### Quality Management for Safety of End Users

HMD is committed to achieving quality management of health and safety by each project in accordance with the HSE Login Procedure by Project, one of HMD's own standards. We discover areas for improvement in product quality and safety through satisfaction survey of shipowners and shipping classification societies to reflect the improvement suggestions to products through regular on-site meetings and inspections. We also monitor quality and safety issues during pilot operations of ships.

### HSHI

#### Assignment of Quality Experts to Outside Partner Companies and Technological Support

HSHI sends quality experts in hull, outfitting, and precision on secondment to outside partner companies for quality improvement. The secondment reduced the time taken to install equipment by an average of 30%, and the provision of Korean-Translated technology manuals reduced the equipment non-installation rate by 76% and non-essential injection of resources for support services by more than 50% in 2019 from the previous year.

#### Promotion of VAS

To promote VAS (Value Added Survey) in which an inspection is conducted solely by manufacturing and quality departments without the presence of shipowners and shipping classification societies, HSHI analyzed big data about

the propensity of shipowners and each ship model's major quality defects, and established key strategies such as advance inspections, stationed inspections, and split inspections, etc. Thanks to the shipowners' trust in our quality earned in 2019, the rate of inspection delegation by shipowners increased 2.7 times compared to 2018.

**Quality Workshop for Outside Partner Companies**

HSHI invites quality managers from outside partner companies to our quality workshop every year. About 70 managers from 52 companies participated in the workshop in 2019. We will ensure a reliable quality and process by fostering a culture of communication and alignment.

**2020 Initiatives**

Entity	Initiatives
KSOE	<ul style="list-style-type: none"> <li>• Promoting Group-Wide collaboration for quality improvement</li> <li>• Developing technologies with superior quality</li> <li>• Focusing on customer-oriented quality management</li> </ul>
HHI	<ul style="list-style-type: none"> <li>• Observing the principles and basics of quality standards</li> <li>• Minimizing quality failure costs</li> <li>• Enhancing quality perceived by customers</li> </ul>
HMD	<ul style="list-style-type: none"> <li>• Minimizing quality failure costs through quality improvement activities</li> <li>• Expanding skill transfer and quality consulting for shared growth with partner companies</li> <li>• Advancing welding quality through the companywide Welding Quality Improvement Council</li> <li>• Securing stable equipment quality by strengthening FAT capabilities</li> <li>• Enhancing manufacturing quality by analyzing after-sales complaints</li> <li>• Expanding trainings and awareness campaigns to establish quality-first mindsets</li> </ul>
HSHI	<ul style="list-style-type: none"> <li>• Take preemptive actions to ensure quality</li> <li>• Satisfying base quality and preventing excessive quality</li> <li>• Advancing technological capabilities</li> </ul>

**Technology Empowerment**

Technological excellence of KSOE and its shipbuilding subsidiaries is attributed to their talented technical personnel and training infrastructure that enables strategic fostering of such excellent professionals. As it becomes increasingly important to strategically nurture talented professionals, KSOE and its subsidiaries are putting great efforts to establish a well-organized incubation system to improve the competencies of manufacturing engineers. Also, in an effort to promote co-prosperity with partner companies, KSOE and its subsidiaries are referring to partner companies trainees who have completed their trainings provided by the Group to nurture technical professionals.

**Management System**

HHI	HMD	HSHI
Since HHI founded its Technical Education Institute in 1972, it has nurtured technical professionals through systematic training and education programs. By revamping its Core Skill Transfer Program, systematic skill transfer is encouraged and facilitated, strengthening HHI's quality competitiveness.	Since HMD founded its Technical Education Institute in 2001, a technical training system to systemically nurture manufacturing engineers 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.	Since HSHI founded its Technical Education Institute in 1996, it has provided programs to systemically nurture manufacturing engineering workers and continuously improve on-site production technologies. Technology empowerment efforts include employee empowerment training, support for qualification of Master Craftsmanship, in-house craftsmanship contests, and participation in the National Human Resources Development Project.

**Performance Indicators<sup>1</sup>**

Category	Unit	HHI			HMD			HSHI	
		2017	2018	2019	2017	2018	2019	2019	
Beneficiaries of employment-linked vocational training program	Headcount	64	119	79	17	17	5	42	
Manufacturing engineers who completed job improvement trainings	Headcount	3,433	4,017	2,269	1,195	1,104	637	124	
Personnel of partner companies who completed job improvement trainings	Headcount	1,471	763	806	545	649	450	1,998	
Prospective personnel of partner companies who completed nurturing program	Headcount	49	N/A	212	38	44	137	53	

<sup>1</sup> Scope: All domestic business establishments

## Major Activities and Achievements

### Core Skill Transfer Program

We have operated Core Skill Transfer Program to transfer key manufacturing skills in a systematic way. HHI evaluated and certified the transfer of 81 core skills in 2019. For 88 core skills, we provided video clip manuals for skill acquisition and established a management program where an appointed transfer manager in each department supports transfer activities within the department. HMD supported transfer activities for the five skills required to be transferred from retiring employees while HSHI supported transfer activities for 21 core manufacturing skills.

### Job Improvement Training for Manufacturing Engineers

Job improvement trainings are provided to manufacturing engineering workers of HHI, HDM, and HSHI. In 2019, 2,269 engineers completed 120 courses in HHI, 637 engineers completed 30 courses in HMD, and 124 engineers completed courses in HSHI.

### In-House Skills Contest

We hold an in-house skills contest every year to discover personnel with excellent skills and enhance their competency level. At the 2019 In-House Skills Contest, individual participants vied in the four categories of welding, electrical construction, painting, and maritime structures design, while group participants contended in the four categories of tube assembly, pipe assembly, hull design and outfitting design. 80 HHI employees and 56 HSHI employees had the honor of receiving prestigious awards for their excellent skills, including those bestowed by the Minister of Employment and Labor and the Korean Committee of WorldSkills Competition, and CEO citations.

### Employment Stepping Stone Program

In an effort to preemptively secure technical talent, we provide employment-linked vocational training programs for scholarship students of meister high schools including Hyundai Technical High School. Our systematic training programs such as field training help them acquire basic skills and develop along the way a sense of belonging to HHI Group. About 126 students were supported with training programs by HHI, HMD, and HSHI in 2019.

### National Human Resources Development Consortium Business

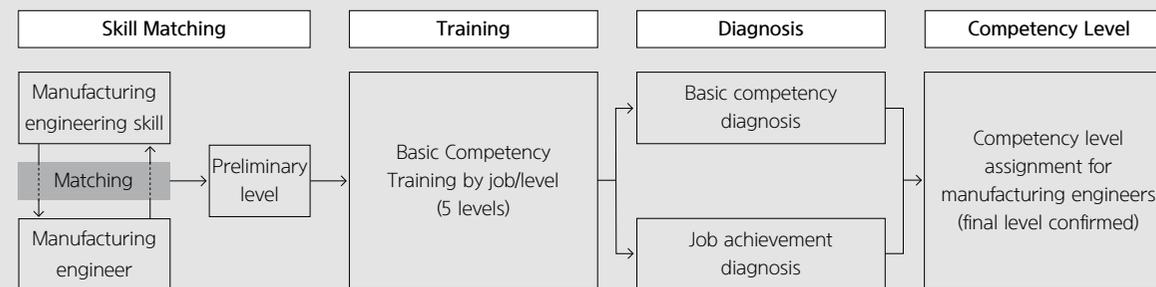
To enhance the skills of workers of partner companies and nurture new technicians, HHI, HMD, and HSHI have been engaging in the National Human Resources Development Consortium with Technical Education Institute, partner companies, Ministry of Employment and Labor, and Human Resources Development Service of Korea for the 17 consecutive years since 2002. In 2019, a total of 3,365 individuals completed trainings, which made the most of our outstanding instructors, facilities, and equipment to produce 402 new technicians.

## Activities and Achievements by Entity

### HHI

#### Manufacturing Engineer Nurturing Program

After approving Manufacturing Engineer Nurturing Program in 2019, HHI established Competency Diagnosis Center. In the Program, 2,940 manufacturing engineers in the Shipbuilding and Naval & Special Shipbuilding Business Units were matched to corresponding skills and assigned a preliminary competency level. Basic Competency Training has also been provided to 930 manufacturing engineers since September.



#### In-House Qualification Program

HHI operates an in-house technical qualification program for manufacturing engineers of HHI and in-house partner companies in order to provide an opportunity to develop themselves and motivate them for the work. In 2019, a total of 220 HHI employees passed the qualification test in 12 certification categories.

Category	2017	2018	2019
No. of personnel who passed the qualification test	453	186	220

#### Award from the 45th WorldSkills Competition in Russia

Four HHI employees were awarded in the 45th WorldSkills Competition held in Kazan, Russia, in August 2019. A Gold Medal was won in pipe and steel structure each, a Bronze Medal in welding, and an Encouragement Award in CNC shelf. This was the best achievement among the Korean companies that participated in the competition on a standalone basis.

#### The 6th Class of Graduates from HHI Technical College

To establish a lifelong learning system of ‘employment first, learning later’ and nurture high-quality technicians, HHI Technical College opened as an associate-degree college officially accredited by the Ministry of Education in March 2013. It has produced a total of 280 graduates with an associate’s degree, with 132 graduates in Shipbuilding & Maritime Engineering (14 in 2019) and 148 graduates in Mechanical & Electric Engineering (22 in 2019).

## 2020 Initiatives

Entity	Initiatives
HHI	<ul style="list-style-type: none"> <li>· Developing a mobile application providing access to Manufacturing Competency Standards</li> <li>· Providing mandatory and tailored trainings on manufacturing skills and diagnosing competency level of individual engineer</li> <li>· Developing strategic training courses to nurture high-quality manufacturing talents</li> </ul>
HMD	<ul style="list-style-type: none"> <li>· Operating Core Skill Transfer Program to maintain and transfer manufacturing skills</li> <li>· Nurturing manufacturing engineers by promoting trainings</li> <li>· Establishing a nurturing program to enhance manufacturing engineers' competency</li> </ul>
HSHI	<ul style="list-style-type: none"> <li>· Strengthening training courses that satisfy the needs of field personnel</li> <li>· Fostering manufacturing engineers by promoting vocational training to engineering trainees</li> <li>· Nurturing human resources talented with both theory and practice</li> </ul>

## Upholding Fair and Transparent Business Practices

KSOE 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.

Compliance Management	p.63
Business Ethics	p.67
Greater Management	p.72
Transparency	

## Compliance Management

KSOE and its shipbuilding subsidiaries are 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 their business activities. Our Compliance Program (CP) has been in existence since 2004, and we actively engage in compliance activities such as assessment, audit, training, and consulting.

### Management System



### Governance of Compliance Management

Function/Position (Role)	Responsibility
BoD/CEO	· Confirming compliance plans and setting directions; discussing and deciding compliance-related agenda
Compliance Officer	· Ensuring centralized operation of Compliance Team's compliance system; establishing/amending compliance standards and rules; offering compliance education and running relevant training programs; performing compliance audits · Compliance Officer designated at the executive level
Compliance Team	· Cascading knowledge of compliance laws and regulations through training to compliance personnel · Scope of compliance management: KSOE and its shipbuilding subsidiaries

## BoD Reporting

	Compliance Audit Reporting	Compliance Program Audit Reporting
Frequency	· Annual	· Semiannual
Content	· Corporate compliance audit result	· Compliance Program audit result
2019 Agenda	<ul style="list-style-type: none"> <li>· Compliance risk assessments</li> <li>· Publication and circulation of key compliance checklists, matters to be noted in inter-entity transactions of the Group, and standard manual on contract process with partner companies</li> </ul>	<ul style="list-style-type: none"> <li>· Site inspections into departments that have direct business contacts with subcontractors; Consulting and training to design/quality management departments</li> <li>· Support for the introduction of compliance system in subsidiaries</li> </ul>

## Performance Indicators<sup>1</sup>

Category	Unit	KSOE <sup>2</sup>			HHI		HMD <sup>3</sup>		HSHI <sup>3</sup>	
		2019	2017	2018	2019	2019	2019	2019	2019	
Compliance training sessions	Caseload	14	38	58	23	4	1			
Compliance training participants	Headcount	449	1,157	3,223	1,361	215	170			
Department in charge of compliance audit	Function	1	1	6	4	7	26			
Legal consulting related to fair trade	Caseload	57	127	195	59	2	2			
Legal consulting related to corruption prevention and financial sanction	Caseload	15	67	79	10	0	0			
Other legal consulting	Caseload	152	520	409	605	261	181			
Violations of Improper Solicitation and Graft Act	Caseload	0	0	0	0	0	0			

<sup>1</sup> Scope: All domestic business establishments | <sup>2</sup> Period: June 1, 2019 ~ December 31, 2019 | <sup>3</sup> Disclosed since 2019

## Activities and Achievements in Compliance Control and Fair Trade

### Compliance Training

KSOE provides regular compliance trainings for major decision-making positions such as new executives, department heads, team managers, and new hires. KSOE also offers "Compliance Training at Your Doorstep" program where a lecturer visits a department with a greater risk of compliance violation and delivers training, thereby spreading the mindset of compliance management throughout all personnel.

### Compliance Newsletter

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

### Approval and Review Regarding Anti-Corruption and Financial Sanctions

KSOE implements pre-approval system and conducts legal reviews based on the guideline on compliance with anti-corruption laws and regulations to cultivate a clean and fair management culture and prevent legal risks. In addition, we go through pre-approval system and legal reviews based on the guideline on compliance with laws and regulations on financial sanctions to effectively prevent risks at home and abroad. In 2019, we introduced those two guidelines in the shipbuilding subsidiaries.

### Compliance Training for Fair Subcontracting and Work Process Enhancement

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

### Distribution of Compliance Program Handbook, Checklists, and Manuals

KSOE distributes handbooks, checklists, and manuals that employees can refer to during their work to prevent compliance risks, and updates them frequently when needed.

### Major Amendments

- In 2017: Subcontracting section of Compliance Program Handbook amended
- In 2020: Abuse of market-dominant position & unfair trade practices sections of Compliance Program Handbook amended

### Subcontracting Compliance Program Inspection

KSOE performs site inspections into departments that have direct business contracts with subcontractors to review the process and systems of awarding contracts and issuing written requests for technical documents. The Compliance Program is being operated properly in accordance with the Program requirements such as on-site training for relevant department and senior manager training.

### 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, thereby contributing to the establishment of a fair subcontracting culture.

### Compliance Risk Assessments

To accurately understand the content and level of compliance risk, KSOE conducts risk assessments for all departments including those of its shipbuilding subsidiaries and utilizes the results for system improvement, trainings, and inspections to enhance the effectiveness of compliance.

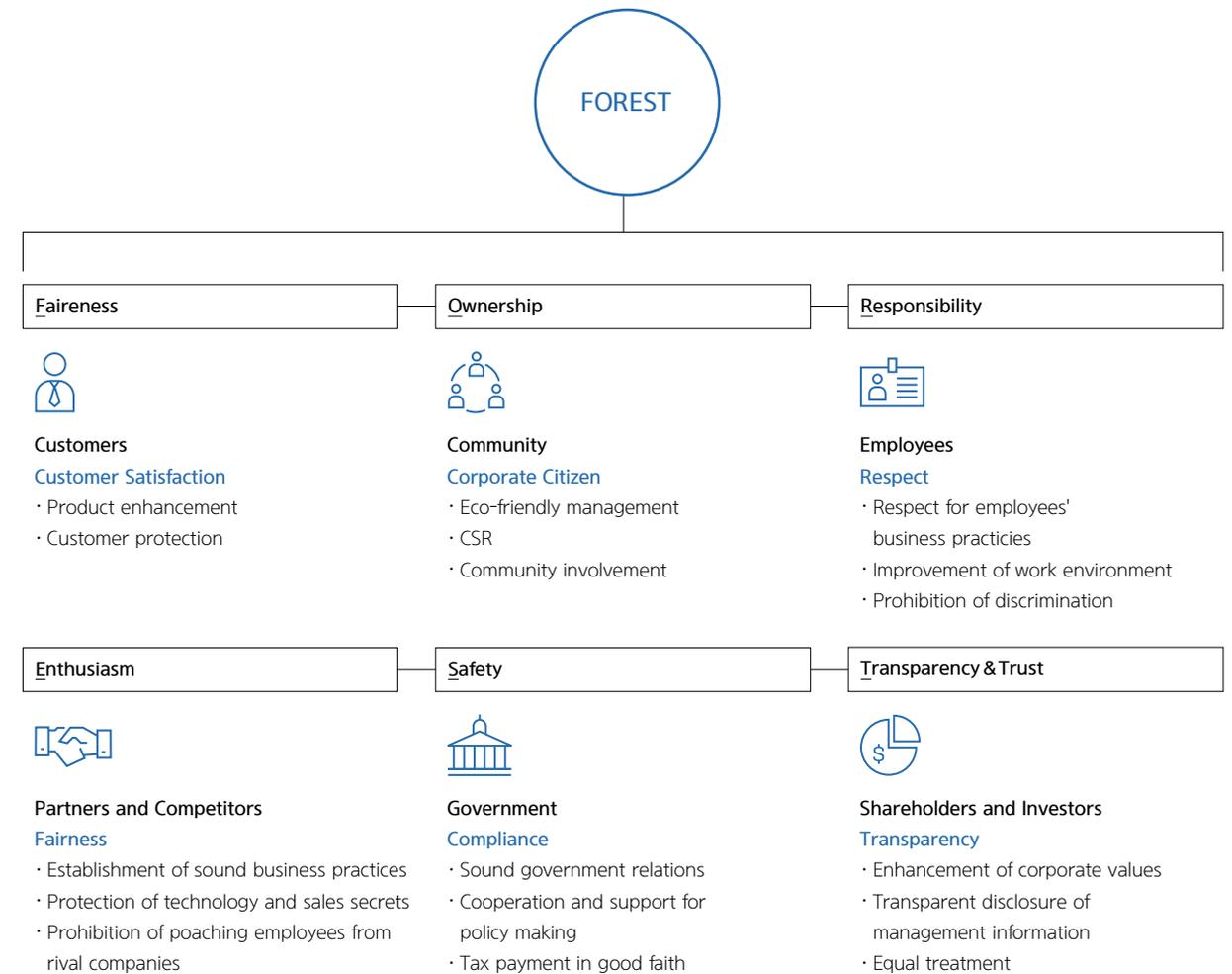
## 2020 Initiatives

Category	Initiatives
Improving compliance management system	<ul style="list-style-type: none"> <li>· Appointing on-site compliance personnel, establishing a solid compliance system through active trainings and activities</li> <li>· Improving subcontracting procedures and providing more trainings</li> <li>· Establishing and circulating checklists for subcontracting, fair trade, and anti-corruption</li> </ul>
Promoting compliance culture	<ul style="list-style-type: none"> <li>· Providing intensive support to the shipbuilding subsidiaries for solid establishment of their compliance systems</li> <li>· Discovering and spreading best compliance practices</li> </ul>

## Business Ethics

Like a forest that contributes to the co-existence of all surrounding lives, KSOE will foster an environment for all stakeholders' growth and development and pursue a sense of fairness, ownership, responsibility, enthusiasm, safety, transparency and trust. We will put forth our best effort to become a corporate that customers and partner companies want to trade 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.

### Management System



Charter of Ethics	Code of Conduct	Special Code of Conduct	Business Ethics Guidelines	Code of Conduct for Business Partners	Business Ethics Action Program	Training and Promotion
Declaration of HHI's management philosophies based on business ethics	Specific ethical standards in the Charter of Ethics by sectors	Standards for employees engaged in business functions, which require specific standards and stricter ethical obligation	Detailed job guidelines for the implementation of business ethics in the workplace	Ethical standards for shared growth with partners through transparency and fairness in business	Specific institution and process to develop a fair and transparent corporate culture	Efforts for active employee participation in ethics management and promotion of ethical corporate culture

### Governance of Business Ethics

Function/Position	Responsibility
CEO	· Setting directions and plans of ethics management
Audit Committee	· Evaluating audit performance and following up on corrective actions; ensuring the auditor's expertise and independence
Business Ethics Team	· Operating ethical management systems; providing business ethics trainings and programs; inspecting ethics violations; monitoring and preventing ethics risks; monitoring business ethics practices constantly · Management scope: KSOE and its shipbuilding subsidiaries

### Charter of Ethics

Since ethics regulations for procurement position were established in 1994, HHI Group has practiced and expanded its ethics program by amending business ethics regulations and providing an online ethics violation reporting platform and training courses. In October 2005, we declared our Charter of Ethics which proclaims our 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 shareholders' 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 corporate with the highest quality human resources that offers equal opportunities to all our employees in a safe and comfortable working environment.

### Materialization of Business Ethics

HHI Group has enacted the Code of Conduct, an elaboration of the Charter of Ethics by each job, and Business Ethics Guidelines, detailed job guidelines for the implementation of business ethics in the workplace. We are also regularly making revisions to reflect changes of the environment such as related laws and regulations and social perception and enhance their effectiveness.

Employees			Partner Companies
Code of Conduct	Special Code of Conduct	Business Ethics Guidelines	Code of Conduct for Partner Companies
<ul style="list-style-type: none"> <li>· Enforced on October 4, 2005</li> <li>· 2nd revision on July 1, 2019</li> <li>· 3rd revision on April 1, 2020 (clause on human rights respect and protection added)</li> <li>· Criterion for action and evaluation</li> </ul>	<ul style="list-style-type: none"> <li>· Enforced on May 2, 2007</li> <li>· Additional duties of employees engaged in six jobs requiring higher integrity and morality (procurement, HR, sales, finance/accounting, engineering and IT)</li> </ul>	<ul style="list-style-type: none"> <li>· Enforced on January 1, 2002</li> <li>· 7th revision on December 1, 2019</li> <li>· Business process standards for understanding and practicing business ethics policies</li> </ul>	<ul style="list-style-type: none"> <li>· Enforced on October 4, 2005</li> <li>· 3rd revision on December 1, 2019</li> <li>· Duties applied to personnel of HHI Group's partner companies</li> </ul>

### Performance Indicators<sup>1</sup>

Category	Unit	2017	2018	2019	
Employees	Business ethics training				
	Classroom training				
	Promoted employees	Headcount	863	N/A	29
	New hires (including experienced hires)	Headcount	147	297	443
	On-Site training <sup>2</sup>	Headcount	1,607	2,696	920
Others	Online training	Headcount	969	788	905
	Department-Level training	Headcount	20,576	17,284	15,721
	On-Site hearing on business ethics	Headcount	733	708	242
Partner Companies	Business ethics training <sup>3</sup>	Headcount	110	264	99
	On-Site hearing on business ethics	Headcount	30	412	17

<sup>1</sup> Scope: All domestic business establishments of KSOE and its shipbuilding subsidiaries

<sup>2</sup> Reasons for increase in 2018: Special trainings for assets/concessions managers, etc.; Increase of trainings reflecting the survey result of all departments for training needs

<sup>3</sup> Inclusive of classroom and online trainings

**Ethics Management  
Activities & Achievements**

**Integrated Group Website**

In July 2018, the Group’s integrated business ethics website opened to introduce the Group’s business ethics practices and raise the ethics awareness of employees. The website provides a ‘subcontractor hotline’ through which partner companies can request consultation on subcontracting or unfair trades, a channel for filing complaints or reporting corruption such as accounting fraud, and a channel for ethics counseling . Once a report is filed, the reporter is updated on the progress and result of the case via email or SMS.

**Annual Business Ethics Confirmation**

HHI Group’s employees and its partner companies 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 an unfair result and establish a transparent trade practice. All employees of HHI Group and its partner companies are obligated to submit this conflict-of-interest report every year.

**Ethics Violation Reporting and Whistle Blower Protection**

Business Ethics Team receives reports on allegations of wrongdoing, which include illegally accepting gratuities or entertainment, obtaining unjust gains using their position or authority, and abusing authority. Reports can be submitted by phone, fax, email, post, or online. We aim to protect the whistleblower’s identity and reward them in accordance with our reward guidelines.

**Business Ethics Self-Monitoring**

Annually KSOE employees are provided a survey-format checklist to find areas to be improved and enhance the understanding of business ethics through self-monitoring and evaluation.

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

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

**Business Ethics Training and Promotion**

KSOE annually runs classroom training courses and online courses on business ethics. The materials are presented in formats such as animated movies, etc. to raise the understanding of employees and encourage their commitment. The

trainings provide a case study of various unethical issues and a Q&A session designed to induce a sense of sympathy. To embed business ethics throughout the Company, we mandate business ethics courses to all of the new hires and managers. New hires would understand the Charter of Ethics and related policies of HHI while managers would be well equipped to base their business decision making on an ethical way of thinking. Moreover, we work to introduce our ethical management system at HHI Council, a consultative organization between HHI and its partner companies. Ethics Management Team also works to spread ethics management over partner companies by visiting them to provide related trainings.

**Clean Notice System**

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

**Support for Ethics Management in Partner Companies**

KSOE supports partner companies in their establishment of a business ethics culture. We have implemented the Code of Conduct for Business Partners since 2005 to embed a clean and transparent business practice. The Code of Conduct for Business Partners stipulates obligations such as transparent and fair business practices with partner companies and compliance with related laws and regulations, placing a ban on giving monetary benefits, graft and treatment to employees. Other supports to partner companies include support for the establishment of business ethics regulations and practice programs, provision of classroom trainings for the introduction of ethics management, and provision of promotional materials.

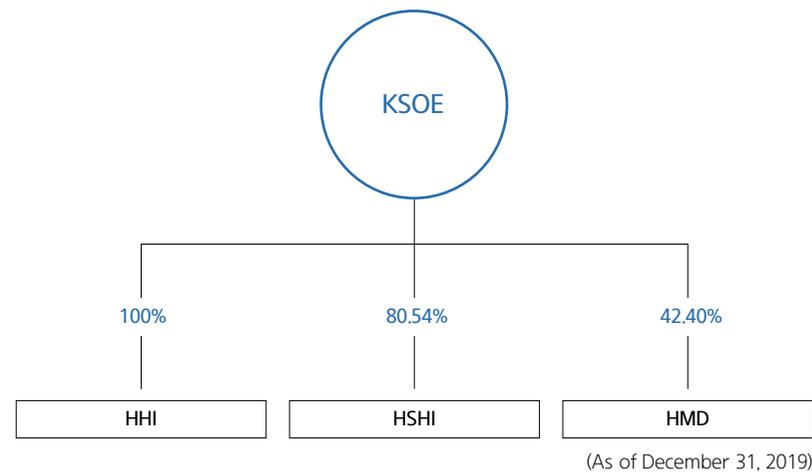
**2020 Initiatives**

Category	Initiatives
Classroom training	· Improving training satisfaction level by catering to the specific needs and assigning full-time training coordinator personnel
Promotion activities	· Creating new contents and using video clips for promoting ethics management
Amendment of Code of Conduct and establishment of Human Rights Hotline	· Incorporating a new clause on human rights respect and protection to the Code of Conduct for promoting human rights in business · Providing a reporting hotline in the Group’s integrated ethics management website
Identification of ethical risks and preventive actions within department	

## Greater Management Transparency

KSOE and its shipbuilding subsidiaries are 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 fully comply with the laws and regulations governing corporate governance and circular shareholding while laying the foundation for a good corporate governance framework which operates a more efficient BoD and protects shareholder rights.

### KSOE Governance



### Board of Directors Operation

To ensure a sound corporate governance and transparent management, we have the 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 the authority to vote on matters mandated from the shareholders' meeting and matters related to basic principles of corporate operation. The BoD also has the rights to appoint CEO and Chairman of the Board as well as the responsibility to oversee the duties of executives.

We comply with the Commercial Act's requirements for outside director appointment, and our outside directors are not a related party to the major shareholders, executives or affiliated companies. All BoD members comply with the Commercial Act, the Monopoly Regulation and Fair Trade Act, etc. to prevent a conflict of interests among companies. BoD members consist of professionals with expertise in each job function and we allow no limits based on age, gender, educational or regional backgrounds in appointing or evaluating BoD members. We also have an organization in place committed to supporting outside directors with external experts when needed. To ensure their faithful fulfillment of duties, outside directors were provided trainings on the role of the Audit Committee, major accounting practices, and internal accounting management system according to the revised Act on External Audit of Stock Companies in 2019.

### BoD Subcommittees

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

## Activities and Achievements by Entity

### KSOE

#### BoD Composition

Category	Name	Position	Gender	Current Occupation	Committee (where listed as a member)	Initial Appointment Date
Internal Director	Kwon Oh-gap	Chair	Male	Chairman & CEO of KSOE and HHI Holdings	Outside Director Recommendation Committee	October 2014
	Ka Sam-hyun	Director	Male	President of KSOE	Internal Trade Committee	March 2020
	Joo Won-ho	Director	Male	Executive Vice President of KSOE	-	June 2019
Outside Director	Yoo Kook-hyun	Director	Male	Attorney at Law Firm Kim & Chang	Internal Trade Committee, Outside Director Recommendation Committee, Audit Committee	March 2015
	Lim Suk-sig	Director	Male	Honorary professor at University of Seoul	Internal Trade Committee, Outside Director Recommendation Committee, Audit Committee	December 2018
	Choe Hyuk	Director	Male	Professor at Seoul National University Business School	Internal Trade Committee, Outside Director Recommendation Committee, Audit Committee	March 2017
	Yun Yong-ro	Director	Male	Chairman & CEO of Koramco	Internal Trade Committee, Outside Director Recommendation Committee, Audit Committee	March 2019

(As of the end of March 2020)

#### Remuneration of Bod Members

The ceiling of the remuneration of BoD members is decided by the resolution of the Annual General Shareholders' Meeting to ensure transparency and justification. The 2019 annual remuneration ceiling for directors approved by the General Shareholders' Meeting was KRW 4 billion, of which KRW 1.7 billion was actually paid out.

#### Shareholders and Dividend Policy

The number of KSOE's outstanding shares as of the end of 2019 is 70,773,116 of which 30.95% is held by the largest shareholder, HHI Holdings. Considering business conditions, dividends can be paid out in forms of cash, stock or other property on a quarterly basis. Based on the fundamental rule of 'paying out a stable dividend,' our dividend policy each year is decided after comprehensively considering the soundness of our financial structure and ways to maximize shareholder interests, etc.

Category	Name	No. of Shares	Proportion
Shareholders with over 5%	HHI Holdings	21,907,124	30.95%
	NPS	7,712,701	10.90%
	KCC	4,673,962	6.60%
Minority shareholders		29,520,092	41.71%

(As of December 31, 2019)

### HHI

#### BoD Composition

Category	Name	Position	Gender	Current Occupation	Committee (where listed as a member)	Initial Appointment Date
Internal Director	Han Young-seuk	CEO	Male	CEO of HHI	Internal Trade Committee	June 2, 2019
	Ka Sam-hyun	Internal director	Male	CEO of KSOE	Outside Director Recommendation Committee	June 2, 2019
	Cho Young-cheul	Internal director	Male	Head of Management Support Office, KSOE	Outside Director Recommendation Committee	March 24, 2020
Outside Director	Cho Jae-ho	Internal director	Male	Honorary professor of Economics at Ulsan University	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	June 2, 2019
	Lim Yeong-cheol	Internal director	Male	Managing partner and attorney at Law Firm Shin & Kim	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	June 2, 2019
	Won Jeong-hee	Internal director	Male	Advisor at Law Firm Lee & Ko	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	June 2, 2019
	Chae Joon	Internal director	Male	Professor of Seoul National University Business School	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	March 24, 2020

(As of the end of March 2020)

#### Remuneration of BoD members

The ceiling of the remuneration of BoD members is decided by the resolution of the Annual General Shareholders' Meeting to ensure transparency and justification. The 2019 annual remuneration ceiling for directors approved by the General Shareholders' Meeting was KRW 4 billion, of which KRW 1.6 billion was actually paid out.

#### Shareholders

The number of HHI's outstanding shares as of the end of 2019 is 70,773,116, all of which is held by KSOE.

Name	No. of Shares	Proportion
KSOE	70,773,111 shares	100%

(As of December 31, 2019)

## HMD

## BoD Composition

Type	Name	Position	Gender	Current Occupation	Committee (where listed as a member)	Initial Appointment Date
Internal Director	Shin Hyeon-dae	Chair	Male	President & CEO of HMD	Outside Director Recommendation Committee	November 2018
	Kim Jeong- hyeok	Director	Male	Executive officer at Financial Support Unit, Management Support Office, HHI Holdings	Internal Trade Committee	March 2020
	Kim Kap- soon	Director	Male	Chairman at Tax and Tax Accountants	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	May 2015
Outside Director	Lim Jae-dong	Director	Male	Attorney at Law Firm Kim & Chang	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	March 2019
	Yu Seung- won	Director	Male	Professor at Korea University	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	March 2020

(As of the end of March 2020)

## Remuneration of BoD Members

The ceiling of the remuneration of BoD members is decided by the resolution of the Annual General Shareholders' Meeting to ensure transparency and justification. The 2019 annual remuneration ceiling for directors approved by the General Shareholders' Meeting was KRW 1.7 billion, of which KRW 980 million was actually paid out.

## Shareholders and Dividend Policy

The number of HMD's outstanding shares as of the end of 2019 is 39,942,149 of which 42.40% is held by the largest shareholder, KSOE. Based on the fundamental rule of 'paying out a stable dividend,' our dividend policy each year is decided after comprehensively considering the soundness of our financial structure and ways to maximize shareholder interests, etc.

## Shareholders

Category	Name	No. of Shares	Proportion
Shareholders with over 5%	KSOE	16,936,492	42.40%
	NPS	5,030,622	12.59%
Minority shareholders		17,460,693	43.71%

(As of December 31, 2019)

## Dividends

Category	2019
(Consolidated) Earnings per share	KRW 1,335
Total cash dividends paid	KRW 13,959M
Cash dividend payout ratio	26.2%
Dividend per share	KRW 350

## HSHI

## Composition of BoD

Category	Name	Position	Gender	Current Occupation	Committee (where listed as a member)	Initial Appointment Date
Internal Director	Lee Sang- Kyun	Chair	Male	CEO of HSHI	Outside Director Recommendation Committee	2018.11
Outside Director	Hahn Sun- ku	Director	Male	Professor of Economics at Yonsei University, Outside director of Meritz Financial Group	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	2016.03
	Kim Hyoung- joo	Director	Male	Professor of Computer Engineering at Seoul National University, Outside director of Doosan	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	2018.03
	Jeong do- sam	Director	Male	Professor of Computer Engineering at Seoul National University, Outside director of Doosan	Audit Committee, Outside Director Recommendation Committee, Internal Trade Committee	2020.03
Other Non- Managing Director	Kim Sung- joon	Director	Male	Head of Planning-Synergy Creation Division at KSOE & CEO of Hyundai Future Partners	-	2017.03
	Song In- jun	Director	Male	CEO of IMM Private Equity	-	2017.09

(As of the end of March 2020)

## Remuneration of BoD Members

The ceiling of the remuneration of BoD members is decided by the resolution of the Annual General Shareholders' Meeting to ensure transparency and justification. The 2019 annual remuneration ceiling for directors approved by the General Shareholders' Meeting was KRW 2.5 billion, of which KRW 1.02 billion was actually paid out.

## Shareholders and Dividend Policy

The number of HSHI's outstanding shares as of the end of 2019 is 30,671,526 of which 80.54% is held by the largest shareholder, KSOE. Considering business conditions, dividends can be paid out in forms of cash, stock or other property on a quarterly basis. Based on the fundamental rule of 'paying out a stable dividend,' our dividend policy each year is decided after comprehensively considering the soundness of our financial structure and ways to maximize shareholder interests, etc.

## Shareholders

Category	Name	No. of Shares	Proportion
Shareholders with over 5%	KSOE	24,701,637	80.54%
	Triton 1	4,647,201	15.15%
Minority shareholders		952,619	3.66%

(As of December 31, 2019)

## Dividends

Category	2019
(Consolidated) Earnings per share	KRW 244
Total cash dividends paid	KRW 5,205M
Cash dividend payout ratio	45.1%
Dividend per share	KRW 1,120

# Pursuing Safe and Environmentally Friendly Business Practices

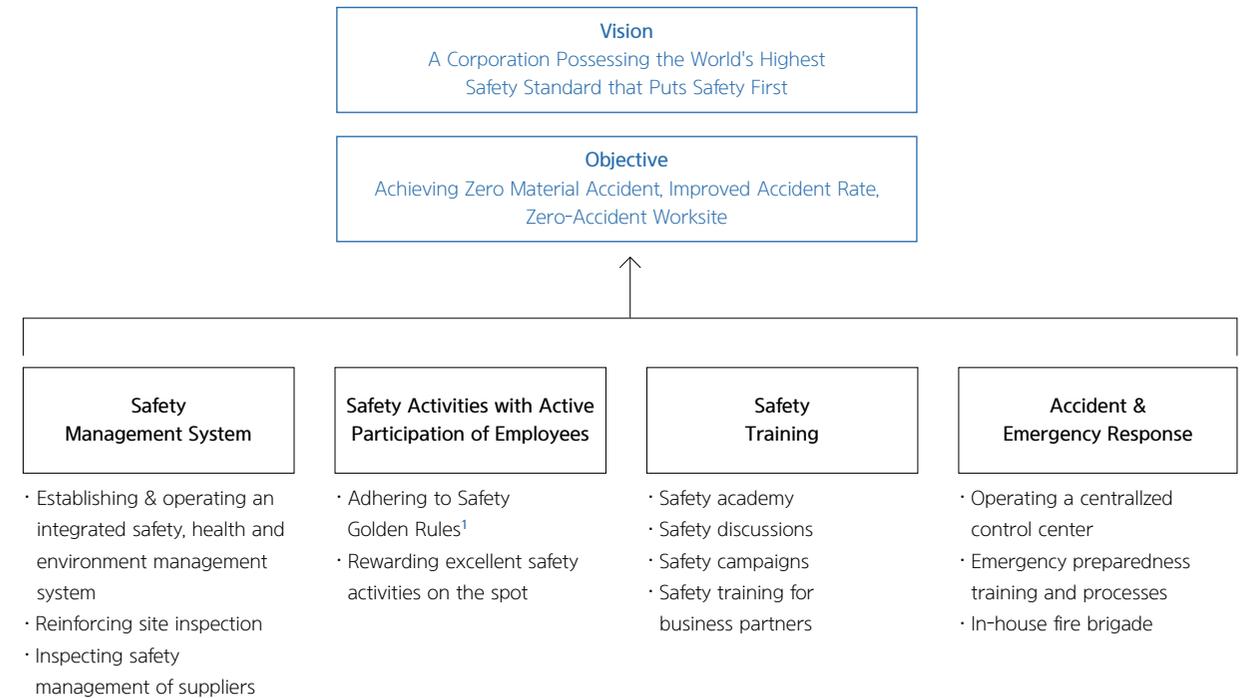
KSOE strives to reduce the risk of workplace accidents, improve worker safety and health, and further minimize the environmental impact of its business operations

Safety Management	p.79
Health Management	p.85
Environmental Management	p.88

## Safety Management

KSOE and its shipbuilding subsidiaries are expanding safety management under the vision of “A Corporation Possessing the World’s Highest Safety Standard that Puts Safety First.” We establish goals and guidelines to create a safe workplace and operate a safety, health and environmental management system based on global HSE standards such as OHSAS 18001 and ISO 14001. The collective bargaining agreement also includes clauses concerning safety and health of workers.

### Management System



#### Operation of HiSEs

The shipbuilding subsidiaries are operating HiSEs<sup>2</sup> in a way that fits their own business characteristics. HiSEs is a system that integrates all safety/environment/health-related tasks with a database of accident cases, safety trainings, disaster prevention, and other environment/health-related materials. It provides an easy mobile access to the status of risky work, safety guidelines, safety training materials, etc. Each company is carrying out projects for consistent system improvements to ensure a better safety management.

<sup>1</sup> A must set of safety rules for dangerous work (selected through annual safety risk assessment) which were introduced to improve safety awareness and establish basic discipline (e.g. safety belt for high-place work, no entry to the area under hoisting member, no hot work while painting, no unauthorized parking on crane rail)

<sup>2</sup> Hyundai integrated health, Safety, Environment system

## Safety Management Governance

Category	HHI	HMD	HSHI
Management System	· Accredited to Occupational Health and Safety Assessment System (OHSAS 18001)	· Accredited to Occupational Health and Safety Management System (ISO 45001)	· Accredited to Occupational Health and Safety Management System (ISO 45001)
Decision-Making Body (meeting frequency)	· Industrial Health & Safety Committee (1-10 representatives each from the management and the labor union) (quarterly)	· Industrial Health & Safety Committee (8 representatives each from the management and the labor union) (quarterly)	· Industrial Health & Safety Committee (6 representatives each from the management and the labor union) (quarterly)
Dedicated Organization and Roles	· Safety Management Office (directly controlled by CEO) : Company-wide HSE system/policy/program planning · Safety department of each business unit (directly controlled by business representative) : On-site safety organization operation, HSE site management for shipowners	· Safety Team (directly controlled by CEO) : Technical support related to company-wide HSE system for the business owner : Guidance/counseling/supervision for supervisors	· Safety Team (directly controlled by manufacturing headquarters) : Company-wide HSE system/policy/program planning : On-site safety organization operation, HSE site management for shipowners
Major Performance Indicators	· Accident rate, death rate per 10,000 workers, accident management goal completion rate	· No. of major accidents & accident rate	· No. of major accidents & accident rate

Detailed safety policy by company | HHI: <https://www.hhi.co.kr/ManageMent/mg04>, HMD: [http://www.hmd.co.kr/01\\_company/04.php](http://www.hmd.co.kr/01_company/04.php), HSHI: <https://www.hshi.co.kr/business/business05.asp>

## Performance Indicators

KSOE | KSOE has achieved zero accident rate with no death from safety accidents since its establishment in June 2019. The company has no separate production site.

Category	Unit	2017	2018	2019	2020 <sup>4</sup>
Accident rate <sup>2</sup>	%	0.33	0.25	0.17	0.139
HHI	%	0.611	0.363	0.253	N/A
Partner companies	%	0.065	0.104	0.080	N/A
Fatalities <sup>2</sup>	Headcount	1	1	1	0
HHI	Headcount	0	1	0	0
Partner companies	Headcount	1	0	1	0
Frequency rate of accidents resulting in sick leave (per 1 million hours worked)	-	1.58	1.20	0.83	N/A
Lost Time Injury Frequency Rate (LTIFR, including non-accidental injuries, per 1 million hours worked)	-	2.01	2.13	2.81	N/A
Spot rewards cases for best safety practices	Casecount	71,499	47,860	59,815	N/A
Reward amount	KRW 1,000	357,495	239,300	299,075	N/A
Safety Academy attendees	Headcount	818	329	425	N/A
Emergency drills	Casecount	63	54	66	N/A
% of safety/health training target that has actually received training <sup>3</sup>	%	-	-	98	N/A

1 Scope: All domestic business establishments | 2 Caught between(2017), Heat burn(2018), Caught between(2019) | 3 Disclosed since 2019 | 4 Target or plan

## HMD<sup>1</sup>

Category	Unit	2017	2018	2019	2020 <sup>3</sup>
Accident rate	%	0.30	0.26	0.18	0.18
HMD	%	0.32	0.36	0.43	N/A
Partner companies	%	0.28	0.19	0.05	N/A
Fatalities	Headcount	0	0	0	0
HMD	Headcount	0	0	0	0
Partner companies	Headcount	0	0	0	0
Frequency rate of accidents resulting in sick leave (per 1 million hours worked)	-	1.10	1.38	0.97	N/A
LTIFR (including non-accidental injuries, per 1 million hours worked)	-	1.59	2.07	3.20	N/A
Spot rewards cases for best safety practices	Casecount	N/A	N/A	141	N/A
Reward amount	KRW 1,000	-	-	705	N/A
Safety/health training attendees	Headcount	107,960	104,275	106,238	N/A
Emergency drills	Casecount	6	8	9	N/A
% of safety/health training target that has actually received training <sup>2</sup>	%	-	-	97	N/A

1 Scope: All domestic business establishments | 2 Disclosed from 2019 | 3 Target or plan

## HSHI<sup>1</sup>

Category	Unit	2017	2018	2019	2020 <sup>2</sup>
Accident rate <sup>2</sup>	%	0.23	0.25	0.19	0.19
HHI	%	0.479	0.522	0.579	N/A
Partner companies	%	0.078	0.094	0.050	N/A
Fatalities <sup>2</sup>	Headcount	0	0	0	0
HHI	Headcount	0	0	0	0
Partner companies	Headcount	0	0	0	0
Frequency rate of accidents resulting in sick leave (per 1 million hours worked)	-	1.22	1.06	1.02	N/A
LTIFR (including non-accidental injuries, per 1 million hours worked)	-	2.22	2.97	2.78	N/A
Spot rewards cases for best safety practices	Casecount	370	980	2,658	N/A
Reward amount	KRW 1,000	1,850	4,900	13,290	N/A
Safety/health training attendees	Headcount	110,267	128,992	148,894	N/A
Emergency drills	Casecount	12	13	13	N/A
% of safety/health training target that has actually received training	%	95	93	94	N/A

1 Scope: All domestic business establishments | 2 Target or plan

## Activities and Achievements by Entity

### HHI

#### Enhancing On-Site Inspection

All levels of management from first-level supervisors to the CEO frequently conduct on-site safety inspections to eradicate risk factors. HHI selects and strictly controls critical factors by business unit to prevent major accidents. In particular, the tasks with a high risk of industrial accidents (scaffold installation/removal, crane operation, longitudinal stiffener painting, etc.) are conducted only by certified workers who have received safety training. The company has also strengthened safety intervention by supervisors for more active on-site safety management.

#### Safety Training

In 2019, a total of 18,000 workers completed safety training at the Integrated Safety Training Center. The Center has 11 training halls—five for theory sessions, five for practice, and one for experiential learning. The training courses are run by 52 in-house instructors with at least 10 years of related work experience. HHI further expanded its training infrastructure by establishing a technological competency evaluation center (welding technique test site, training halls for machinery/electrical, painting and blasting courses) in the second half of 2019. The company also plans to develop safety training career path programs by position level and stage of life cycle and provide them to all employees.

#### Improving Rewards for Best Safety Practices

In July 2019, HHI revised its safety-related reward system with a goal of establishing a safety culture through the participation of all employees. It has expanded rewards-eligible safety practices and now awards prizes through a draw among those who have received safety coupon for a certain month. The reward system for partner companies has also been strengthened with new rewards on the company and individual (safety manager) level for the establishment of excellent safety management system.

#### Vessel Traffic Control Center

HHI has established the Vessel Traffic Control Center for real-time control of all vessel traffic in the yard to ensure safe vessel operation at a port and prevent collision between docked vessels. The Center has adopted technologies verified by Korea Coast Guard via its Vessel Traffic Service (VTS) for the first time in Korea. It is equipped with the vessel control system based on advanced electronic navigational chart, very high frequency (VHF) communications equipment for radio contact with passing ships, and automatic identification system (AIS). The Center also has radar sites in Jeonha Bay and Mipo Bay, which are used to detect the location of small-sized vessels and offshore floating structures.

#### Disaster and Emergency Responses

HHI adopted a company-wide disaster/emergency response manual to protect employees and corporate assets from natural disasters such as typhoons and earthquakes. Unitary emergency response teams organized under the Corporate Disaster Prevention and Response Head Office are mobilized to properly respond to each level of disaster. Scenario-Based drills are also conducted on a regular basis.

#### Integrated Control Center

HHI's Integrated Control Center is operational 24/7 to enable real-time communication, respond swiftly to any disaster or emergency, and protect business sites and neighboring areas. The Center monitors business sites through 234 CCTVs, motion-detecting sensors, and intelligent video analysis solutions. More recently, 5G neckband cameras were adopted to enable a more immediate and proper response to emergency.

### HMD

#### Enhancing On-Site Inspection

HMD conducts systematic safety inspections every two months, focusing on seven critical factors—fall prevention, cranes, forklifts, aerial work platform trucks, confined space, fire/explosion, and gas hose/nipple. In order to prevent major accidents, it has also selected four important factors for on-site inspection, which are improvement of unsafe conditions, safety intervention, measures to prevent recurrence of safety accidents, and risk assessment.

#### Spot Rewards for Best Safety Practices

Workers showing excellent safety performance are rewarded on the spot. Immediate incentives are provided to motivate employees to consistently engage in safety practices and build a culture where they encourage and inspire each other to improve safety.

#### Safety Training

HMD is raising awareness of safety among employees and encouraging actual improvement in behavior through existing safety/health training and new measures (video training, Safety Moment meetings, safety signs, KakaoTalk chatrooms, etc.). It also plans to use smart devices for systematic management of educational performance.

#### Disaster and Emergency Responses

HMD has established and operated a disaster/emergency response manual. Periodic drills are conducted based on scenarios for various types of potential disasters (fire, explosion, earthquake, etc.). Safety-Related equipment and facilities (fire extinguishers/hydrants, etc.) are also inspected on a regular basis to preemptively prepare against emergencies that can occur at and around business sites.

#### Integrated Disaster Prevention Office

HMD's Integrated Disaster Prevention Office is operational 24/7 to protect employees and minimize damage to assets from fires, safety accidents, and natural disasters. The company has installed the automatic fire detection system for real-time detection at buildings, on-site CCTVs, and the weather information system for safe embarkation/disembarkation of workers.

### HSHI

#### Safety Keeper Campaign

HSHI is running a campaign to expand the safety keeper program under which employees of departments other than safety-related functions are additionally appointed as safety agents. The campaign helped increase the number of safety agents from the previous 85 to 339 in 2019. The company provides rewards for excellent performance of quarter to encourage active participation by employees.

#### Customized Training System

Safety training is offered by each level to ensure the safety of workers on site. HSHI provides about 40 safety training courses, including intensive training for foreign workers and those exposed to a high risk of accidents such as equipment operators.

**Improving Rewards for Best Safety Practices**

HSHI created a task force to identify areas in the safety reward system that need to be improved. Based on its findings, the company expanded the portion of rewarded individuals by 2.5 times to raise awareness of the reward system among on-site workers. It also started to provide equal rewards for workers from partner companies and newly added rewards for a zero-accident achievement to encourage company-wide commitment to accident prevention.

**2020 Initiatives**

HHI	HMD	HSHI
<p><b>Goal</b></p> <ul style="list-style-type: none"> <li>Zero major accidents &amp; accident rate of 0.139% or below</li> </ul> <p><b>Initiatives</b></p> <ul style="list-style-type: none"> <li>Strengthening practice-oriented safety management and completing 100% feedback activities</li> <li>Reinforcing partner companies' capabilities for autonomous safety management</li> <li>Establishing its own safety brand and improving safety culture</li> <li>Pursuing the improvement of company-wide safety risk assessment system</li> </ul>	<p><b>Goal</b></p> <ul style="list-style-type: none"> <li>Zero major accident, accident rate of 0.18% or below</li> </ul> <p>Change in safety/health/environment paradigm</p> <p><b>Initiatives</b></p> <ul style="list-style-type: none"> <li>Improving unsafe conditions on site</li> <li>Operating safety intervention program</li> <li>Improving safety awareness and behaviors among employees</li> </ul>	<p><b>Goal</b></p> <ul style="list-style-type: none"> <li>Zero major accident, accident rate of 0.19% or below</li> </ul> <p><b>Initiatives</b></p> <ul style="list-style-type: none"> <li>Establishing a culture where safety rules are respected</li> <li>Removing fundamental risk factors</li> <li>Building a customized safety management system</li> </ul>

**Health Management**

We focus on preventive health management with the aim of establishing a healthy workplace. We are continuing efforts to strengthen the management of hazardous substances by work process and improve the working environment. Employees are provided with medical checkups and strengthened follow-up care based on checkup results such as adjustment of working hours, exercise, nutrition management, and health counseling so that they can stay healthy in a comfortable working environment.

**Major Activities and Achievements**

**Occupational Disease Management**

We investigated risk factors of musculoskeletal diseases (caused by repetitive motions, forceful exertions, awkward posture, etc.) across 43 departments for about six months to prevent such diseases and provide medical care. We also provided lectures by outside experts and practical training for persons in charge of related tasks at each department. As for hearing loss, the hearing protection fit test was administered individually to prevent progression from C1 (workers requiring observation) to D1 (workers with suspected disease). We focused on teaching how to use hearing protection devices correctly, showing related figures (actual change in noise reduction rate, etc.).

**Medical Examination and Expense Support System**

We provide a medical examination every year, and for workers whose tasks are exposed to noise, harmful rays, metals, and organic compounds, a special checkup is conducted. Comprehensive medical testing is also offered to long-serving employees and senior employees along with customized follow-ups as needed. We also support the medical expenses of an employee or his or her family members and provide health allowances and convalescence leave for employees suffering occupational and work-related diseases or injuries.

**Health Promotion Centers**

We run health promotion centers at worksites to improve employee health and help the injured recover quickly. We also provide 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**

We operate an oriental medical clinic with 20 beds where attending Korean medicine doctors and nurses treat employees with musculoskeletal pains such as backache and shoulder discomfort with acupuncture, moxibustion and cupping.

**'Mind Garden' Counseling Center**

We run 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 industrial accidents through psychological treatment.

**Smoking Cessation Clinic**

We run a smoking cessation clinic to encourage employees to quit smoking, providing expert counseling.

**Performance Indicators<sup>1</sup>**

Category	Unit	KSOE	HHI			HMD			HSHI		
			2019	2017	2018	2019	2017	2018	2019	2017	2018
Company-Provided medical service users <sup>2</sup> (including repeated visits)	Headcount	109	110,724	86,140	94,843	9,359	9,685	10,941	47,357	45,620	53,638
Smoking cessation clinic participants	Headcount	0	207	96	138	106	59	57	150	106	119
Occupational Illness Frequency Rate (OIFR) <sup>3</sup>	%	N/A	1.6	1.5	2.4	0.3	0.3	0.5	0.6	1.0	1.2

<sup>1</sup> Scope: All domestic business establishments

<sup>2</sup> Visits to the oriental medical clinic, In-House hospital or health promotion center

<sup>3</sup> Limited to hearing loss and musculoskeletal diseases

**Major Activities and Achievements**

**HHI**

**Cardio-Cerebrovascular Disease Risk and Work Stress Assessment**

HHI's employees receive annual blood lipid tests through corporate support for health promotion. The company also conducts the cardio-cerebrovascular disease risk assessment based on the evaluation criteria specified in the Korea Occupational Safety and Health Agency (KOSHA) Guide, and the work stress assessment to prevent stress-related health problems.

**Obesity Control Program**

HHI supports body composition analysis and expert counseling while distributing exercise measuring devices and giving out cash gift for successful weight loss from the obesity fund. These efforts are aimed at promoting employees' health and preventing adult diseases such as diabetes and cardio-cerebrovascular diseases.

Category	Unit	2017	2018	2019
Obesity Program participants (success rate)	Headcount (%)	100 (74)	100 (67)	100 (71)

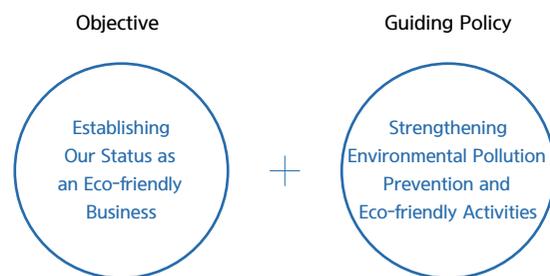
**2020 Initiatives**

HHI	HMD	HSHI
<p><b>Goal</b></p> <ul style="list-style-type: none"> <li>Building prevention-focused health management system</li> </ul> <p><b>Initiatives</b></p> <ul style="list-style-type: none"> <li>Establishing health data management system</li> <li>Strengthening proactive management for workers with suspected occupational disease or requiring observation</li> <li>Establishing and reinforcing the company-wide chemical management system</li> <li>Pursuing the replacement of high-hazard chemicals</li> <li>Strengthening the cardio-cerebrovascular disease prevention program</li> </ul>	<p><b>Goal</b></p> <ul style="list-style-type: none"> <li>Reinforcing safety/health guidance and support for partner companies</li> </ul> <p><b>Initiatives</b></p> <ul style="list-style-type: none"> <li>Strengthening health management in response to the general revision of the Occupational Safety and Health Act</li> <li>Expanding Safety &amp; Health Council and walk-around inspection at workplaces</li> <li>Improving the computer program for safety/health data and strengthening monitoring of on-site performance</li> <li>Providing guidance and support for safety and health management at partner companies by quarter</li> </ul>	<p><b>Goal</b></p> <ul style="list-style-type: none"> <li>Strengthening the prevention of occupational diseases through customized health management</li> </ul> <p><b>Initiatives</b></p> <ul style="list-style-type: none"> <li>Supporting customized health management for senior employees and workers with suspected disease</li> <li>Controlling three major threats to health (smoking, drinking, and obesity)</li> <li>Providing customized health management for workers with three major underlying diseases (high blood pressure, diabetes and hyperlipidemia)</li> </ul>

## Environmental Management

Both at home and abroad, regulations are tightening on each environmental area through the revision and enforcement of related laws amid growing global interest in environmental issues such as fine dust, GHG and chemicals. In respond to such trend, KSOE and its shipbuilding subsidiaries have established the environmental management system that satisfies the global standard of ISO 14001, with the objective of building a reputation as an environmentally friendly company. We have strengthened preventive measures against pollution with our own environmental targets stricter than legal requirements, while making efforts to prevent a recurrence of accidents by issuing corrective action request (CAR). We are also continuing efforts to reduce the environmental impact of our operations. For example, environmental impact assessment is conducted at and near worksites (including in-house partners) to minimize the damage to surrounding areas.

### Management System



Take an Action to Environmental Laws and Regulations	Environmental Pollution Prevention	Environmentally-Conscious Activities
<ul style="list-style-type: none"> <li>Analyzing environmental laws and regulations and impact on business operations</li> <li>Evaluating compliance with related laws and regulations</li> <li>Responding to strengthened Clean Air Conservation Act</li> <li>Taking an action to GHG emissions trading scheme</li> <li>Advancing chemical regulatory response system</li> <li>Implementing resource recirculation performance management system</li> </ul>	<p><b>Strengthening Self-Inspection</b></p> <ul style="list-style-type: none"> <li>Conducting regular inspection on environment-related facilities</li> <li>Managing discharge concentration of each pollutant through self-measurement</li> </ul> <p><b>Environmental Pollution Prevention Training</b></p> <ul style="list-style-type: none"> <li>Providing training for personnel handling hazardous chemicals</li> <li>Training on marine pollution prevention</li> </ul>	<p><b>Participation in Community Environmental Clean-Up Activities</b></p> <ul style="list-style-type: none"> <li>One-Company, One-Stream Purification Campaign</li> <li>Odor patrol activities on regular basis</li> </ul> <p><b>Strengthening Marine Pollution Prevention Activities</b></p> <ul style="list-style-type: none"> <li>HHI Dolphin Pollution Control Unit</li> <li>Participating in voluntary marine pollution control activities</li> </ul>

### Responsible Organizations

Entity	Council	Devoted Function
KSOE	Environmental Management	Management Support Team
HHI	Council	Environment Management Team
HMD		HSE Dept.
HSHI		HSE Dept.

## International Certification

HHI	HMD	HSHI
<ul style="list-style-type: none"> <li>Environmental Management System (ISO 14001)</li> <li>Energy Management System (ISO 50001)</li> </ul>	<ul style="list-style-type: none"> <li>Environmental Management System (ISO 14001)</li> </ul>	<ul style="list-style-type: none"> <li>Environmental Management System (ISO 14001)</li> <li>Energy Management System (ISO 50001)</li> </ul>

## Climate Change Risks and Opportunities

HHI, HMD and HSHI are required to comply with the GHG emission quotas specified under the domestic emissions trading scheme. In the case any 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 is making efforts to abide by the scheme and secure excess allowances by investing into energy-saving facilities and developing energy efficient equipment. They also make profits by selling allowances while properly responding to any regulatory changes, including the restriction on deferral of allowances.

## Energy and GHG Management

### HHI

#### Performance Indicators<sup>1</sup>

Category	Unit	2017	2018	2019
Direct energy (fuel) consumption	TJ	3,034	2,647	2,620
Indirect energy (electricity) consumption	TJ	6,525	5,805	6,182
New renewable energy (wind power) consumption	TJ	8.2	8.9	8.2
Total energy consumption	TJ	9,567	8,461	8,810
Energy consumption per revenue <sup>2</sup>	TJ/revenue (KRW 100M)	N/A	N/A	0.161
Energy savings <sup>3</sup>	TJ	N/A	13.4	12.1
Direct (Scope 1) emissions	tCO <sub>2</sub> e	225,905	203,516	209,537
Indirect (Scope 2) emissions	tCO <sub>2</sub> e	316,900	282,026	300,247
Total GHG emissions	tCO <sub>2</sub> e	542,801	485,537	509,780
GHG emission reduction	tCO <sub>2</sub> e	N/A	1,740	1,568
GHG emissions per revenue <sup>2</sup>	tCO <sub>2</sub> e/revenue (KRW 100M)	N/A	N/A	0.055

<sup>1</sup> Scope: Main plant in Ulsan

<sup>2</sup> Standalone basis; disclosed from 2019 due to inappropriateness of a simple parallel comparison with previous figures calculated using revenue recorded before the split-off

<sup>3</sup> Switch to LED lights, etc.

※ Total energy consumption and GHG emissions are the sum of consumption and emissions (rounded figures) at each worksite.

### GHG Management System

HHI established the HHI Greenhouse Gas Management System (HGMS) in 2015, which calculates GHG emissions based on the IPCC (Intergovernmental Panel on Climate Change) global standard and Korea's GHG calculation guideline. The HGMS manages the energy use and GHG emissions by worksite and GHG emitting facility. The calculations from the system are subject to internal audit and stage-by-stage verification from a third party, in order to ensure accuracy.

### Energy Management System

Based on the global standard of ISO 50001, HHI 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. For 2020, the company has set targets to reduce its power, water/light/heat and city gas consumption by 3% each against the business plan. In order to promote efficient energy management, the Factory Energy Management System (FEMS) based on big data is utilized to optimize energy consumption for each factory, while the Energy Storage System (ESS) manages peak power at 148,299kW. In 2019, 50MMW of energy was charged/discharged per day. HHI adopted an energy-saving system that sends a text message 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.

### Enhancing Energy Efficiency

HHI is implementing measures to reduce energy consumption and improve energy efficiency such as voltage regulation with new inverters, centralized air conditioning temperature control, improvement of sea trial process, and installation of high-energy-efficiency equipment (LED lights, etc.). It also strengthened EMS monitoring function to improve operational efficiency of the ESS and added circuit-breaker function for overcurrent protection. The company has continued to replace metal lights with energy efficient LED lights, thereby reducing energy consumption. In 2019, about KRW 1.24 billion in energy costs were saved. HHI is also taking part in the Demand Response (DR) project run by the Korea Power Exchange and generated a total of KRW 340 million in profit with the participation capacity of 10MW in 2019.

### Green Factory

HHI is 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, etc. within plants and self-spending and selling energy generated from those units. The company generated 77,559 tons of steam from the incineration facilities with a capacity of 400 tons and 2,275MWh of electricity from the wind turbines with a capacity of 1.65MW.

## HMD

### Performance Indicators<sup>1</sup>

Category	Unit	2017	2018	2019
Direct energy (fuel) consumption	TJ	488	637	667
Indirect energy (electricity) consumption	TJ	1,717	2,094	2,179
Total energy consumption	TJ	2,205	2,726	2,842
Energy consumption per revenue <sup>2</sup>	TJ/revenue (KRW 100M)	0.090	0.113	0.095
Energy savings <sup>3</sup>	TJ	10.1	20.9	60.1
Direct (Scope 1) emissions	tCO <sub>2</sub> e	35,205	44,678	50,036
Indirect (Scope 2) emissions	tCO <sub>2</sub> e	83,613	101,710	105,833
Total GHG emissions	tCO <sub>2</sub> e	118,813	146,381	155,864
GHG emission reduction	tCO <sub>2</sub> e	1,306	2,713	7,781
GHG emissions per revenue <sup>2</sup>	tCO <sub>2</sub> e/revenue (KRW 100M)	4.867	6.086	5.196

<sup>1</sup> Scope: All domestic business establishments

<sup>2</sup> Standalone basis

<sup>3</sup> Switch to LED lights, dual pressure control for air compressor system, etc.

※ Total energy consumption and GHG emissions are the sum of consumption and emissions (rounded figures) at each worksite.

### GHG Management System

HMD developed a GHG inventory based on the IPCC Guidelines in 2010. The company currently monitors GHG emissions from all facilities that it operates or controls such as production facilities, training centers and dormitories. The emissions are subject to annual third-party verification to ensure they comply with the IPCC Guidelines and Korea's GHG calculation guideline.

### Energy Management System

HMD has established a control system for energy-intensive equipment to enable remote/automatic control of energy consumption and operated the ESS for peak power management. It is also switching from high-capacity to low-capacity equipment not to waste energy from oversupply.

### Enhancing Energy Efficiency

HMD has shifted to 100% LED lights for temporary lighting at ships and replaced explosion-proof lights at painting factories with LEDs for the first time in the industry. LEDs are also used more widely at off-site plants. The company optimizes energy usage through dual pressure control for the air compressor control system.

## HSHI

Performance Indicators<sup>1</sup>

Category	Unit	2017	2018	2019
Direct energy (fuel) consumption	TJ	807	827	1,225
Indirect energy (electricity) consumption	TJ	2,456	2,780	2,835
Total energy consumption	TJ	3,263	3,607	4,060
Energy consumption per revenue <sup>2</sup>	TJ/revenue (KRW 100M)	0.118	0.138	0.116
Energy savings <sup>3</sup>	TJ	5.5	10.1	26.4
Direct (Scope 1) emissions	tCO <sub>2</sub> e	69,940	72,451	103,022
Indirect (Scope 2) emissions	tCO <sub>2</sub> e	119,304	135,046	137,666
Total GHG emissions	tCO <sub>2</sub> e	189,244	207,497	240,688
GHG emission reduction	tCO <sub>2</sub> e	715	1,306	3,419
GHG emissions per revenue <sup>2</sup>	tCO <sub>2</sub> e/revenue (KRW 100M)	6.829	7.921	6.900

<sup>1</sup> Scope: All domestic business establishments

<sup>2</sup> Standalone basis

<sup>3</sup> Energy savings through air compressor control system, etc.

※ Total energy consumption and GHG emissions are the sum of consumption and emissions (rounded figures) at each worksite.

## GHG Management System

HSHI calculates and manages GHG emissions based on five principles (relevance, completeness, consistency, transparency, and accuracy) in accordance with international standards and domestic laws and regulations. The calculations are subject to third-party verification to improve reliability. Its GHG emissions recorded 240,000 tons in 2019, which were mostly attributable to power-consuming facilities and sea trials of ships. The company has continued its efforts to reduce energy consumption and GHG emissions by running a 10MWh-level ESS center and expanding the remote control system for painting equipment.

## Energy Management System

Based on the global standard of ISO 50001, HSHI established an energy management system to monitor energy consumption. It has developed criteria for managing energy use at each major facility and introduced the responsible energy management system to encourage voluntary energy conservation efforts. The company has also expanded smart grid deployment to enhance energy efficiency and enabled remote and automatic control of highly energy-consuming equipment (air compressor, painting equipment, etc.) for intensive management of energy consumption.

## Enhancing Energy Efficiency

In 2019, the company established the PIC remote control system for air compressors at all worksites to optimize energy use by regulating air pressure. It plans to develop the automatic air pressure management system in 2020 to further improve energy efficiency.

## Activities to Minimize Environmental Impact by Entity

## HHI

Performance Indicators<sup>1</sup>

Category	Unit	2017	2018	2019	
Air pollutant	Dust	Ton	98	56	53
	NOx	Ton	0.874	0.719	0.590
Water usage and water pollutant	Water usage	Ton	4,000,861	3,496,060	3,530,617
	Water usage per revenue <sup>2</sup>	Ton/revenue (KRW 100B)	N/A	N/A	0.065
	Wastewater	Ton	3,277	3,849	4,714
	Biochemical Oxygen Demand (BOD)	Kg	10	20	10
	Chemical Oxygen Demand (COD)	Kg	20	24	15
	Suspended Solids (SS)	Kg	5	8	6
Waste	General waste (reclamation)	Ton	3,571	1,781	168
	General waste (incineration)	Ton	32,715	27,475	28,955
	Designated waste (reclamation)	Ton	26	147	724
	Designated waste (incineration)	Ton	2,361	1,782	1,965
	Recycling <sup>3</sup>	Ton	188,609	182,454	161,560
Environmental investments <sup>4</sup>	KRW 100M	82	355	603	
Violation of environmental laws/regulations	Caseload	0	0	0	

<sup>1</sup> Scope: Main plant in Ulsan

<sup>2</sup> Standalone basis; disclosed from 2019 due to inappropriateness of a simple parallel comparison with previous figures calculated using revenue recorded before the split-off

<sup>3</sup> Scope: All domestic business establishments

<sup>4</sup> Scope: Main plant in Ulsan and offshore business

## Air Pollutant Control

HHI manages pollutant-emitting facilities (current status, operation log, etc.) through the HiSEs. The company has built and operated optimum air pollution prevention facilities to protect air quality. In order to minimize the emission of air pollutants, it established internal environmental standards, which are about 50% stricter than statutory allowance levels. The company signed a voluntary agreement for fine dust reduction in 2018 with Nakdong River Basin Environmental Office and Ulsan Metropolitan City. It has developed and implemented plans to reduce emissions. In particular, it completed the installation of air pollution prevention facilities that take up 30% of total capacity of large-scale painting factories in accordance with Facility Management Standards on Fugitive Emissions of Hazardous Air Pollutants (HAPs) and other legal requirements. In 2020, the company plans to focus on minimizing pollutant emissions by expanding the use of environmentally friendly paints.

## Wastewater and Water Pollutant Control

Wastewater released from HHI's business sites is legitimately treated in the wastewater treatment plant within the site and by outsourced vendors. Self-Treated wastewater is discharged into the public wastewater treatment plant located

in Bangeojin, Ulsan. HHI has requested water quality analysis for each discharge facility on a quarterly or semiannual basis to identify the discharge amount of priority water pollutants designated by the authorities in 2018. It calculates the discharge amount from worksites based on the analysis results and is making efforts to reduce wastewater discharge, focusing on wastewater source control. The transfer/takeover records for wastewater treated upon entrustment are entered into the Mulbaro System (government-run electronic wastewater transfer/takeover management system) in real time as the use of the system became mandatory in October 2019.

#### Waste Management

All waste from worksites is incinerated at our facilities or treated by outsourced general/designated waste disposal service providers. HHI registers the waste transfer/takeover records on the Allbaro System (government-run electronic data processing system). Waste amount is reported to the authorities every year to comply with relevant laws/regulations. In 2019, the company reduced landfill waste (waste soil) to 169 tons, equivalent to 91.4% of 2018 levels, by strengthening the waste soil sorting process and adding recyclable items.

#### Chemical Substance Management

HHI established procedures and a management system for purchase of chemicals in order to handle chemical substances properly according to relevant laws. Before warehousing chemical products, they are checked for toxicity and hazards and the ones subject to regulations are identified. The regulated chemicals are used by acquiring formal permission/approval or replaced with substitutes. The company installs legitimate safety facilities before using chemicals and replaces some chemicals with environmentally friendly materials to reduce pollutant emissions. Managers specializing in hazardous chemicals inspect relevant facilities once a week and provide safety training for workers handling chemical products. HHI has secured the safety in chemical management through various activities, including the development of environmentally friendly products and emergency detection system.

#### 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 emission and prevention facilities, wastewater discharge facilities, facilities inducing soil pollution, waste storage site, hazardous chemicals treatment facilities, etc. Facilities generating environment pollutants are checked every day and recorded in a log. When issues are found, actions are immediately taken in collaboration with relevant departments.

#### Environmental Investment Activities and Achievements

HHI continues to make investments in facilities related to environmental management (air/water quality, waste, etc.) to minimize its businesses' environmental impact. In 2019, massive investment was made to build air pollution prevention facilities in five large-scale painting factories (three in the main yard, one in the offshore & industrial plant yard, one in Naengcheon piping plant No. 3) 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.

#### Improving Environmental Performance of Painting Factories

HHI formed a task force for painting factory restructuring and developed a concrete prototype of painting factory equipped with low-energy and environmentally friendly technologies. The factory is designed to prevent emissions of air and other environmental pollutants by using environmentally friendly solvent-free paints co-developed by HHI, KSOE and KCC (a Korean chemicals manufacturer). HHI also reduced energy and other operational costs by improving the location and operation time of air intake/exhaust system by factory.

#### Environmental Management Training

HHI provides chemical-related training for workers based on relevant laws and regulations and compulsory education for hazardous chemical managers and legally-appointed personnel (environmental engineers, etc.), meeting the required training cycle. Systematic response to environmental accidents and emergency is ensured by having in-house standards in place and conducting drills for marine pollution accidents.

#### Environmental Cleanup Activities

HHI conducts stream cleaning activities with other companies, competent authorities and volunteer groups on a regular basis. In 2019, it helped clean up Jujeon Stream and Ungok Stream by removing noxious plants, etc.

#### Reduction of Raw Material Consumption

HHI has co-developed an environmentally friendly solvent-free paint with KCC as a fundamental method to cut VOCs and HAP emissions. The new paint helped reduce the amount of paint used and coating time by creating films of various thicknesses with a single application. The company plans to expand the portion of solvent-free paints from 2% in 2020 to 60% or higher in 2024.

#### Use of Environmentally Friendly Packing Material for Engines

HHI uses environmentally friendly plywood for the HiMSEN engine packing. It also focuses on recycling packing materials and minimizing related waste through simple packaging for two-stroke engines, no packaging for four-stroke engines, and simple packaging and recovery for propeller shaft supplied to the Shipbuilding Business Unit.

## HMD

Performance Indicators<sup>1</sup>

Category	Unit	2017	2018	2019	
Air pollutant	Dust	Ton	8	12	16
Water usage and water pollutant	Water usage	Ton	1,262,346	994,098	1,205,127
	Water usage per revenue <sup>2</sup>	Ton/revenue (KRW 100B)	0.051	0.041	0.040
	Wastewater	Ton	1,338	1,247	1,180
	BOD	Kg	3	6	3
	COD	Kg	6	6	6
	SS	Kg	5	7	22
Waste	General waste (reclamation)	Ton	12,705	368	714
	General waste (incineration)	Ton		8,847	10,984
	Designated waste (reclamation)	Ton	1,251	0	19
	Designated waste (incineration)	Ton		399	573
	Recycling <sup>3</sup>	Ton	19,045	19,379	21,145
Environmental investments	KRW 100M	37	63	139	
Violation of environmental laws/regulations	Casecount	0	0	0	

<sup>1</sup> Scope: Main plant in Ulsan

<sup>2</sup> Standalone basis

<sup>3</sup> Inclusive of off-site plants

## Air Pollutant Control

HMD strived to reduce VOCs emissions by establishing prevention facilities that take up 20% of capacity of VOCs-emitting facilities. From 2020, the company plans to use solvent-free paints with a VOCs content of less than 5% to minimize air pollutant emissions.

## Wastewater and Water Pollutant Control

HMD manages water quality, current status/statistics and master data through the safety and health management system (HMPIS). The company runs an in-house wastewater treatment plant to physiochemically treat wastewater discharged within the business site and then sends it to the sewage treatment plant in Ulsan. The quality of discharged water is analyzed and managed through real-time monitoring and regular inspection by an independent, specialized institution.

## Waste Management

All waste from worksites is incinerated at our facilities or treated by outsourced general/designated waste disposal service providers. HMD registers the waste transfer/takeover records on the Allbaro System. Waste amount is reported to the authorities every year to comply with relevant laws/regulations.

## Chemical Substance Management

HMD manages chemicals safely and transparently to protect the health and safety of employees and local residents. Worksites are required to have Material Safety Data Sheets (MSDS) on site. The company also conducts a complete survey on all chemical substances once a year to update information on chemicals in use and figure out the quantity

of chemicals used and discharged to minimize their impact on the environment. It will continue its efforts to minimize environmental risks through strict control of facilities treating hazardous chemicals and compliance with legal standards.

## On-Site due Diligence/Regular Inspection

Facilities generating environmental pollutants and tasks 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.

## HSHI

Performance Indicators<sup>1</sup>

Category	Unit	2017	2018	2019	
Air pollutant	Dust	Ton	30	15	15
Water usage and water pollutant	Water usage <sup>2</sup>	Ton	3,549,585	3,606,836	2,758,305
	Water usage per revenue <sup>2,3</sup>	Ton/revenue (KRW 100B)	0.128	0.138	0.079
	Water reuse <sup>2</sup>	Ton	108,701	133,645	184,034
	Wastewater	Ton	582	798	688
	BOD	Kg	1	4	2
	COD	Kg	3	4	3
	SS	Kg	2	1	1
Waste	General waste (reclamation)	Ton	6,499	5,851	6,335
	General waste (incineration)	Ton	7,194	7,977	10,223
	Designated waste (reclamation)	Ton	-	1	1
	Designated waste (incineration)	Ton	1,958	1,540	1,335
	Recycling	Ton	7,414	7,236	39,530
Environmental investments	KRW 100M	17	83	180	
Violation of environmental laws/regulations	Casecount	0	0	0	

<sup>1</sup> Scope: Main plant in Mokpo

<sup>2</sup> Inclusive of domestic sewage

<sup>3</sup> Standalone basis

## Air Pollutant Control

HSHI is controlling air pollutant emissions at or below 30% of the domestic legal threshold to reduce dust, VOCs and other air pollutant emissions. It is operating a total of 31 air pollution prevention facilities such as bag filter, activated charcoal, scrubbing dust collector and waste gas incinerator. The contamination level of prevention facilities is self-assessed on a regular basis. The company is making efforts to reduce VOCs by installing regenerative thermal oxidizers (RTOs), using environmentally friendly paints, improving painting process, etc.

## Wastewater and Water Pollutant Control

HSHI is controlling water pollutant emissions at or below 30% of the domestic legal threshold. Wastewater is discharged into the wastewater treatment plant at Samho Industrial Complex. The water quality is self-assessed and analyzed by a government-certified institute every month. It is also under a real-time remote measurement system.

The company adopted the wastewater reclamation and reusing system in 2010 to save water and is reusing treated wastewater as cleaning or ballast water. The company reused 184,034 tons of wastewater and saved about KRW 95 million in costs.

**Waste Management**

Various types of waste and hazardous substances from production processes are transparently managed in real time for each treatment stage through the Allbaro system. HSHI minimizes the amount of waste by sorting out recyclable materials like steel scraps, waste oil, used paint cans, plastics and paper for sale or recycling. Non-Recyclable waste is buried or incinerated by outsourced waste disposal service providers.

**Chemical Substance Management**

HSHI has established the chemical storage/use/processing procedures and inspected related facilities on a regular basis. It also provides regular training for employees handling chemicals and makes sure that MSDS is in place on site so that workers can take precautions and use proper protective equipment. When chemicals are warehoused, their environmental and health risks are assessed through the chemical substance management system to determine whether they are safe to use. The company calculates the amount of chemical substances discharged once a year to make a safe working environment.

**On-Site due Diligence/Regular Inspection**

Regular on-site checkups are carried out to prevent environmental pollution accidents. HSHI also conducts emergency drills and enhances educational effect through mutual feedback. When using equipment by the sea or working on quays, the company strictly applies marine pollution prevention rules and ensures efficient control through the marine pollution management system. All waste such as used oil and hazardous chemical substances is disposed of through legitimate routes.

**Environmental Investment Activities and Achievements**

HSHI has made continuous investments to minimize the generation of pollutants from production processes. The company invested KRW 18 billion in environmental protection in 2019, up by KRW 9.7 billion from 2018. It has established new pollution prevention equipment, including facilities to reduce VOCs emissions, bag filter, activated charcoal and wastewater treatment facilities, and applied environmentally friendly paints to minimize pollution in a preemptive response to tightening regulations.

**Environmental Cleanup Activities**

HSHI conducts cleanup activities around the business sites as part of local environmental conservation efforts. The activities include the cleanup of garbage from March to October each year and water purification activities with its marine pollution cleanup ship and the help of diving clubs.

**Environment Minister Prize as Resource Recycling Leading Company**

HSHI won the Environment Minister Prize in 2011 as it was selected as a resource recycling leading company for the 3rd Resource Recycling Day. The prize is granted to companies that have contributed to environmental conservation and low-carbon, green growth. HSHI was recognized for its aggressive efforts to reduce waste and expand resource recycling.

**2020 Initiatives**

HHI	HMD	HSHI
<p><b>Goal</b></p> <ul style="list-style-type: none"> <li>Minimizing environmental risks</li> </ul> <p><b>Initiatives</b></p> <ul style="list-style-type: none"> <li>Improving environmental management systems and reinforcing compliance with environmental laws and regulations</li> </ul>	<p><b>Goal</b></p> <ul style="list-style-type: none"> <li>Establishing low-carbon, environmentally friendly management</li> </ul> <p><b>Initiatives</b></p> <ul style="list-style-type: none"> <li>Reducing GHG emissions</li> <li>Responding to environmental laws and regulations</li> </ul>	<p><b>Goal</b></p> <ul style="list-style-type: none"> <li>Developing a low-carbon, green corporate culture and promoting a safe and healthy working environment</li> </ul> <p><b>Initiatives</b></p> <ul style="list-style-type: none"> <li>Enhancing corporate value by abiding by environmental laws and regulations</li> <li>Establishing a systematic response to the GHG emissions trading scheme</li> <li>Strengthening environmentally friendly activities, including proper operation of environmental equipment</li> </ul>

# Promoting Strong Labor-Management Relations Built on Mutual Respect and Trust

KSOE establishes a high-trust corporate culture through continuous communication. It aims to build a cooperative labor-management relationship based on respect for all stakeholders including employees.

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## Human Rights Management

KSOE respects the dignity and human rights of all stakeholders in direct and indirect relationships and aims to implement human rights management based on such efforts.

### Management System

KSOE has developed a roadmap on human rights management to identify and actively manage major human rights issues that could have the most serious and negative impact in 2020, considering business operations and relationships. The company first established a Group-Wide human rights protection policy and designated a department to handle related tasks. The Code of Conduct has been revised to specify the direction of human rights protection policies. In particular, KSOE has secured the independence of remedial procedures for human rights violations by separating the department in charge of such procedures from the department that makes decisions and takes action for human rights management. In 2021, KSOE plans to provide company-wide human rights trainings and continue to enhance the grievance handling process and remedial measures, and in the mid/long-term, we aim to conduct an assessment of human rights practices.

### Policies and Progress

#### Respect and Protection of Human Rights (revised Code of Conduct)

Category	Description
Chapter 8. Respect and Protection of Human Rights	<ul style="list-style-type: none"> <li>· <b>Respect for Human Rights</b>   Company and employees shall respect the dignity and human rights of its members as well as its suppliers, partner companies, and all the interested parties in the community, and shall practice human rights management based on this principle.</li> <li>· <b>Duties to Protect and Respect the Human Rights</b>   We set up strategies and policies of human rights management in order to respect the human rights of all the interested parties and to prevent any infringement, and share this with all the relevant parties. In particular, we try to protect the general principles of human rights including the following cases.</li> <li>· <b>Human Rights Due Diligence</b>   We take appropriate measures to establish the strategies and policies of human rights management including but not limited to the following. We evaluate the effect and risk on the human rights.</li> </ul>

※ Please visit [https://ethics.hhigroup.kr/Html/E/EthicsCode/sub02\\_03.html#e01-08](https://ethics.hhigroup.kr/Html/E/EthicsCode/sub02_03.html#e01-08) for more details.

#### Human Rights Management Roadmap



※ Three-phase roadmap for each area

**Grievance Handling Process** | KSOE receives grievances from employees through various channels to remedy any violation of human rights. If the risk of violation is identified, the company pursues improvement in related areas to protect employees' human rights. In 2019, there was no case of discrimination based on nationality, age, gender, academic background, etc. reported through three channels including the employee representative body.

Channel	Issue	Case settlement rate (cases settled/filed)			
		KSOE <sup>1</sup>	HHI	HMD	HSHI
Employee representative body	Wage/benefits, institution/system, organizational culture, work hours, infrastructure, environmental safety, etc.	-	100% (79/79)	100% (40/40)	100% (32/32)
Intranet	HR/compensation/education, general affairs/welfare, - business, safety-health, IT, etc.	-	100% (102/102)	100% (1/1)	No case
Hotline	Workplace bullying, etc.	-	100% (11/11)	100% (3/3)	100% (3/3)
Offline	Grievance	Grievances reported through dialogues with the management at each department or personal counseling are not tallied as they are immediately processed upon reporting or delivered to the department in charge.			

<sup>1</sup> Uncounted, to be tallied from the following year

## Labor-Management Relations

KSOE and its shipbuilding subsidiaries strive to establish sound business ethics and advanced labor-management relations rooted in related laws and regulations. We understand each company's 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

For better working conditions, we renew collective bargaining agreements biennially and have wage negotiations annually. Labor-Management Council Meetings are also held on a quarterly basis to discuss how to improve employees' working conditions and welfare.

### Performance Indicators<sup>1</sup>

Category	Unit	KSOE <sup>2</sup>			HMD			HSHI			
		2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
Rate of employees eligible or collective bargaining <sup>3</sup>	%	100	100	100	100	100	100	100	100	100	100
Employees eligible for labor union membership	Headcount	127	10,485	8,668	8,177	2,263	2,090	2,116	2,816	2,666	2,607
Union members	Headcount	44	9,877	8,541	8,004	2,263	2,090	2,116	2,407	2,316	2,308
Union membership rate	%	34.6	94.2	98.5	97.9	100	100	100	85.5	86.9	88.5
Labor-Management Council sessions	Caseload	3	4	4	4	4	4	4	2	2	2 <sup>6</sup>
Proposals submitted to Council	Caseload	9	18	40	59	19	21	12	13	13	20
Management status briefing sessions	Caseload	N/A	4	4	- <sup>5</sup>	6	3	2	2	1	2
Labor-Management relations training sessions <sup>4</sup>	Caseload	- <sup>7</sup>	3	3	15	4	31	11	3	5	5
Training participants	Headcount	- <sup>7</sup>	1,226	1,492	1,583	458	2,922	317	60	205	456

<sup>1</sup> Scope: All domestic business establishments

<sup>2</sup> Period: June 1, 2019 ~ December 31, 2019

<sup>3</sup> Wage system is not subject to collective bargaining.

<sup>4</sup> Training for practical management practice, new recruits training, etc.

<sup>5</sup> Briefing on the contemplated split-off (attended by all employees for four or more times)

<sup>6</sup> Replaced by collective bargaining meetings

<sup>7</sup> Conducted before the split-off, included in HHI's figures

## Major Activities and Achievements

### Management Status Briefing

Under the collective bargaining agreement, each company is obliged to inform the labor union of major management changes with different deadlines by case. We hold management status briefings every year to transparently share the previous year's earnings, goals and business environment for the current year, and long-term development vision with all employees. In 2019, the briefing focused on the split-off, not management status, to explain that employees' working conditions will remain the same and all entities will share the same business vision. Management status briefings will be held by organization unit on a quarterly basis in 2020.

### Publication of Newsletters

KSOE and its shipbuilding subsidiaries publish newsletters on a regular basis to deliver company news and employees' stories. KSOE and HHI send 'HHI Family News' once a week. Other weekly newsletters include HMD's 'HMD News' and HSHI's 'Samho News.' These newsletters serve as the central hub for information and communication.

### Organizational Vitality Education

HHI, HMD and HSHI held an overnight program on organizational vitality for production workers (all employees for HSHI). The education was designed to help employees feel more closely connected with each other and establish a positive organizational culture through empathy drama and other various programs on organization management and counseling skills. The three companies will continue to expand the coverage of vitality education.

### Labor-Management Relations Training

We provide labor-management relations trainings to help employees understand the importance of sound labor-management relations and reinforce communicative capabilities. The trainings also focus on strengthening the leadership of managers to establish a healthy corporate culture. In 2019, managers could improve empathy and communication skills via programs on efficient organization operation and a sense of responsibility. For 2020, we plan to provide an advanced leadership program to build a consensus across generations and respond to the rapidly-changing business environment at home and abroad.

### Mentoring Program

We operate 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 personnel and promoting a voluntary cooperative culture.

## Activities and Achievements by Entity

### HHI

HHI organizes monthly team-building meetings led by department heads and managers. Regular communication helps enhance job satisfaction by resolving employees' concerns and grievances and build a culture of trust. The company also operates Hi-Square, an online channel for knowledge sharing and two-way communication between management and employees. Employees can post their opinion anonymously at any time.

### HMD

HMD provides a company tour for the families of employees once a month with the aim to expand family-friendly corporate culture and boost employee loyalty. The tour includes the screening of a promotional film, photo shoot and yard tour.

### HSHI

HSHI organizes meetings attended by various position levels to help employees and executives exchange their opinions for the company's development. Every wednesday, it holds a luncheon between the CEO and managers and another meeting between production/engineering/management support division heads and managers from other divisions. The HR team listens to HR-related grievances through a meeting between managers and new recruits.

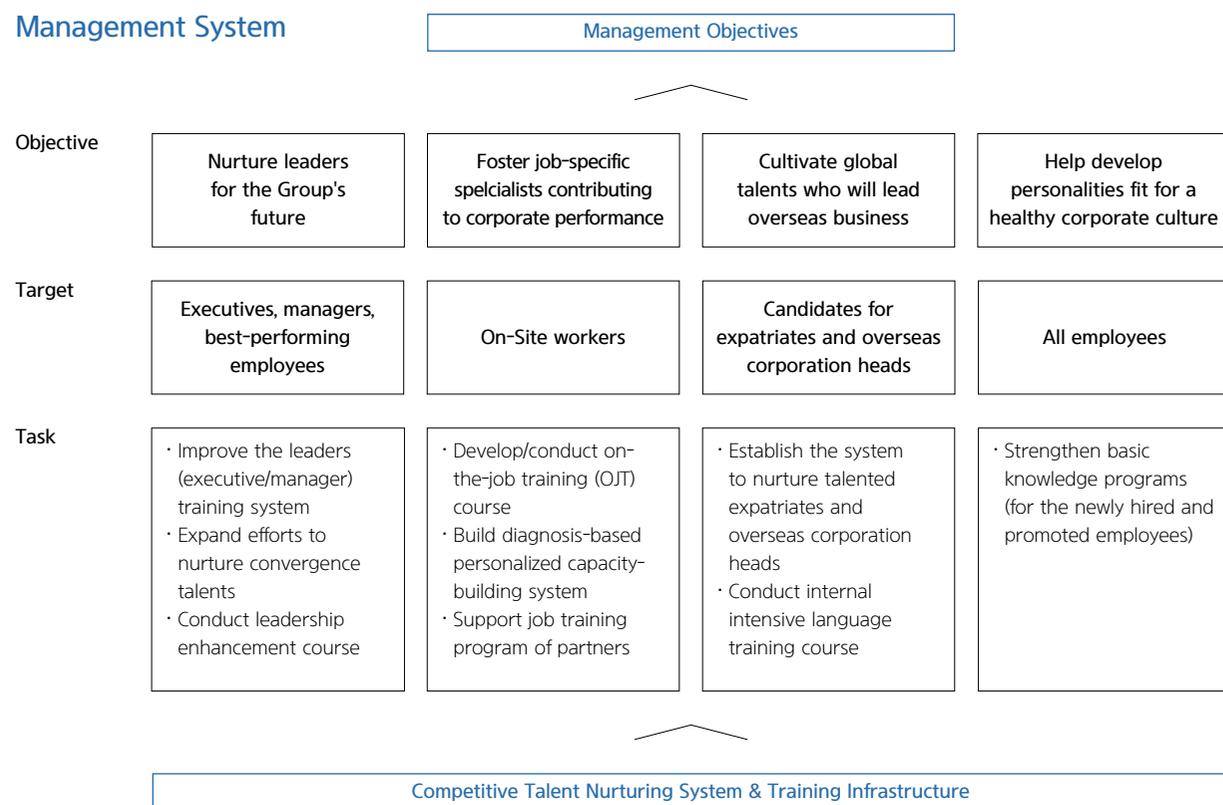
## 2020 Initiatives

Entity	Initiatives
KSOE	· Building a reasonable, win-win labor-management culture
HHI	· Establishing labor-management relations pursuing co-prosperity based on mutual understanding and trust
HMD	· Developing cooperative labor-management relations based on trust and promoting communication in organizational culture
HSHI	· Creating stable labor-management relations pursuing co-existence

# Learning & Development

KSOE and its shipbuilding subsidiaries endeavor to secure business competitiveness and success through employee competency enhancement focused on nurturing next-generation leaders, convergence talents and job-specific specialists. We emphasize the importance of continuous self-development and make sure that personal development leads to growth of the company through organizational support.

## Management System



## Performance Indicators<sup>1</sup>

Category	Unit	KSOE <sup>2</sup>			HHI			HMD		HSHI	
		2019	2018	2019	2018	2019	2018	2019	2018	2019	
Participants in training (including repeated participation)	Headcount	1,092	16,802	19,451	15,228	10,778	2,903				
Training time per employee	Hour	28	29	28	36	30	16				
Training time per employee (male)	Hour	30	-3	27	-3	30	-3				
Training time per employee (female)	Hour	20	-3	45	-3	25	-3				
Total training hours	Hour	19,079	427,816	389,205	112,205	92,096	56,164				
Investment in training	KRW 10M	18	343	230	123	87	130				
Fostering leaders	Headcount	36	132	1,691	63	79	72				
Nurturing of convergence talents	Headcount	2	16	65	3	5	4				
Nurturing of job-specific specialists	Headcount	93	858	2,583	416	582	340				
New hires training	Headcount	233	614	889	78	168	79				
Nurturing of global talents	Headcount	0	35	7	0	0	0				
Other programs <sup>4</sup>	Headcount	85	1,372	2,771	280	100	2,408				

<sup>1</sup> Scope: All domestic business establishments  
<sup>2</sup> Period: June 1, 2019 ~ December 31, 2019  
<sup>3</sup> Uncounted, to be tallied from the following year  
<sup>4</sup> Training to promote communication among production workers, competency training for in-house instructors, etc.

## Training Programs

KSOE and its shipbuilding subsidiaries have developed training programs to help all employees in various positions harness their full capabilities at their job based on the characteristics and roles by position. They focus on expanding training courses based on the actual needs of departments and business issues to strengthen employees' job expertise, while systemizing training procedures for executives and encouraging voluntary learning.

### Leadership Development Program

The role of leaders is getting more important to flexibly respond to rapidly-changing business conditions and efficiently manage the organization. As such, we provide HHI group Leader Course (HLC) in five stages and action learning, a process focused on selecting actual challenges by business and finding solutions to nurture next-generation leaders.

### Nurturing of Convergence Talents

We have expanded the program to nurture convergence talents with consilience competency and business insights across Group affiliates. The program helps talented employees with humanities/business majors to learn engineering basics and provides cross-education for electricity/machinery engineers.

### Nurturing of Job-Specific Specialists

We provide various types of online/offline training courses to strengthen job competency. Online courses on languages, common competencies and on-the-job training are offered on the Hi eCampus (learning management system). We have

focused on strengthening the competitiveness of human resources by developing customized training courses based on the actual needs of departments to enhance job performance and nurturing in-house instructors.

**Support for External Training**

We provide talented employees with return-guaranteed training opportunities. HHI selects talented employees and helps them obtain master’s or doctorate degrees at leading universities at home and abroad, while HMD supports job-related training and self-development for core talents in each area. Other programs include support for study at general graduate schools after work.

**Training System**

Rank	Level-Specific Education	Fostering Leaders	Nurturing of Convergence Talents	Job Expertise Program	Nurturing of Global Talents	Others
Executives	New executives	HLC V Special lecture for executives, special lectures in Seoul Metropolitan Area				
Senior Officer	Technical Master	HLC IV Leadership development program	New Dept. Head	• Collective specialist training	• Language training for candidates of expatriate	• Training to support retirement planning
Officer	Senior Technician	HLC III	New Team Leader	• On-job vocational training	• Night-time vocational training	
	Officer	HLC II	New Senior Foreman	• Electricity/machinery cross-training	• OJT at the overseas business locations	
		M/B		• Business administration training for engineers		
	Technician	HLC I				
New Hires	Second-year follow-up training, adaptability training	M/B				
	Mentoring	Jr. M/B				
	Onboarding training for new/experienced employees and meister high school graduates					

**Major Activities and Achievements**

**Diagnosis-Based Learning System**

Employees’ job competency is diagnosed based on the job descriptions and the feedback is provided for each employee or division. The diagnosis results are then used in capacity-building activities, including on-the-job training. HHI introduced the system for the Shipbuilding Engineering Design Division and plans to expand the target going forward.

**Nurturing of Global Talents**

We provide various language courses through night-time vocational training and cyber training, and support costs for in-house language proficiency tests twice a year. For expatriate candidates, we support costs for off-the-job training and personal education. On-the-job training is conducted at overseas corporations and branches along with support for language training at local language schools. We operate customized telephone English courses for technicians working in the office who want to improve their communication skills in foreign languages.

**2020 Initiatives**

HHI <sup>1</sup>	HMD	HSHI
<ul style="list-style-type: none"> <li>Strengthening core leadership competencies and nurturing future leaders through a Group-Wide talent nurturing system</li> <li>Establishing the digital training system to reinforce DT capabilities</li> <li>Planning/implementing communication and organizational vitality programs to defuse conflicts at work</li> </ul>	<ul style="list-style-type: none"> <li>Strengthening managers’ competency and nurturing instrumental leadership</li> <li>Providing follow-up management for core talents</li> <li>Nurturing technical professionals to improve technological competencies</li> <li>Promoting communication and work-life balance</li> </ul>	<ul style="list-style-type: none"> <li>Nurturing leader groups, core talents and managers who will lead the company’s future</li> <li>Preparing the competence development program by position level for systematic talent cultivation</li> <li>Creating pleasant corporate culture to enhance employees’ job commitment and execution</li> </ul>

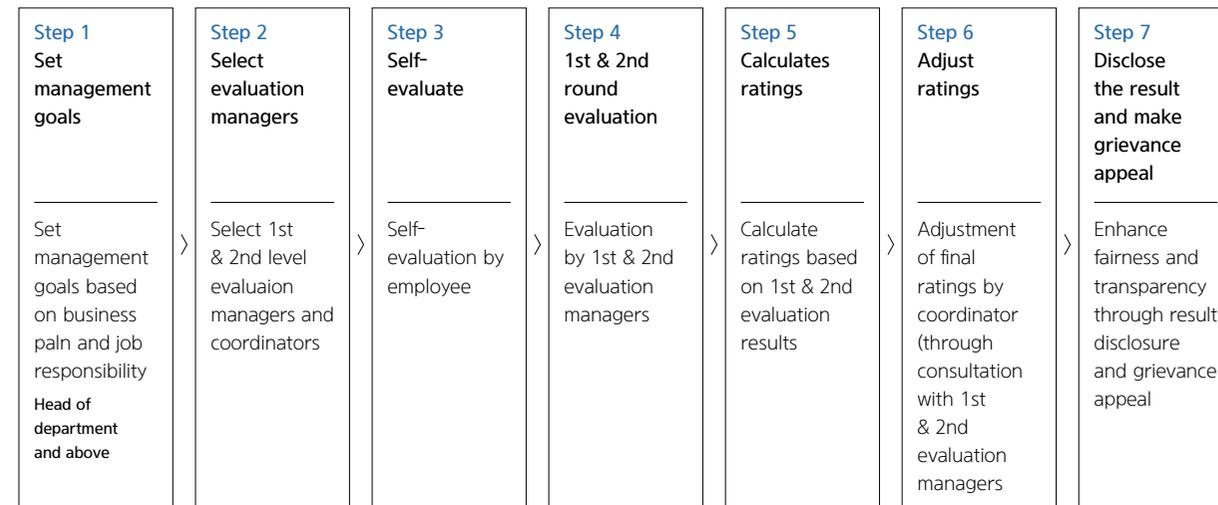
<sup>1</sup> KSOE has the same initiatives as HHI’s.

## Evaluation & Compensation

KSOE and its shipbuilding subsidiaries are 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.

### Management System

We conduct performance and competency evaluations on every employee semiannually. The results are used when making decisions on promotion, compensation, training and leader selection. Regular performance management throughout the year provides preliminary data for evaluations. 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. Multi-Dimensional leadership diagnosis is also conducted once a year to produce preliminary data used to assign positions.



### Performance Indicators<sup>1</sup>

Category	Unit	KSOE <sup>2</sup>	HHI		HMD			HSHI			
			2019	2018	2019	2017	2018	2019	2017	2018	2019
Percentage of employees evaluated for performance	Total	%	87.0	84.7	92.2	94.9	93.9	92.2	95.9	93.5	91.7
	Male	Knowledge workers	87.3	97.8	96.4	99.1	98.3	91.7	97.3	89.2	87.5
		Production workers	-	85.2	90.1	93.1	91.8	92.7	96.0	93.9	94.4
	Female	Knowledge workers	84.5	93.5	91.8	92.1	89.5	80.5	41.8	33.9	26.6
		Production workers	-	62.2	84.1	75.0	100	100	100	100	93.8
Wages	KRW 100M		373	11,828	10,070	2,365	2,403	2,512	2,543	2,732	2,929

<sup>1</sup> Scope: All domestic business establishments | <sup>2</sup> No production worker

### Compensation System

We reflect inflation rates in salary settlements to help our 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 evaluations of personal/organizational performance. Assistant managers and below positions receive a bonus, merit pay and incentive 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, KSOE and its shipbuilding subsidiaries operate 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, Mipo Award of the Year, HSHI Award	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 visible earnings growth, 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	Safety rewards, awards for best-performing employees/executives/managers/production teams, awards for high-performing quality and safety teams, awards for partner companies with high management evaluation scores, rewards for long-serving employees, compensation for employee invention, special achievement awards for external companies

## 2020 Initiatives

Entity	Initiatives
KSOE	<ul style="list-style-type: none"> <li>Establishing a performance-based reward system (shift from seniority/promotion-focused evaluation)</li> </ul>
HHI	<ul style="list-style-type: none"> <li>Enhancing transparency in the HR system and focusing on recruiting/nurturing talented employees</li> </ul>
HMD	<ul style="list-style-type: none"> <li>Establishing performance-based HR system to ensure fair evaluation</li> <li>Fostering a culture of alignment and encouragement by expanding the target and scope of rewards</li> </ul>
HSHI	<ul style="list-style-type: none"> <li>Motivating employees with a fair evaluation and reward system</li> <li>Fostering a culture of communication and harmony</li> </ul>

## Employees' Quality of Life

KSOE and its shipbuilding subsidiaries operate a benefits program under the principle of providing practical supports for various needs of their 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> <li>Paid leave</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<sup>1</sup>

Category	Unit	KSOE <sup>5</sup>	HHI		HMD			HSHI				
			2019	2018	2019	2017	2018	2019	2017	2018	2019	
Loan interest support amount	KRW 100M	3	113	69	18.2	20.2	21.3	9.8	12.0	11.9		
Employees on maternity leave <sup>2</sup>	Male	Headcount	14	511	473	16	18	28	110	94	70	
	Female	Headcount	5	34	26	8	3	5	2	5	4	
Employees on parental leave	Employees in scope <sup>3</sup>	Male	Headcount	208	4,811	4,523	1,356	1,221	1,081	1,212	1,155	1,103
		Female	Headcount	30	85	57	26	18	15	9	11	14
	Employees taking leave	Male	Headcount	2	157	272	8	22	22	40	78	65
		Female	Headcount	6	34	27	6	6	7	2	4	4
	Employees having returned to work	Male	Headcount	2	126	283	2	13	14	32	71	68
		Female	Headcount	6	23	31	4	3	3	4	2	3
1+ year continued service rate <sup>4</sup>	Male	%	-6	77.0	59.6	100	84.6	78.6	88.9	93.8	87.3	
	Female	%	-6	50.0	63.2	75.0	66.7	66.7	100	100	100	
Average continued service period	Year		9.3	15.7	18.1	16.3	16.9	16.4	17.3	17.7	18.1	
Retirement planning consulting attendees	Headcount		0	425	507	63	63	53	32	37	0	
Retirement pension system	DB	KRW 100M	238	6,623	7,461	1,453	1,374	1,468	1,549	1,454	1,719	
	DC	KRW 100M	0	0	0	0	0	0	0	0	0	
Personal pension support amount	KRW 100M		3.2	32	33	7.7	7.4	7.3	8.7	6.3	N/A <sup>7</sup>	
In-House employee benefits fund <sup>8</sup>	KRW 100M		78	-	-	65	63	63	68	69	69	

<sup>1</sup> Scope: All domestic business establishments

<sup>2</sup> Inclusive of prenatal/postnatal leave and paternity leave

<sup>3</sup> All employees with children aged eight or younger, exclusive of those on parental leave

<sup>4</sup> The percentage of workers staying at work at the end of the year after returning from parental leave in the previous year

<sup>5</sup> Period: June 1, 2019 ~ December 31, 2019

<sup>6</sup> No employees worked for one year or longer as the company was established on June 1, 2019.

<sup>7</sup> Personal pension incorporated into basic pay from 2019

<sup>8</sup> Fund corporation to be established in 2020

## Major Activities and Achievements

### Expanding Self-Development Support

KSOE and its shipbuilding subsidiaries provide training programs in various areas to help employees pursue self-development and improve their job skills. We also provide support for talented employees in obtaining professional qualifications and implement the job rotation system to nurture next-generation leaders. Employees can take self-development block leave and sabbatical month to refresh themselves.

### Retirement Planning Consulting

We offer 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. We carry out a preliminary survey of pre-retirees to identify their future plans and develop training programs accordingly. We also help retirees find a new job by holding a job fair in cooperation with in-house partners.

### Promoting Work-Life Balance

With the maximum work hours reduced to 52 per week, we are striving to

promote work-life balance. We have a PC-Off system that automatically shuts down PCs of all individuals at a fixed time. Employees are now allowed to apply for overtime work for up to 12 hours a week. We have expanded maternity/paternity leaves and expanded the reduction of working hours during the early parenting period in conformity with the revised laws and regulations. There are other motherhood protection and childcare support measures in place, including Happy Mom Package.

### Strengthening Workplace Bullying Prevention Program

We have changed our company policies and established the Grievance Committee in accordance of the revisions to the Labor Standards Act made in July 2019 to ban workplace bullying. All managers conducted self-diagnosis and received related education. When a related case is reported, it is handled with strict adherence to the specified procedures.

## Key Programs

Entity	Initiatives
KSOE	Tuition for children, in-house childcare facilities, selective working hour system, smart work, medical checkup for family, family vacation facilities, long service leave
HHI	Tuition for children, in-house childcare facilities, smart work, medical checkup for family, family vacation facilities, long service leave
HMD	Tuition for children, in-house childcare facilities, flexible working hour system, smart work, medical checkup for family, family vacation facilities, long service leave, family participation programs (family camp, etc.)
HSHI	Tuition for children, in-house childcare facilities, flexible working hour system, smart work, medical checkup for family, family vacation facilities, life cycle counseling for employees and their family, long service leave, family participation programs (family camp, etc.)

## 2020 Initiatives

Entity	Initiatives
KSOE	· Promoting work-life balance in line with the 52-hour workweek system
HHI	· Continuing efforts to revitalize corporate culture
HMD	<b>Expanding the motherhood protection system</b> · Extending paternity leave (5 → 10 days) · Introducing family care leave system (10 days of unpaid leave)
HSHI	<b>Expanding the motherhood protection system</b> · Extending paternity leave (5 → 10 days) · Introducing family care leave system (10 days of unpaid leave) · Expanding the reduction of working hours during the early parenting period

## Demonstrating Our Commitment to Global Corporate Citizenship

KSOE 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.

Shared Growth	p.117
Social Contribution	p.124

## Shared Growth

KSOE and its shipbuilding subsidiaries pursue shared growth with partner companies in order to secure sustainable competitiveness and lay the foundation for a fair society. Support for financing, education, recruiting, technology and management will continue to be provided to partner companies 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	<p><b>Continuous System Improvements</b></p> <ul style="list-style-type: none"> <li>· Refrain from engaging in business in non-related fields</li> <li>· Encourage business of small and mid-sized companies</li> <li>· Build support systems and preactice the three shared growth strategies</li> </ul>	<p><b>Establishing Fair Trade Practices</b></p> <ul style="list-style-type: none"> <li>· Introduce and comply with the four implementation areas as set forth by the Fair Trade Commision</li> <li>· Establish reasonable trade practices</li> <li>· Improve communication with partners</li> </ul>	<p><b>Enhancing Competitiveness of Partners</b></p> <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	<p><b>Group Shared Growth Committee</b></p> <p>Ensure company-wide consistent policy, activity planning and consultation</p>	<p><b>Shared Growth Council</b></p> <p>Develop policies for mutual growth and cooperation with primary and secondary subcontractors</p>	<p><b>Shared Growth Support Organization</b></p> <p>Implement shared growth policy and activities, and provide performance management and for shared growth feedback</p>

**G-HiPRO**

KSOE's shipbuilding subsidiaries 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 the transaction statement to payment.

**Shared Growth Meetings**

Category	HHI	HMD	HSHI
Main Communication Channels with Partner Companies (frequency)	<ul style="list-style-type: none"> <li>New year's meeting with partner companies (annual)</li> <li>Council meetings with partner companies</li> <li>Workshop for CEOs of partner companies (annual)</li> <li>Dialogue (quarterly)</li> </ul>	<ul style="list-style-type: none"> <li>New year's meeting with partner companies (annual)</li> <li>Council meetings with partner companies</li> <li>Workshop for CEOs of partner companies (annual)</li> <li>HMD Partners Association meeting (quarterly)</li> </ul>	<ul style="list-style-type: none"> <li>New year's meeting with partner companies (annual)</li> <li>Management status briefing (annual)</li> <li>Workshop for CEOs of partner companies (semimonthly/1st half of the year)</li> <li>Department-Level meetings (annual by each dept./2nd half of the year)</li> </ul>

**Performance Indicators****HHI<sup>1</sup>**

Category	Unit	2017	2018	2019
Shared Growth Fund, executed/raised <sup>2</sup>	KRW 100M	2,035/4,476	1,446/3,536	1,570/3,086
Cash payment	%	100	100	100
Early payment	KRW 100M	1,965	1,965	2,212
Trainees from partner companies	Headcount	1,408	920	1,204
Partner companies in total <sup>3</sup>	No.	466	469	466
Shared growth ratings <sup>4</sup>	Grade	Excellent	Excellent	Good
Regular risk assessment of partner companies <sup>5</sup>	%	100	100	100

<sup>1</sup> Scope: All business establishments

<sup>2</sup> HHI's deposit balance: KRW 1242 billion

<sup>3</sup> Based on the signing of the fair trade agreement

<sup>4</sup> The year denotes when the announcement of the grade was made.

<sup>5</sup> Financial/quality risk assessment

**HMD<sup>1</sup>**

Category	Unit	2017	2018	2019
Shared Growth Fund, executed/raised <sup>2</sup>	KRW 100M	473/690	536/690	546/690
Cash payment	%	100	100	100
Early payment	KRW 100M	130	1,350	1,116
Trainees from partner companies	Headcount	255	548	883
Partner companies in total <sup>3</sup>	No.	250	250	250
Shared growth ratings <sup>4</sup>	Grade	Excellent	Excellent	Excellent
Regular risk assessment of partner companies <sup>5</sup>	%	100	100	100

<sup>1</sup> Scope: All business establishments

<sup>2</sup> HMD's deposit balance: KRW 27 billion

<sup>3</sup> Based on the signing of fair trade agreement

<sup>4</sup> The year denotes when the announcement of the grade was made.

<sup>5</sup> Financial/quality risk assessment

**HSHI<sup>1</sup>**

Category	Unit	2017	2018	2019
Shared Growth Fund, executed/raised <sup>2</sup>	KRW 100M	731/810	536/810	546/810
Cash payment	%	100	100	100
Early payment	KRW 100M	435	659	901
Trainees from partner companies	Headcount	2,620	1,838	1,033
Partner companies in total <sup>3</sup>	No.	250	250	250
Shared growth ratings <sup>4</sup>	Grade	Excellent	Excellent	Excellent
Regular risk assessment of partner companies <sup>5</sup>	%	100	100	100

<sup>1</sup> Extent: all business establishments

<sup>2</sup> HSHI's deposit balance: KRW 27 billion

<sup>3</sup> Based on the signing of fair trade agreement

<sup>4</sup> The year denotes when the announcement of the grade was made.

<sup>5</sup> Financial/quality risk assessment

## Definition of Supply Chain

Category	Key Products	Usage	Procurement Amount (KRW 100M)	
Shipbuilding	Raw material	Equipment	Shipbuilding, etc.	34,794
		Steel parts	Shipbuilding, etc.	18,183
		Outfitting	Shipbuilding, etc.	5,585
		Etc.	Shipbuilding, etc.	9,248
	Subtotal			67,810
Offshore & Industrial Plant	Raw material	Equipment	Pipeline & offshore	1,344
		Outfitting	Pipeline & offshore	718
		Steel parts	Scrubber manufacturing, etc.	387
		Electrical & instrument	Boiler, scrubber	444
		Machineries	Power generation facilities, etc.	304
		Etc.	Power generation facilities, etc.	535
Subtotal			3,732	
Engine & Machinery	Raw material	Engine parts	Engine manufacturing, etc.	5,909
		Hydraulic machinery	Engine manufacturing, etc.	287
		Etc.	Engine manufacturing, etc.	1,144
		Subtotal		
Total			78,882	

\* The shipbuilding subsidiaries' key supply chain refers to suppliers of raw materials for manufacturing.

## Major Activities and Achievements

### Financial Support for Partner Companies

KSOE and its shipbuilding subsidiaries manage the Shared Growth Fund created at the HHI Group level, offering credit lines to partner companies and supporting their interest payments. Furthermore, starting from 2011, partner companies have been paid fully in cash for material costs, which is enhancing their liquidity. Payments are made within 10 days of billing and earlier than the due dates when the summer vacation season or national holidays are approaching, to help our partner companies manage their funds efficiently. In addition, we introduced a system (Nicewinc) to monitor cash payments between primary and secondary subcontractors to prevent issues that may arise from doing business with secondary subcontractors and to help primary subcontractors improve their payments to secondary subcontractors.

### Support for Finding New Markets and Sales Growth

We introduce our partner companies to customers by jointly venturing into oversea markets, attending renowned trade shows at home and abroad and holding business meetings with SMEs and large companies to support their sales growth. HMD supported seven partner companies with their entry into the Vietnamese market (one in 2019) through its overseas branch, Hyundai Vietnam Shipbuilding, and the cumulative sales reached around KRW 250 billion. HSHI placed additional orders to partner companies amid falling order volume in the second half of 2019 by shifting some orders originally planned for 2020 to help them secure a stable revenue stream.

### Support for Safety Management Capacity

Since 2017, HHI made it mandatory for our in-house partner companies with over 50 employees each to assign a dedicated safety manager. In 2019, we created an organization within the Safety Management Office, which is dedicated to supporting the safety control of partner companies to provide regular trainings for their representatives and safety managers and operate capacity building programs for partners, which include transferring safety control skills at the sites or in written forms every month, evaluating & rewarding excellent safety performance and also rewarding safety managers. HMD provides quarterly guidance and assistance on safety & health measures to support the safety control in all partner companies, which fall into the following six categories: a safety & health management system and activities, hazard & risk assessment, safety & health training, safety & health measures for subcontractors, investment and an emergency response plan. HSHI supported the acquisition of safety & health management system certification to encourage outside partner companies to well-establish the autonomous safety management system, and 28 companies received the certification. Also, nine in-house partner companies acquired and maintained KOSHA 18001 certification with the support of HSHI, and a total of 14 companies acquired and maintained risk assessment certification. In addition, traffic safety courses were offered to the safety managers and delivery vehicle drivers.

**Safety Management Support Program for Partner Companies**

Supporting Safety Management System	Improving CEOs' Safety Awareness	Strengthening Safety Managers' Ability to Execute	Enhancing Communication on Safety Issues
<ul style="list-style-type: none"> <li>Supporting acquisition of KOSHA's Risk Assessment &amp; Safe Workplace certification</li> <li>Evaluating partner companies' safety management status and supporting improvement</li> </ul>	<ul style="list-style-type: none"> <li>Safety courses for partner companies' CEOs</li> <li>Listening to the opinions of partner companies' CEOs</li> <li>Sharing the skills transfer outcomes through each business unit's meeting with partner companies</li> </ul>	<ul style="list-style-type: none"> <li>Establishing a training system for partner companies' safety managers</li> <li>Transferring safety control technologies to partner companies</li> <li>Evaluating safety managers' capacity and rewarding excellent performance</li> </ul>	<ul style="list-style-type: none"> <li>Regular dialogue with partner companies' safety managers</li> <li>Listening to partners' opinions on safety issues on a regular basis</li> <li>Conducting satisfaction surveys on our support for partner companies' safety management</li> </ul>

**Support for the Development and Protection of Technologies in Partner Companies**

We support our partners' enhanced technological competitiveness by transferring new technologies, partially sharing our licenses and jointly develop new technologies. We also manage a technology escrow system to store core technologies in a credible institute fitted out with proper equipment, which reduces the risk of technology leakage and enables the safe use of them.

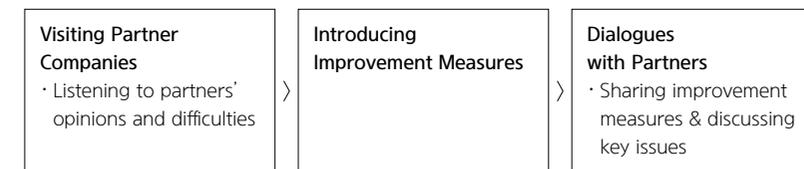
**Joint Patent Applications with Partner Companies**  
 · HHI: 13 joint patents with 6 partner companies

**Tech Escrow System**  
 · HMD: 7 joint patents with 6 partner companies  
 · HSHI: 16 joint patents with 12 partner companies

**Vibrant Communication with Partner Companies**

HHI, HMD and HSHI visit partner companies to listen to their opinions and difficulties and put in place improvement measures. In every New Year's Meeting, we share the management status and also select excellent partner companies to award prizes considering their active quality control and delivery on schedule. We also manage various communication channels to collect partner companies' opinions. In 2019, HHI took improvement measures in response to the 34 requests out of 70 received through the communication channels, while HMD successfully responded to all of the 30 requests. The requests include reflecting increased raw material costs in payments to subcontractors and creating a consultation system for a bill adjustment, and accordingly the Procurement Team improved their work process.

**Communication with Partner Companies & Improvement Process**



**Communication channels for partner companies (common to all four companies)**  
 Website: <https://ethics.hhigroup.kr/Html/HotLine/HotLineEdit.aspx>  
 TEL: 02-746-8442  
 FAX: 02-746-4681  
 E-mail: [compliance@hhi.co.kr](mailto:compliance@hhi.co.kr)

**Support for Job Competency Training and Recruitment**

Education programs are offered at the Shared Growth Training Center, Technical Education Institute and through online courses in order to enhance capabilities of personnel in partner companies. Training opportunities are also provided to the secondary and tertiary partners. HHI's Technical Education Institute trains skilled workers and helps them with employment at partner companies.

**Trainees Recruited by Partner Companies After Completing Our Employment-Linked Trainings**  
 · HHI: 75 recruited by 26 partner companies  
 · HMD: 137 recruited by 43 partner companies  
 · HSHI: 55 recruited by 25 partner companies

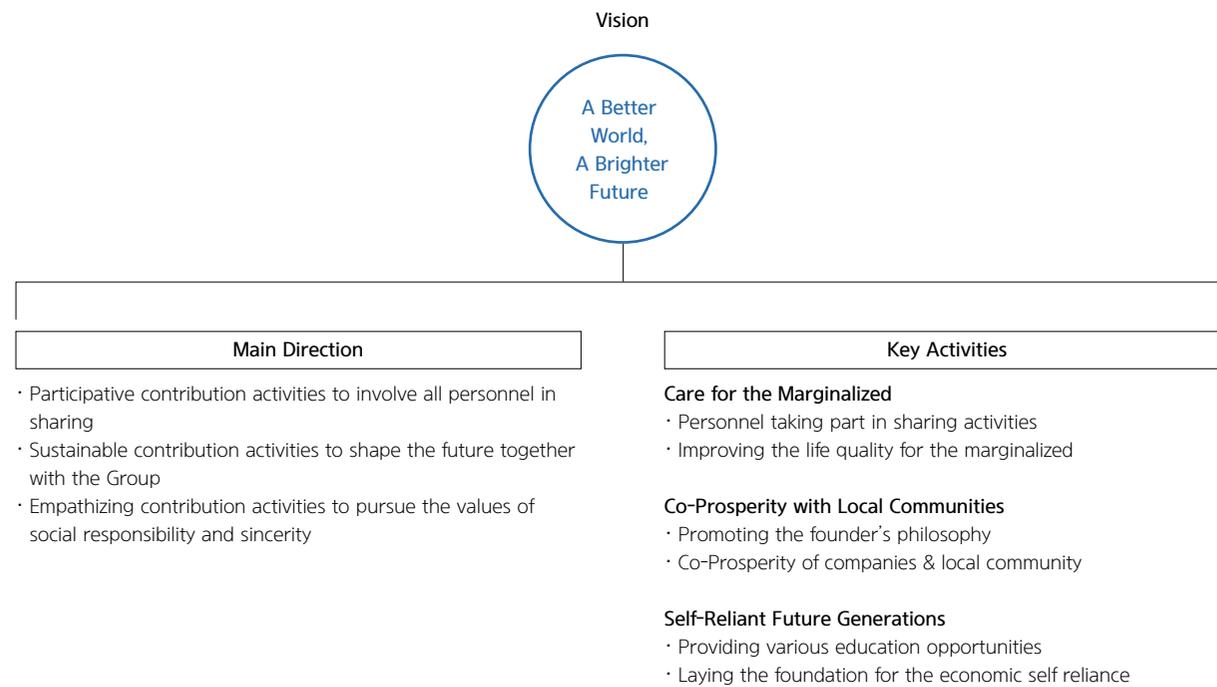
**2020 Initiatives**

HHI	HMD	HSHI
<ul style="list-style-type: none"> <li>Supporting the sales growth and financing of partner companies</li> <li>Supporting technology, education and human resources</li> <li>Active communication with partner companies</li> </ul>	<ul style="list-style-type: none"> <li>Supporting the sales growth and financing of partner companies</li> <li>Supporting technology, education and human resources</li> <li>Improving communications by listening to the Voice Of the Customer (VOC)</li> </ul>	<p><b>Supporting Partner Companies' Strong Cost Competitiveness</b></p> <ul style="list-style-type: none"> <li>continuing to transfer technologies and manufacturing methods</li> </ul> <p><b>Improving Communications with Partner Companies</b></p> <ul style="list-style-type: none"> <li>vitalizing systems for improvement and suggestion</li> </ul>

## Social Contribution

KSOE and its shipbuilding subsidiaries have been conducting various social contribution activities to be admired by all, under our management philosophy of contributing to the national and social development. In 2019, we adopted a new vision for our social contribution activities with the slogan of "A Better World, A Brighter Future." We will give the marginalized a helping hand, boost the local economy and nurture the future generations through participative contribution activities to involve all personnel in sharing, sustainable contribution activities to shape the future together with the Group, empathizing contribution activities to pursue the values of social responsibility and sincerity.

### Management System



### Performance Indicators<sup>1</sup>

Category	Unit	HHI			HMD			HSHI		
		2017	2018	2019	2017	2018	2019	2017	2018	2019
Total volunteering time	Hour	- <sup>2</sup>	10,059	12,897	3,012	2,480	1,692	1,850	1,830	1,120
Total salary donation value	KRW 1,000	152,363	117,156	108,201	31,548	30,007	28,926	15,404	15,141	15,016
Salary donation participants	Headcount	21,428	15,296	13,959	2,665	2,618	2,424	2,560	2,525	2,506

<sup>1</sup> Scope: All domestic business establishments  
<sup>2</sup> Uncounted, to be tallied from the following year

### Activities and Achievements of Support for the Marginalized

#### Salary Donation Campaign

A total of 18,840 employees of HHI, HMD and HSHI participated in a salary donation campaign, raising a total of around KRW 152 million. The donation was delivered to neighbors in need through the Ulsan branch of Community Chest of Korea, Korea Heart Foundation, Korean Association for Children with Leukemia and Cancer, Korea National Council on Social Welfare and Child Fund Korea. HHI Group established the 1% Donation Foundation in 2020, and the personnel of the Group subsidiaries including KSOE and its shipbuilding subsidiaries will donate 1% of their salaries to live out our value of "love your neighbors."

#### Support for Local Senior Citizen Centers

HHI Group has been supporting local senior citizen centers for the last 20 years to show respect for elders and care for our neighbors. HHI, along with other Group entities including Hyundai Electric and HCE, delivers 52 sacks of rice to 45 senior citizen centers every month in Dong-gu, Ulsan, and HMD also delivers 36 sacks of rice to senior citizen centers in Bangeo-dong and Jangsaegpo-dong. In addition, we send care packages on national holidays including fruits, dried persimmons and rice cake, continuing our relationship with the centers.

#### Support for the Welfare Blind Spots

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 and has been providing financial support for their living expenses. In 2019, funding of KRW 36 million was used to support children in need of social protection from 34 households, and KRW 40.8 million was set aside to provide tuition and text books to child breadwinners and students from 34 households supported by the national basic living security system. Since 2017, HSHI has been granting KRW 3 million a year to families with multiple children living just above the poverty line to support their living expenses. Its labor union also provides KRW 3 million every year to secure stable livelihood for the distressed families living in Sanho-eup, Yoengam-gun.

## Activities and Achievements of Co-Prosperity with Local Community

### 'Making Kimchi with Love' Event

This annual event is for making and sharing kimchi with neighbors in need. The event, which began in 1991, has become one of the flagship philanthropic activities of HHI Group. A total of 250 employees and volunteers participated in the event held in December 2019 and made kimchi with 8,000 heads of cabbages, which were sent to the 30 welfare centers and 1,100 underprivileged households in Ulsan. Some 130 employees of HSHI also made kimchi with 820 heads of cabbages and delivered them to the welfare centers and 100 underprivileged households in Yeongam-gun.

### Spring Picnic with Disabled People

HHI Group has been sponsoring Roly Poly (*Oddugi*) Party, the largest festival for people with disabilities in Ulsan, for 28 years since 1992. In 2019, we invited 1,700 students with mental disabilities from special schools and welfare centers to have a spring picnic at the amusement park together with 300 volunteers and teachers. HMD's volunteering group (*Choronghoe*) also went on a picnic with disabled people from welfare centers, where they had quality time playing games and communicating with underprivileged people.

### 'One Company, One Village' Campaign

HHI, HMD and HSHI formed sisterhood relations with many rural villages in South Gyeongsang Province and South Jeolla Province 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 visited the villages to lend helping hands during busy seasons.

### Traditional Market Revitalizing Campaign

Since 2011, HHI has been purchasing Onnuri gift certificates that can be used in traditional markets ahead of the national holidays to donate them to social welfare centers and underprivileged people. In 2019, we provided KRW 81 million worth of Onnuri gift certificates to those in need.

### 'Charity Bazaar with Love' Event

For the 26th Charity Bazaar with Love held in October 2019, donations were received from personnel of HHI Group, local community organizations, heads of external organizations, local celebrities and Ulsan Hyundai Football Club (UHFC) members. A total of 12,000 pieces of donations, including UHFC players' uniforms and football shoes, were sold to local residents at bargain prices, and the proceeds were used to hold the Making Kimchi with Love event and were awarded as scholarships for students in Ulsan.

## Activities and Achievements in Fostering Self-Reliant Future Generations

### MOU on Promotion of Local Agricultural Produce

To promote the consumption of cabbages produced in Haenam, the labor and management of HSHI signed an MOU at the Haenam Agricultural Cooperative with the Haenam Agricultural Cooperatives Alliance (NongHyup Agribusiness Group) and Hwangsan Agricultural Cooperative, aimed at helping farmers who are struggling with plunged local prices, and the purchased cabbages were used in the in-house cafeterias.

### Environmental Protection Activities

HHI and HSHI have been actively involved in environmental protection activities in nearby mountains, rivers and seaside areas to preserve the ecosystem. We also organize and host various environmental protection events to raise awareness of local residents and encourage their participation in the environmental protection, which includes the 'One Company, One Stream' cleaning campaign, clean seashore campaign, voluntary cleaning work and environmental photo contests.

### Enhancing the Educational Environment

HHI accepted applications for grants to improve school environments, and nine out of the 40 local elementary, middle, high and special schools in a sisterhood relationship with us were selected and received KRW 60 million in aggregate. The grants were used to improve school environments by replacing safety rails, creating murals and improving drinking water system, and to support students who strive to achieve their dreams even in difficult circumstances.

### Scholarship Support

HMD provides a scholarship of KRW 100,000 each to five children of low-income families every month through Child Fund Korea. HSHI also awards scholarships each year to the elementary, middle and high school students who need support. In 2019, HSHI granted KRW 4 million to 12 students who achieved excellent grades despite financial difficulties.

## 2020 Initiatives

Entity	Initiatives
KSOE	<p><b>Establishment of a Social Contribution System</b></p> <ul style="list-style-type: none"> <li>· Operating a social contribution council</li> <li>· Promoting employees' volunteering</li> <li>· Running educational programs on social contribution</li> <li>· Operating an integrated social contribution system</li> <li>· Launching a flagship project</li> <li>· Overseas social contribution pilot program</li> <li>· Social entrepreneurship pilot program</li> </ul>
HHI	<p><b>Local Community Contribution</b></p> <ul style="list-style-type: none"> <li>· Charity Bazaar with Love &amp; Kimchi Making with Love</li> <li>· Educational environment improvement project</li> <li>· Distribution of Onnuri gift certificates &amp; goods with the marginalized on holidays</li> <li>· Praise Your Colleague Campaign</li> </ul> <p><b>Sponsorship &amp; Sharing</b></p> <ul style="list-style-type: none"> <li>· Sponsorship for 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>Enhancement of Social Contribution</b></p> <ul style="list-style-type: none"> <li>· Creating volunteer groups and vitalizing employee volunteering</li> </ul>
HMD	<p><b>Enhancement of Social Contribution</b></p> <ul style="list-style-type: none"> <li>· Increasing employees' participation in 1% Salary Donation</li> <li>· Launching Social Contribution Operating Committee</li> </ul> <p><b>Voluntary Work &amp; Sponsorship</b></p> <ul style="list-style-type: none"> <li>· Regular volunteering at Ulsan Child Care Center &amp; sisterhood sponsorship</li> <li>· Designing and implementing projects as proposed by 1% Salary Donation participants</li> </ul>
HSHI	<p><b>Local Community Contribution</b></p> <ul style="list-style-type: none"> <li>· Kimchi Making with Love</li> <li>· Distribution of Onnuri gift certificates &amp; goods with the marginalized on holidays</li> <li>· Culture &amp; art performance for local residents</li> </ul> <p><b>Sponsorship &amp; Sharing</b></p> <ul style="list-style-type: none"> <li>· Labor-Management Joint Volunteering for Meal Service</li> </ul> <p><b>Vitalizing Social Contribution</b></p> <ul style="list-style-type: none"> <li>· Creating employee volunteer groups</li> <li>· Encouraging employees' participation to vitalize the 1% Salary Donation Foundation</li> </ul>

## PART. 3

# Appendix

Summary of Consolidated Statements of Financial Position

Independent Auditor's Report

GRI Content Index

Third-Party Assurance Statement

Membership Status & Information Disclosure Activities

Report Overview

## Summary of Consolidated Statements of Financial Position

KSOE

(Unit: KRW 1M)

Title of Account	46 <sup>th</sup> reporting period	45 <sup>th</sup> reporting period	44 <sup>th</sup> reporting period
Summary of Consolidated Statements of Financial Position	(as of Dec. 2019)	(as of Dec. 2018)	(as of Dec. 2017)
Current assets	12,545,989	12,316,693	17,663,720
Cash and cash equivalents	2,225,143	3,041,786	3,239,727
Trade and other receivables	1,442,649	1,477,334	1,942,374
Contract assets	4,729,633	3,677,787	-
Due from customers for contract work	-	-	3,357,947
Inventories	1,318,326	1,009,063	845,360
Other current assets	2,830,238	3,110,723	8,278,312
Non-current assets	12,509,384	12,413,206	12,745,128
Investments in associates and joint ventures	458,658	403,980	142,287
Long-term trade and other receivables	112,101	125,061	134,966
Investment property	248,108	144,828	233,864
Property, plant & equipment	9,946,724	10,269,011	11,046,256
Intangible assets	115,422	89,483	105,443
Other non-current assets	1,628,371	1,380,843	1,082,312
<b>Total assets</b>	<b>25,055,373</b>	<b>24,729,899</b>	<b>30,408,848</b>
Current liabilities	8,941,941	9,410,253	15,614,871
Non-current liabilities	3,187,117	2,208,682	2,421,939
<b>Total liabilities</b>	<b>12,129,058</b>	<b>11,618,935</b>	<b>18,036,810</b>
Capital stock	353,866	353,866	283,327
Capital surplus	2,483,377	2,483,377	1,049,896
Hybrid securities	-	428,589	428,589
Capital adjustments	(8,478,316)	(8,448,228)	(8,355,403)
Accumulated other comprehensive income	1,027,409	1,020,901	1,478,130
Retained earnings	16,180,566	16,043,717	16,236,902
Non-controlling interests	1,359,413	1,228,742	1,250,597
<b>Total equity</b>	<b>12,926,315</b>	<b>13,110,964</b>	<b>12,372,038</b>
<b>Summary of Consolidated Statements of Comprehensive Income</b>	<b>(For the 12 months ended Dec. 31, 2019)</b>	<b>(For the 12 months ended Dec. 31, 2018)</b>	<b>(For the 12 months ended Dec. 31, 2017)</b>
Revenue	15,182,553	13,161,046	15,490,996
Operating profit (loss)	290,168	(481,365)	36,806
Net profit from continuing operations (loss)	213,081	(644,987)	(93,390)
Net profit from discontinued operations	-	191,377	2,786,532
Net profit (loss)	213,081	(453,610)	2,693,142
Equity attributable to owners of the parent	164,079	(489,060)	2,457,750
Non-controlling interests	49,002	35,450	235,392
Total comprehensive income (loss)	179,700	(551,775)	2,607,049
Equity attributable to owners of the parent	128,753	(581,614)	2,376,638
Non-controlling interests	50,947	29,839	230,411
Earnings per parent share (loss) (KRW)	2,183	(7,855)	44,798
Earnings per share from continuing operations (loss) (KRW)	2,183	(10,434)	(3,550)
Earnings per share from discontinued operations (KRW)	-	2,579	48,348

## Independent Auditors' Report

To the Shareholders and Board of Directors of  
Korea Shipbuilding & Offshore Engineering Co., Ltd.  
March 16, 2020

### Opinion

We have audited the consolidated financial statements of Korea Shipbuilding & Offshore Engineering Co., Ltd. and its subsidiaries (the "Group"), which comprise the consolidated statements of financial position as of December 31, 2019 and 2018, the consolidated statements of comprehensive income (loss), changes in equity and cash flows for the years then ended, and notes, comprising significant accounting policies and other explanatory information.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2019 and 2018, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with Korean International Financial Reporting Standards ("K-IFRS").

### Basis for Opinion

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

### Emphasis of Matters

Without qualifying our opinion, users of this audit report need to pay attention to the following:

#### **Auditor's Emphasis on the parent company's Spin-off**

As described in Note 1 and Note 51 to the consolidated financial statements, the Parent Company established a new subsidiary, Hyundai Heavy Industries Co., Ltd. by physically dividing the entire shipbuilding-related business except for certain segments such as investment, on June 1, 2019, and changed the name of the surviving company after the spin-off to 'Korea Shipbuilding & Offshore Engineering Co., Ltd'.

### 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 Korean International Financial Reporting Standards ("K-IFRS"), and for such internal control as management determines is necessary to enable the preparation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.

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

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

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

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

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

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error,

as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used 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.

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 Won-Pyo Jeon.

*KPMG Samjory Accounting Corp.*

Seoul, Korea  
March 16, 2020



This report is effective as of March 16, 2020, 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.

## GRI Content Index

### GRI Universal Standards

#### GRI 102: General Disclosures 2016

Classification	Disclosure	Content	Page	Remark
Organizational Profile	102-1	Name of the organization	8, 12, 16, 20	
	102-2	Activities, brands, products, and services	10	
	102-3	Location of headquarters	147	
	102-4	Location of operations	24, 25	
	102-5	Ownership and legal form	72	
	102-6	Markets served	24, 25	
	102-7	Scale of the organization	11, 15, 19, 23, 26, 27	
	102-8	Information on employees and other workers	26, chapter VIII. 1. Human Capital in the annual report of each entity	
	102-9	Supply chain	120	
	102-10	Significant changes to the organization and its supply chain	8, 9	
	102-11	Precautionary Principle or approach	88, 89	
	102-12	External initiatives	145	
	102-13	Membership of associations	145	
Strategy	102-14	Statement from senior decision-maker	8, 12, 16, 20	
	102-15	Key impacts, risks, and opportunities	8, 9, 12~14, 16~18, 20~22	
Ethics and Integrity	102-16	Values, principles, standards, and norms of behavior	67~68	
	102-17	Mechanisms for advice and concerns about ethics	69, 101	
Governance	102-18	Governance structure	72~77	
Stakeholder Engagement	102-40	List of stakeholder groups	31	
	102-41	Collective bargaining agreements	103	
	102-42	Identifying and selecting stakeholders	31	
	102-43	Approach to stakeholder engagement	31	
	102-44	Key topics and concerns raised	31	

#### GRI 102: General Disclosures 2016

Classification	Disclosure	Content	Page	Remark
Reporting Practice	102-45	Entities included in the consolidated financial statements	24	
	102-46	Defining report content and topic Boundaries	40, 41	
	102-47	List of material topics	39	
	102-48	Restatements of information	N/A	
	102-49	Changes in reporting	24	
	102-50	Reporting period	147	
	102-51	Date of most recent report	147	
	102-52	Reporting cycle	147	
	102-53	Contact point for questions regarding the report	147	
	102-54	Claims of reporting in accordance with the GRI Standards	147	
	102-55	GRI content index	136~141	
	102-56	External assurance	142~144	

## GRI Topic Specific Standards

Economic Performances (GRI 200)				
GRI Standards	Disclosure	Content	Page	Remark
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	8~23	
	103-3	Evaluation of the management approach	8~23	
GRI 201: Economic Performances 2016	201-1	Direct economic value generated and distributed	11, 15, 19, 23	
	201-2	Financial implications and other risks and opportunities due to climate change	89	
	201-3	Defined benefit plan obligations and other retirement plans	114	
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	117, 124	
	103-3	Evaluation of the management approach	117, 124	
GRI 203: Indirect Economic Impacts 2016	203-1	Infrastructure investments and services supported	117~129	
	203-2	Significant indirect economic impacts	57, 114, 118~119	
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	67~68	
	103-3	Evaluation of the management approach	67~68	
GRI 205: Anti-corruption 2016	205-2	Communication and training about anti-corruption policies and procedures	69~71	Outside directors are excluded from training
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	63~66	
	103-3	Evaluation of the management approach	63~66	
GRI 206: Anti-competitive Behavior 2016	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	N/A	

Environmental Performances (GRI 300)				
GRI Standards	Disclosure	Content	Page	Remark
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	88~89	
	103-3	Evaluation of the management approach	88~89	
GRI 302: Energy 2016	302-1	Energy consumption within the organization	89, 91, 92	
	302-3	Energy intensity	89, 91, 92	
	302-4	Reduction of energy consumption	89, 91, 92	
	302-5	Reductions in energy requirements of products and services	45	
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	88~89	
	103-3	Evaluation of the management approach	88~89	
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	89, 91, 92	
	305-2	Energy indirect (Scope 2) GHG emissions	89, 91, 92	
	305-4	GHG emissions intensity	89, 91, 92	
	305-5	Reduction of GHG emissions	89, 91, 92	
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	93, 96, 97	
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	88~89	
	103-3	Evaluation of the management approach	88~89	
GRI 306: Effluents and Waste 2016	306-1	Water discharge by quality and destination	93, 96, 97	
	306-2	Waste by type and disposal method	94, 96, 98	
	306-3	Significant spills	N/A	
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	88~89	
	103-3	Evaluation of the management approach	88~89	
GRI 307: Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations	93, 96, 97	

Social Performances (GRI 400)				
GRI Standards	Disclosure	Content	Page	Remark
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	113	
	103-3	Evaluation of the management approach	113	
GRI 401: Employment 2016	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	113~115	
	401-3	Parental leave	114	
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	103	
	103-3	Evaluation of the management approach	113	
GRI 402 Labor Management Relations 2016	402-1	Minimum notice periods regarding operational changes	114	
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	79~80	
	103-3	Evaluation of the management approach	79~80	
GRI 403: Occupational Health and Safety 2016	403-1	Workers representation in formal joint management – worker health and safety committees	81	
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	80~81, 86	
	403-3	Workers with high incidence or high risk of diseases related to their occupation	80~81, 86	Exemplified in Safety Golden Rules
	403-4	Health and safety topics covered in formal agreements with trade unions	79~80	
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	106	
	103-3	Evaluation of the management approach	106	
GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	107	Average hours are not provided by employee category
	404-2	Programs for upgrading employee skills and transition assistance programs	107~109	
	404-3	Percentage of employees receiving regular performance and career development reviews	111	
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	111	
	103-3	Evaluation of the management approach	111	

Social Performances (GRI 400)				
GRI Standards	Disclosure	Content	Page	Remark
GRI 405: Diversity and Equal Opportunity 2016	405-2	Ratio of basic salary and remuneration of women to men	111	
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	101	
	103-3	Evaluation of the management approach	101	
GRI 406: Non Discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	101	
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	101	
	103-3	Evaluation of the management approach	101	
GRI 412: Human Rights Assessment 2016	412-1	Operations that have been subject to human rights reviews or impact assessments	101	
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	124	
	103-3	Evaluation of the management approach	124	
GRI 413: Local Communities 2016	413-1	Operations with local community engagement, impact assessments, and development programs	124~127	
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	48~49	
	103-3	Evaluation of the management approach	48~49	
GRI 416: Customer Health and Safety 2016	416-1	Assessment of the health and safety impacts of product and service categories	48~50	
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	38~41	
	103-2	The management approach and its components	52~56	
	103-3	Evaluation of the management approach	52~56	
GRI 419: Socio-economic Compliance 2016	419-1	Non-compliance with laws and regulations in the social and economic area	33	

## Third-Party Assurance Statement



### Relating to Korea Shipbuilding & Offshore Engineering Co., Ltd.'s Integrated Report for the 2019 calendar year

This Assurance Statement has been prepared for Korea Shipbuilding & Offshore Engineering 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 Korea Shipbuilding & Offshore Engineering Co., Ltd. (KSOE abbreviated) to provide independent assurance on its '2020 KSOE Integrated Report' ("the report") against the assurance criteria below to a "moderate level of assurance and materiality" using "Accountability's AA1000AS (2008)", where the scope was a Type 2 engagement.

Our assurance engagement covered the operations and activities of KSOE and its three major affiliates – Hyundai Heavy Industries Co., Ltd., Hyundai Mipo Dockyard Co., Ltd. and Hyundai Samho Heavy Industries Co., Ltd. in Korea specifically the following requirements:

- Evaluating adherence to the AA1000 AccountAbility Principles<sup>1</sup> of Inclusivity, Materiality and Responsiveness
- Confirming that the report is in accordance with GRI Standards<sup>2</sup> and 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, 201-3, 203-1, 203-2, 205-2, 206-1
  - GRI 300 (Environmental): 302-1, 302-3, 302-4, 302-5, 305-1, 305-2, 305-4, 305-5, 305-7, 306-1, 306-2, 306-3, 307-1
  - GRI 400 (Social): 401-2, 401-3, 402-1, 403-1, 403-2, 403-3, 403-4, 404-1, 404-2, 404-3, 405-2, 406-1, 412-1, 413-1, 416-1, 419-1

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

LR's responsibility is only to KSOE. LR disclaims any liability or responsibility to others as explained in the end footnote. KSOE's responsibility is for collecting, aggregating, analysing 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 KSOE.

<sup>1</sup> <https://www.accountability.org>

<sup>2</sup> <https://www.globalreporting.org>

## LR's Opinion

Based on LR's approach nothing has come to our attention that would cause us to believe that KSOE 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 opinion expressed 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 tasks though were undertaken as part of the evidence gathering process for this assurance engagement:

- Assessing KSOE's and its three 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 KSOE's and its three 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 KSOE and its three 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 KSOE and its three major affiliates make informed business decisions that may create opportunities that contribute towards sustainable development.
- Auditing KSOE's and its three 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 additional evidence made available by KSOE and its three major affiliates at KSOE's head office in Seoul and Hyundai Heavy Industries Co., Ltd.'s shipyard in Ulsan-si.
- 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 KSOE's and its three major affiliates' stakeholder engagement process.
- Materiality:  
We are not aware of any material issues concerning KSOE's and its three major affiliates' sustainability performance that have been excluded from the report. It should be noted that KSOE and its three major affiliates have established extensive criteria for determining which issue/aspect is material and that these criteria are not biased to the companies' management.
- Responsiveness:  
KSOE and its three major affiliates developed a roadmap to establish a system to deal with human rights. We look forward to reporting on progress in the future reports.  
KSOE and its three major subsidiaries reported inputs, outputs and outcomes in terms of six capitals. We recommend that KSOE and its three major subsidiaries monitor and report impacts related to sustainability issues.
- Reliability:  
KSOE and its three 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 14065 Greenhouse gases - Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition and 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.

This verification engagement is the only work undertaken by LR for KSOE and as such does not compromise our independence or impartiality.

30th May 2020

LR Lead Verifier **Tae-kyoung Kim**  
On behalf of Lloyd's Register Quality Assurance Limited  
17th Floor, Sinsong Building, 67 Yeouinaru-ro, Yeongdeungpo-gu, Seoul, Korea

LR reference: SE000000656

## Membership Status & Information Disclosure Activities

### Membership Status

- Korea Chamber of Commerce & Industry
- Korea Offshore & Shipbuilding Association
- Korea Defense Industry Association
- Korea Enterprises Federation
- Munsan Industrial Complex Committee
- Society of Naval Architect of Korea
- Korea Society of Ocean Engineers
- Korea Specialty Contractors Association
- Korea Association for Space Technology Promotion
- Korean Society of Mechanical Engineers

### Information Disclosure Activities

Disclosure Channels		Main Contents
HHI Group Website	<a href="http://www.hyundai-holdings.com/">http://www.hyundai-holdings.com/</a>	Introduction of the Group & major subsidiaries, media center, IR, recruitment
KSOE Website	<a href="http://www.ksoe.co.kr/en/">http://www.ksoe.co.kr/en/</a>	Introduction of the company, sustainable management, media center, IR
HHI Website	<a href="http://english.hhi.co.kr/">http://english.hhi.co.kr/</a>	Introduction of the company, business areas, PR, sustainable management, shared growth
HMD Website	<a href="http://www.hmd.co.kr/english/">http://www.hmd.co.kr/english/</a>	Introduction of the company, facilities, business areas, customer service, PR, recruitment, IR
HSHI Website	<a href="http://www.hshi.co.kr/">http://www.hshi.co.kr/</a>	Introduction of the company, business areas, social contribution, online PR, news
HHI Group Business Ethics Website	<a href="https://ethics.hhigroup.kr/HtmlE/main.html">https://ethics.hhigroup.kr/HtmlE/main.html</a>	Group ethics management direction, ethics regulations, online report/counselling
HHI Group Webzine	<a href="http://www.hyundai-holdings.co.kr/magazine-h">http://www.hyundai-holdings.co.kr/magazine-h</a>	Monthly updates on recent developments at HHI Group
Financial Supervisory Service DART	<a href="http://dart.fss.or.kr/">http://dart.fss.or.kr/</a>	Various disclosures made either mandatorily as a listed company or voluntarily
Investor Relations	<a href="http://www.ksoe.co.kr/en/ir01">http://www.ksoe.co.kr/en/ir01</a>	Regular announcement of business performance and outlooks

KSOE Integrated Report 2020 introduces sustainable management outcomes achieved by KSOE and its shipbuilding subsidiaries. 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 and Framework**

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

**Reporting Boundary**

- KSOE and its shipbuilding subsidiaries (HHI, HMD, and HSHI)

**Reporting Scope**

- Overall economic (under K-IFRS), social and environmental aspects

**Reporting Period**

- For the year ended December 31, 2019  
(some of the achievements: January 2017 to March 2020)

**Reporting Frequency**

- Annual (last report issued in June 2019)

**Reporting Assurance**

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

**Those Credited with Helping Issue This Report**

- **KSOE** | Management Support Team, R&D Planning Team, CSR Planning Team, Consolidation Accounting Team, Business Ethics Team, HR Management Team, HR Planning Team, Compliance Team, Quality Planning Team
- **HHI** | Procurement Planning Team, Marine & Machinery Design & Engineering Dep't, Health Management Team, Compensation & Benefits Team, Social Contribution Team, Coexisting Cooperation Team, Incineration Plant Management Team, Safety Planning Team, Advanced Product Quality Management Dep't, Personnel Support Team, HRD Planning Team, Resources Reuse & Recycling Team, Finance Team, Power & Utility Planning Team, Technology Planning Dep't, Shipbuilding Quality Management Team I, Offshore & Industrial Plant Quality Management Team, Environment Management Team, Welfare Team
- **HMD** | Education & Training Team, Internal Accounting Management Team, Labor-Management Cooperation Team, PR Team, HSE Dep't, Raw Material Procurement Team, Personnel Support Team, Material Support Dep't, General Affairs Team, Quality Management Team, Facility Maintenance Dep't, Accounting Team
- **HSHI** | Maintenance Dep't, Labor-Management Cooperation Team, Procurement Planning & Raw Material Procurement Team, HSE Dep't, HR Team, Human Resource Development Team, General Affairs Team, Quality Management Dep't I, Accounting Team

**Head Office Address**

75, Yulgok-ro, Jongno-gu, Seoul, ROK

KSOE Integrated Report 2020 is available on our website (<http://www.ksoe.co.kr/en/>) as an interactive PDF for more convenient user experience.

**Contact Point**

Please contact our Corporate Affairs Team for any questions or comments regarding this report.

KSOE Corporate Affairs Team | Tel: +82 2-746-4738 | Email: [csr@hhi.co.kr](mailto:csr@hhi.co.kr)

**KSOE** KOREA SHIPBUILDING &  
OFFSHORE ENGINEERING