



# 2018 HSD Engine CSR Report



## About this report

### Reporting Purpose

This report is the sixth Corporate Social Responsibility (CSR) Report published by HSD Engine. It contains all the activities in CSR of the company. Through regular publishing of CSR Reports, HSD Engine plans to share its CSR performance transparently, reflect voices of its stakeholders, and actively communicate with the stakeholders.

### Reporting Standard

This report was written in accordance with the Core Option of the Global Reporting Initiative (GRI) Standards. In addition, the global standard of CSR, ISO 26000 and the Integrated Reporting IR Framework of the International Integrated Reporting Council (IIRC) were used as reference for the development.

### Reporting Period and Scope

This report includes the CSR activities and major performances between January 1 and December 31, 2018. It includes last three years of quantitative performance for trend comparison, along with some data of the first half of 2019. The reporting scope is all domestic operations, which covers 100% of total sales/production amount.

### Report Assurance

This report was verified by an independent agency to enhance its suitability and credibility. The specific details about the assurance result is shown on the Independent Assurance Statement (p.63).

### Additional Information

Both Korean and English versions of this report can be found on HSD Engine's homepage (<http://www.hsdengine.com>). For any inquiry, please contact us below:



## Cover story

HSD Engine is growing to be a global company through relentless innovation and challenging spirit.

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## Message to Stakeholders



Dear Valued Stakeholders of HSD Engine,

I would like to show my appreciation to all stakeholders for your concerns and advices toward HSD Engine.

We had faced a downturn in the Shipbuilding Industry after our company was newly founded as HSD Engine on June 8th, 2018. However, we have accomplished another growth and development for our new start by successfully securing more than KRW 1 trillion in purchase order and achieving an accumulated production of 100 million BHP

In particular, the Low-speed Engine Business acquired purchase order of nearly KRW 900 billion, which is more than five times larger than that of 2017 in the vessel engine sector. The SCR Business, made from differentiated technologies, achieved a significant growth; therefore, DelNOx was applied to the IMO Tier III engines of 169 ships that we earned orders. Moreover, the HP SCR that was developed afterwards also brought in new order. In the Engine Parts Business, we recorded the highest performance in purchase order by expanding direct-management sales, strengthening competitiveness of distributors, developing new paid service items, and enhancing the rate of on-time delivery.

We promise you the following three items to realize the corporate vision of No.1 Engine in the World in 2019:

First, we will strive to stabilize quality and prevent safety accidents.

In order to process rapidly increased orders, we need to enhance productivity and expand efficient human resources operation including capacity building. However, we will maintain the worksite safety, which is the most important factor. We will accomplish the zero-accident worksite by realizing the safety-prioritized production sites and further take a good care of the work environment of our suppliers.

Second, we will strengthen our technological competitiveness and advance the business portfolio. Through the creative idea, process innovation and technology, we will build a differentiated competitiveness. We will also conduct relentless communication and technological collaboration with shipyards and engine producers to enhance our R&D and explore new business opportunities.

Third, we will build an exciting workplace and community.

We will create an exciting workplace through a cooperation and communication between the labor and management and make HSD Engine to be respected and dignified company in the community through an open mind and communication. In order to do so, we will engage in global initiatives including the SDGs, as well as continuous social contribution activities such as the talent sharing in rural areas and marine environment preservation, thereby conducting the social responsibility management

HSD Engine intends to develop in a trusted and loved company by all stakeholders including shareholders, investors, customers, suppliers and communities. We, therefore, ask for your continuous interests and support.

Sincerely,

CEO Koh, Youngyoul

# Company Profile



One quarter of all the ships currently in operation are equipped with engines made by HSD Engine. As a global leader, we will continue to deliver top-tier engines through innovation to realize the vision of building the 'No. 1 Engine in the World'. We will also take initiatives to develop eco-friendly technologies as a respected global leading company.

## Corporate Overview

HSD Engine has established itself as a global diesel engine maker by building and operating a diesel power plant mainly producing low and medium speed diesel engines, which are the core equipments in shipping industry, as well as by producing engine parts and providing the service. HSD Engine has achieved a cumulative total production of 100 million Brake Horse Power (BHP) worth of low-speed engine over the short period of time(33 years). HSD Engine has produced the world's first next generation electronically controlled large marine engine and the largest marine engine, commercializing a dual-fuel low speed marine engine for the first time in the world. Consequently, HSD Engine has set a new milestone in diesel engine industry.

<b>Company Name</b>	HSD Engine Co., Ltd.		
<b>Established</b>	December 30, 1999	<b>CEO</b>	Koh, Youngyoul
<b>Major Business Areas</b>	Marine Engines, Diesel/Gas Power Plants, Engine Parts Sales, Environmental Pollution Prevention Facilities		
<b>Business Operations</b>	<b>Head Office</b>   67, Gongdan-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, Republic of Korea <b>Domestic Offices</b>   Geoje-si, Gyeongsangnam-do, Republic of Korea (Daewoo Site, Samsung Site) <b>Overseas Branches</b>   China, Germany, Singapore, Greece		
<b>Total Capital</b>	KRW 743.4 billion	<b>Equity Capital</b>	KRW 231 billion
		<b>Sales</b>	KRW 511.3billion
<b>No. of Employees</b>	789 (as of December 31, 2018)	<b>Credit Rating</b>	BBB-(NICE), BBB(Korea Ratings) (AS of April 2019)
<b>Overseas Subsidiaries</b>	HSD Marine Industry (Dalian) Co.,Ltd. (frame box, bedplate and other engine parts manufacturer)		

## Major Business Areas

### Marine Engines (Low/Medium Speed)

HSD Engine, as one of global diesel engine manufacturer, operates in a turnkey service system from design, production, and sales to after-market services. Based on its abundant experience in production, it proactively responds to various customer needs and strict environmental regulations.



### Diesel & Gas Power Plants

Since its first turnkey supply of 40MW low-speed diesel power plant in South Jeju in 1990, followed by 80MW low-speed diesel power plant in Guam in 1995, HSD Engine has been supplying eco-friendly diesel power plants internationally to the nations in need of electricity: Papua New Guinea, India, Greece, Eritrea, Indonesia, etc. It also is recognized for the quality and performance of its emergency generators used in nuclear power plants by supplying them to Wolsong, Yeong Kwang, Uljin, and Shin Kori Nuclear Plants.



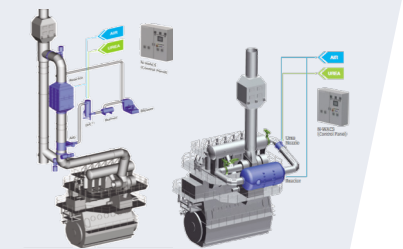
### Engine Parts

HSD Engine supplies a wide range of essential engine parts. Based on the 3B (Best Speed, Best Quality, Best Price) Principles, it delivers customer value through a global network to ensure that our engines run at the optimum condition.



### Environmental Technology

HSD Engine developed DeNOx System which decomposes nitrogen oxides in engine exhausts into harmless water and nitrogen, with its own technology, to efficiently respond to regulations on nitrogen oxide emissions required in shipbuilding industry.



# Value Chain

## Business Value Chain

HSD Engine, with its growth with diesel engines, creates new value in global market based on its advanced business management system and high-end engine technology. The ships equipped with HSD Engine's top-quality electronic control engines also deliver healthy values around the world. We will keep moving forward for healthy and productive lives of human beings.

### Talent Management

WE enhance our fundamental capabilities by promoting human resource (HR) management based on leadership and job competency and by strengthening R&D capacity.

★ P. 23 - 29 Talent Management

### Product Innovation

We develop eco-friendly high-power marine engines with increased performance, improved fuel efficiency by 7% (max.), and reduced harmful gas emissions, by considering product responsibility and customer satisfaction from product design.

★ P. 30 - 32 Technology Development  
P. 47 - 51 Customer Satisfaction Management

### Fuels & Raw Materials Sourcing

We prevent risks of CSR in value chain by signing special agreements for CSR activities, and we promote eco-friendly sourcing through harmfulness assessments of incoming raw materials.

★ P. 37 - 42 Shared Growth

### Production

We implement activities for reducing environmental impact during the production process, and we conduct thorough pollutant management of air, water, and soil environments.

★ P. 43 - 46 Green Management

We create safe and healthy work environments for employees by applying internal regulations that are more strict than legal regulations.

★ P. 33 - 36 Safety & Health Management

### Trial Run

Trial run is an essential process in accordance with the vessel classification manual before the manufacturing of the engines. We control greenhouse gases (GHG) emissions by introducing the latest design techniques and producing high-efficiency, low-carbon, and eco-friendly gas engines.

★ P. 43 - 45 Green Management

### Product Delivery

We conduct the Life Cycle Assessment (LCA) to minimize environmental impact during the delivery of products and take corrective actions according to the results.

★ P. 43 - 45 Green Management

### Transportation

We continuously endeavor to reduce GHG emissions for minimizing environmental impacts in transportation of goods.

★ P. 43 Green Management

### Product Responsibility

We improve product stability in all processes including design, sales, use, and maintenance by establishing response process to minimize customer's inconvenience caused by product defects.

★ P. 48 Customer Satisfaction Management

### Customer Satisfaction

We realize customer satisfaction through activities such as 3 Zero+ Quality Innovation, prompt customer satisfaction, and customer satisfaction survey under our quality policy, 'Customer Value Creation based on Customer's Quality Trust'.

★ P. 47-51 Customer Satisfaction Management





## *CSR Enabler*

HSD Engine recognizes diverse potential risks in global business environment that changes drastically and takes proactive management and response to them. We are also aware of the importance of open communication with our stakeholders and run communication channels that customers can engage in. Through annual materiality tests, we identify core sustainability issues and transparently report goals, performances, and plans, thereby building bases for sustainable growth.

CSR Governance  
Stakeholder Engagement  
Ethics & Risk Management  
Materiality Analysis

# CSR Governance

HSD Engine enhances corporate value and maximizes shareholder value by practicing accountability management and transparency management with its board of members (BOD). The BOD, as a top decision-making body, plays a role of supervising and making decisions on key issues under the goal of company's long-term growth, as well as representing investors' benefit. In addition, our top management reflects expectations and needs of various stakeholders when making key decisions and conducts transparent disclosure and IR activities regarding major changes or performance in management operation.

## Board of Directors (BOD)

As of the end of June 2019, the BOD of HSD Engine consists of two executive directors, four non-executive directors and four outside directors. In accordance with the laws and articles of incorporation, the directors are appointed at the shareholders' meeting, and the independence of the BOD is maintained by assigning more than 40% of members as outside directors. The outside directors are evaluated of their expertise in economic, social, and environmental areas and nominated at the Outside Directors Nomination Committee (ODNC) to reinforce their professionalism and independence. The BOD runs the Audit Committee and the Outside Directors Nomination Committee for efficient decision-making, and the committees are composed of outside directors only to guarantee independence.

### Board Members

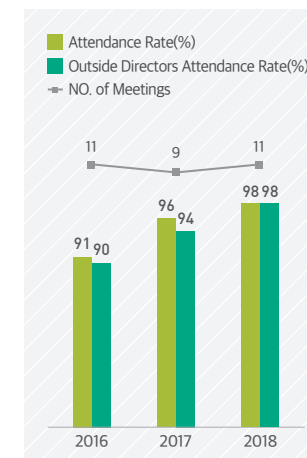
Category	Name	Major Career	Role	Appointed
Executive Directors	Koh, Youngyoul	CEO, HSD Engine		June 8 2018
	Kim, Kwansik	VP, Management Sector of HSD Engine		June 8 2018
Non-executive Directors	Lee, Byungkook	CEO, Socius		June 8 2018
	Jung, Seungwon	CEO, Well to Sea Investment	Chairman, BOD	June 8 2018
	Kim, Rakgu	VP, Socius		June 8 2018
Outside Directors	Lee, Namryung	Managing Director, Well to Sea Investment		June 8 2018
	Hong, Sungpyo	former) Chairman, Credit Counseling & Recovery Service	Chairman, Audit Committee / Member, ODNC	June 8 2018
	Lee, Kyeyun	CEO, SM Samhwan	Member, Audit Committee / Member, ODNC	June 8 2018
	Kim, Cheol	Senior staff Attorney, Law Firm Yoonseung	Member, Audit Committee / Member, ODNC	June 8 2018
	Kim, Donghoe	Executive Director, Hoyeon	Member, Audit Committee / Member, ODNC	June 8 2018

### Sub-committees

Name	Members	Role
Outside Director Nomination Committee	4 outside directors	- To recommend candidates of outside directors
Audit Committee	4 outside directors	- To audit accounting - To assess operation of internal accounting management system - To approve appointment of outside auditors

\* Please refer to our Business Reports and the Quarterly/Biannual Reports disclosed on DART of Financial Supervisory Service (<http://dart.fss.or.kr>) for the latest information about our board of members.

## BOD Performance



## Board Operations

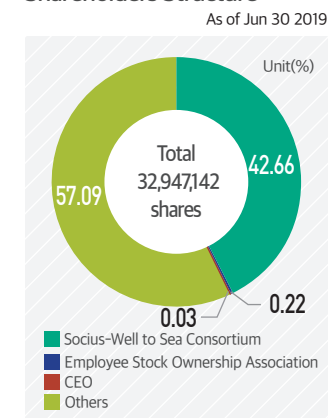
The board of directors deliberates, makes decisions, and monitors major management agenda related to economic, social, and environmental issues. The board also works as a decision-making body on the issues regulated by laws and articles of incorporation, delegated by the general shareholders' meeting and related to basic policy and operation. The CEO concurrently plays a role of the chairman of the board and is entrusted with overall business management to form a quick decision-making system. The board resolves major issues and reflects stakeholders' opinions gathered from the general shareholders' meeting and IR activities in making decisions and oversees directors' management activities.

Right of a board member to vote is not allowed to be delegated. Furthermore a director with any conflict of interest is not allowed to vote on the relevant subject. However, video or voice conference is allowed for participating and voting, in which case he or she is regarded to have attended at the board meeting. In 2018, the board deliberated on 29 main items including holding the general shareholders' meeting and approving issuance of convertible bond and also was reported regarding quarterly business performances. Any issues with potential risks or problem in management are reported to the board.

### Board Meetings

NO.	Date	Agenda	NO of Outside Directors Attended
1	Jan 08 2018	2 items including provision of DBC shares as security	4(4)
2	Feb 07 2018	4 items including approval of 19th financial statement and sales report	3(4)
3	Mar 13 2018	4 items including 19th general shareholders' meeting and approval of proposed bills	4(4)
4	Mar 29 2018	3 items including nomination of the chair and convening authority of the board	3(3)
5	Apr 18 2018	3 items including approval of liquidating Papua New Guinea corporation	3(3)
6	May 23 2018	3 items including approval of introducing electric voting system	3(3)
7	Jun 05 2018	2 items including a change in announcement for reporting meeting of division and merger completion	3(3)
8	Jun 08 2018	5 items including nomination of the chair and convening authority of the board	4(4)
9	Jun 21 2018	Approval of issuing convertible bond	4(4)
10	Jul 26 2018	3 items including reporting of business performance in the first half of 2018	4(4)
11	Nov 12 2018	4 items including delegation of CEO of bond issuance	4(4)

## Shareholders Structure



## Evaluation and Compensation

The board of directors and each committee evaluate their own annual activities including their participation. Inside and outside directors are paid within the limit approved at the general meeting of shareholders. To ensure the independence of outside directors, they do not get paid extra for their performance measurement and only receive a base salary and allowances for domestic and overseas business trips.

## Shareholders Structure and Communication

As of June 2019, the biggest shareholder of HSD Engine is the Socius-Well to Sea Consortium Employee Stock, which owns 14,055,867 shares (42.66%). HSD Engine holds the general shareholders' meeting annually to reflect shareholders' opinions related to key decision-making and management of the company. Moreover, we also disclose major management agenda on our homepage and DART of FSS online as a means for active communication with our shareholders.

## CSR Governance

HSD Engine will implement CSR strategy by proactively responding to constant changes in sustainability environment with the goal to be a socially responsible and respected, global integrated engine manufacturer. Therefore, HSD Engine established a new strategic system in 2018 under its CSR mission, "Supporting Responsible and Sustainable Growth".

The new CSR strategy proposes the Six Promises along with new directions such as Respect for Our People, Reliable Operation, and Value Creation for Our Stakeholders. All the employees at HSD Engine will endeavor to create values for mutual growth with every stakeholders.

### Supporting Responsible and Sustainable Growth



# Stakeholder Engagement

## Major Stakeholders Identification & Engagement

HSD Engine defines individuals or organizations that have impact on its business activities as its stakeholders. Based on the standard of identification of stakeholders proposed in ISO 26000, we set the six stakeholders groups: shareholders & investors, customers, suppliers, licensors, local community, and employees.

We expand stakeholder engagement by running various communication channels for each issues of the stakeholders. Through these channels, we efficiently identify and respond to the concerns and expectations of the stakeholders to practice sustainability management with our stakeholders.

### HSD Engine Stakeholders

Stakeholders	Shareholders & Investors	Customers	Suppliers	Licensors	Local Community	Employees
Issues and Expectations	Profit rate improvement, Financial soundness	High-quality engines, Differentiated service & feedback, High-efficiency & eco-friendly engines development	Increased support in supplier competitiveness & capacity building, Fair trade, Shared growth	Joint technology development	Economic revitalization & job creation, Social contribution and voluntary contribution activities	Shared growth in labor-management relationship, Internal communication improvement, Talent cultivation support, Fair appraisal & compensation, Work-life balance
Communication Channels	Shareholders meetings, Public disclosure, Investment information (homepage), IR meetings	Technology seminars, Technology & Service letters, Customer satisfaction evaluation	Quality forums, Supplier trainings, Supplier committees, Supplier technology instructors	Tech forums, Regular technology meetings	Local community committees, Sisterhood activities & local community contribution activities	Labor-management committees, Grievance management system, Intranet, Internal communication programs, Employee satisfaction surveys

# Ethics & Risk Management

## Ethics Management

HSD Engine serves as a responsible global corporate citizen by promoting mutual growth with the stakeholders by spreading sustainable management culture. Concerns and regulations of fair operations is constantly increasing worldwide, and stakeholders' requirements to these issues are also increasing accordingly. We not only offer opportunities to the suppliers for fair bidding in accordance with the relevant laws and internal regulations regarding fair trade and subcontracting, but also organize a transparent and ethical corporate culture through internal code of conduct (CoC) and various programs. Fair competitions and transparent transactions are the bases for strengthening competitiveness and assuring sustainability management of HSD Engine and its suppliers. We plan to reinforce various awareness building programs such as employee training and supplier training support, beyond simply abiding by the relevant laws, in order to introduce these to our corporate culture.

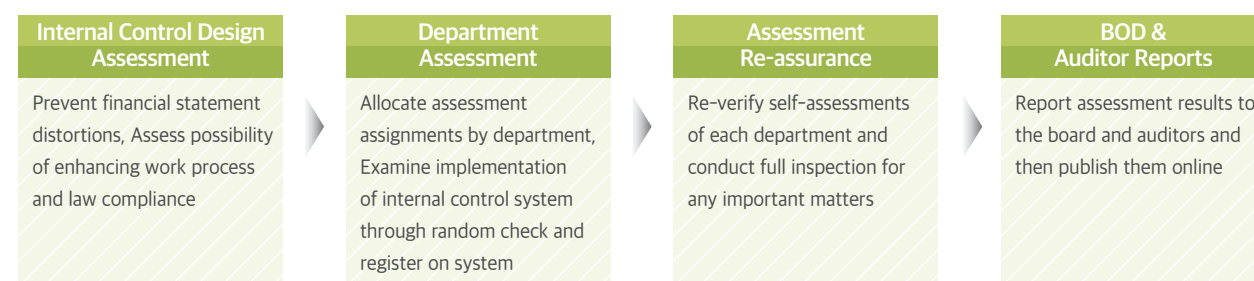
## Code of Conduct

To practice fair and transparent business operations and to internalize social responsibility management, we enacted and amended our CoC (2013) and detailed regulations (2014) and use them as principles of our employee job practices. We also continuously work on supplementing in accordance with the amendments of legislations (i.e. Enforcement Decree of Improper Solicitation, 2018). In addition, we encourage our CoC to the suppliers and sign "CSR Practice Agreement" with them to expand the ethical culture.

## Internal Control System

The Internal Control System (ICS) is a system that a company voluntarily sets regulatory articles and self-monitor and evaluate. We set and regularly upgrade the regulatory articles by considering various risk factors beyond the level comply with our internal accounting management system, which is the legal requirement

### Internal Control System Process



## Legal Compliance System

The legal compliance program is an important part of the compliance system along with the internal control system. The program is used to manage legal risks through self-evaluation in a systematic and proactive manner. The result of the assessment is reported to the board of directors. HSD Engine has introduced this system since 2012 and taken systematic actions to reduce the risk of legal violation. (Cases of Criminal or Administrative Sanctions (past three years): 0 case)

## Internal Audit, Whistle-blower, and White Paper System

HSD Engine operates the internal control system for preliminary check and the internal audit system for follow-up review. We use these systems to investigate any violations to our CoC and laws through audits of regular management, constant audit followed by inside and/or outside reports, etc., and we also take disciplinary actions if needed, to firmly establish our compliance and ethics management. The internal reports for such violation are submitted through our cyber report center on our homepage or internal report boxes. Our employees or any other third parties can alert anyone's misdeed anonymously as the identity and words of whistle-blower is completely secured. The internal audit is conducted both regularly and on ad-hoc basis, and in 2018, a total of two including one regular audit and one audit due to a report were conducted. The 'white paper' system refers to a program that requires us to record and compile analyses on fundamental reasons of main issues and alternatives to those problems in order to prevent the recurrence of similar incidents. The recorded and compiled data can be shared and used in educational or promotional activities. As an effect of this program, employees acknowledge their mistakes and come up with improvement measures by themselves to prevent themselves from repeating the same mistakes without any punishments or sanctions.

## Trainings of Compliance and Ethics Management System

HSD Engine offers annual compliance and ethics management programs to all the employees in addition to individual-law-related training on fair trade and subcontract transaction, protection of privacy and trade secret. Team managers and senior management also write an Interest-Based Relationship Description and submit it every year. This system is designed to help employees better understand compliance and ethics management. It also encourages their full participation. The CEO regularly sends letters to the employees and its suppliers as an effort to firmly establish the compliance and ethics management as a corporate culture.

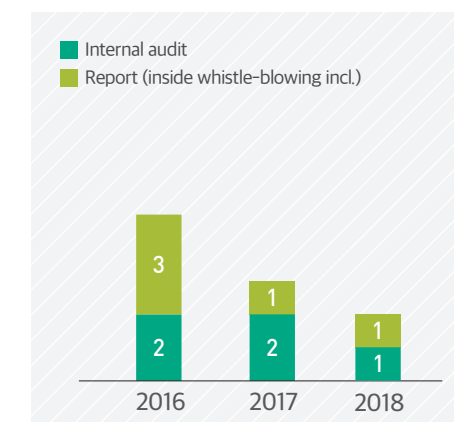
### Online/Workshop Trainings of CoC 2018

Category	Progress
Office workers	100%
Technicians	98%
<b>Total</b>	<b>99%</b>

\* Training for technicians are mostly workshops and off-the-job training.

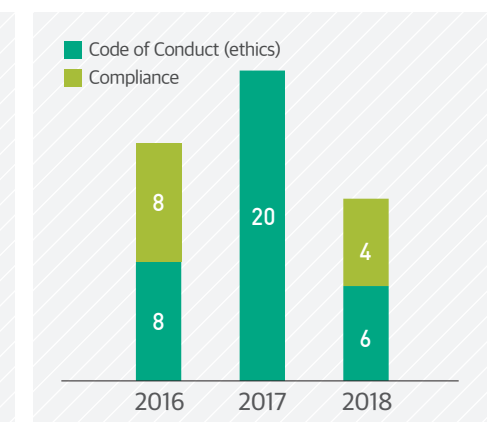
Application rate of the CoC Pledge (798 / 807)	98.9%
Rate of taking the CoC Test (484 / 488)	99.2%
average scores (standard deviation 8.3)	94.4%

### Audit Results



Unit : Cases

### Trainings of Compliance and Ethics Management



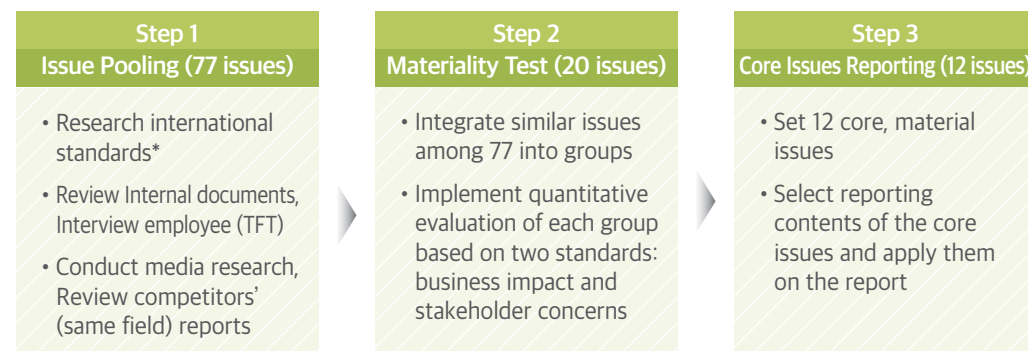
Unit : Cases

# Materiality Test

HSD Engine performs materiality tests, in accordance with the GRI Standards Guideline, to identify material issues in CSR. In 2018, we reflected the material issues and indices proposed by the Global CSR Initiative to enhance the importance and credibility of the test.

## Test Process

HSD Engine brought our CSR material issues through the three-step process based on the principles of sustainability context, materiality, completeness, and stakeholder inclusiveness.



\* GRI Standards Guideline, ISO 26000, UNGC, SASB (sustainability issues of the Sustainability Accounting Standards Board), DJSI (Dow Jones Sustainability Index), etc.

### Step 1\_Issue Pooling

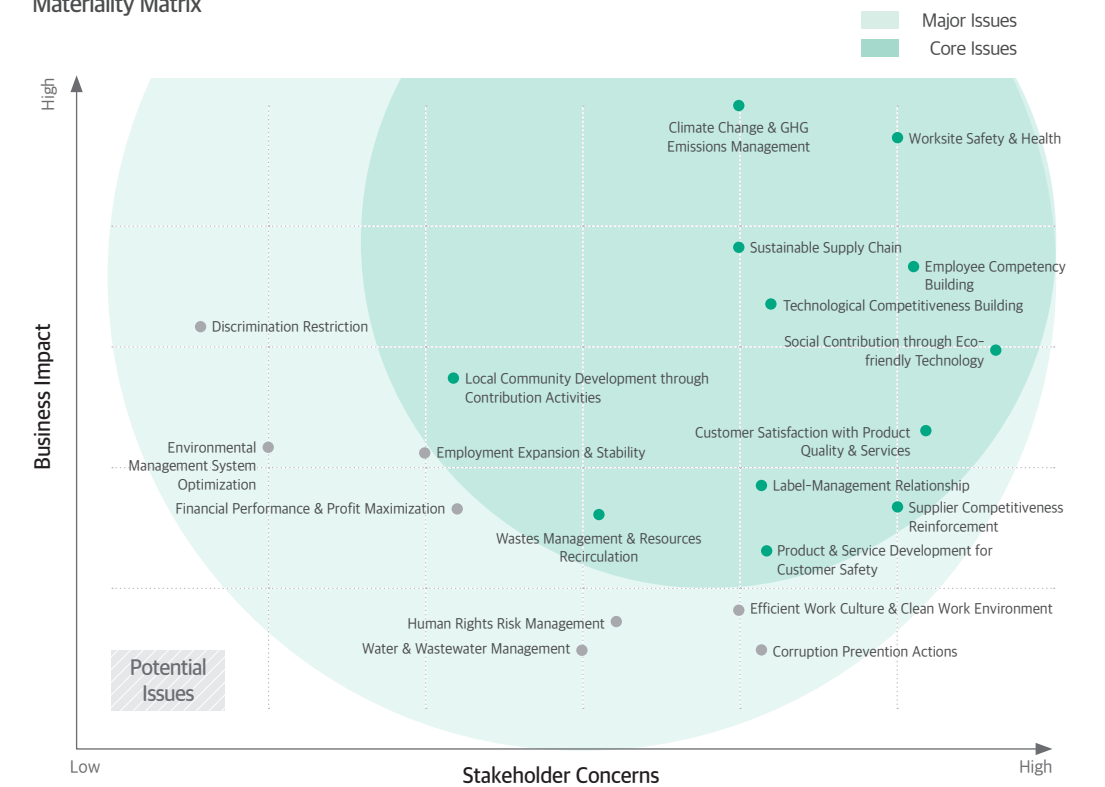
We collected CSR-related issues of HSD Engine through media research, domestic & overseas benchmarking, global initiatives analyses, internal documents review, and stakeholder interviews.

Media Research	Collect major issues by reviewing CSR-related articles from 13 daily newspapers, 47 broadcasting/communications newspapers, 68 economic/IT media (Time period: 2018.01.01~2019.06.30)
Domestic & Overseas Benchmarking	Deduct relevant issues from CSR reports of benchmark companies worldwide
Global Initiatives Analyses	Deduct relevant issues from analyses of global initiatives including GRI Standards, ISO 26000, UNGC, SASB, DJSI, etc.
Internal Documents Review	Identify key CSR issues from analyses of internal documents and data such as business plans, KPI, etc.
Stakeholder Interviews	Identify relevant issues through in-depth interviews with stakeholders who can represent our major stakeholder groups

### Step 2\_Materiality Test

We conducted quantitative evaluation of the collected issues, with the standards of business impact and stakeholder concerns. Business impact includes our internal management data and employee interviews, while stakeholder concerns include results of research on media and other companies' reports. In conclusion, we came up with a total of twenty issues including Worksite Safety & Health, Climate Change & GHG Emissions Management, and Employee Competency Building.

Materiality Matrix



### Step 3\_Core Issues Reporting

The issues collected from prioritization were reviewed by TF discussions and top management reporting, and a total of twelve issues were selected as the material issues. The material issues were reported as core issues in the CSR Strategy and the CSR Report contents.

No	Core Issues	Contents	Page
1	Worksite Safety & Health	Safety & Health Management	33-36
2	Climate Change & GHG Emissions Management	Green Management	43-44
3	Employee Competency Building	Talent Management	23-26
4	Sustainable Supply Chain	Shared Growth	37-40
5	Social Contribution through Eco-friendly Technology	Technology Development	30-32
6	Customer Satisfaction with Product Quality & Services	Customer Satisfaction Management	47-51
7	Supplier Competitiveness Reinforcement	Shared Growth	41-42
8	Technological Competitiveness Building	Technology Development	30-32
9	Label-Management Relationship	Shared Growth of Labor-Management	27-28
10	Product & Service Development for Customer Safety	Customer Satisfaction Management	47-51
11	Wastes Management & Resources Recirculation	Green Management	45-46
12	Local Community Development through Contribution Activities	Social Contribution	52-56

\*Reporting Scope : HSD Engine

# *Sustainable Value Creation*

Taking social responsibility for a company's sustainable growth is not an option. HSD Engine considers the impact of its decision-making and activities on economy, environment, and society of the world, and embraces voices of its various stakeholders. We will keep developing into a sustainable company by practicing people-oriented management that values talents, realizing transparent and fair organization, and providing stakeholder-focused values.



# Respect for Our People

Talent Management | Technology Development | Safety & Health Management

Talents are the fundamental basis for HSD Engine's sustainability. We strive to create competency-focused society through transparent employment and strengthen employee capacity through various training programs. At the same time, we are moving forward to sustainable growth of both employees and company by not only forming a safe work environment, but also investing in global level of technology development.



## Talent Management

### Management Approach

#### Context

People are the roots of a company's sustainable growth and competitiveness. It is very important to identify any impacts on human rights of the employees and prevent such negative impacts in advance. The company also should secure and cultivate outstanding human resources and create good working environment for them.

#### Our Approach

We provide continuous support for every employee's growth with our belief in them as our greatest assets. Based on systematic talent training system and growth of employees through fair appraisal and compensation, we enhance our society's future competitiveness and realize our value.

#### Next Step

For expertise cultivation, we organized Functional Competency (FC) System in all areas for office workers and plan to expand various expertise training programs with the Training System Task Force Team (TFT) for technicians. Moreover, we will develop new trainings toward all employees for global level of mindset and knowledge in regard to human rights

Based on the philosophy of talent cultivation, 'Cultivating talents is the top priority of our investment and everyone's duty.', HSD Engine nurtures global leaders who will lead fundamental competitiveness and innovation for 'fostering proud talent'.

### Human Resource Development

HSD Engine's human resource (HR) development is categorized into leadership capacity (DCM) and job competency, and the systems of training and self-development activities are established to achieve these. Trainings are divided into Leadership College and Professional College.

#### Leadership College

Leadership Program is offered to executives, team leaders and part leaders for developing leadership at each level of capacity. We also operate lectures by social experts in leadership and innovation to all employees. As preliminary actions toward new market advance and global business competence building, we run language courses such as Biz. Chinese Learning, as well as technician overseas learning programs. Leadership training for technicians are provided annually to enhance their abilities for efficient worksite management and leadership building.

### Professional College

HSD Engine is in the process of developing functional competency system reflecting professional and global expertise in each section for securing original competitive edge and fostering global-level experts. In R&D and design technology, we established the FC system in 2014 and have fostered internal experts to take the lead in enhancement and innovation of fundamental technological competitiveness. In 2016, we have structured FC system for every function including production, purchasing, sales, quality, planning, and support. As for technical engineers, we have implemented occupational training on processing, assembly, trial driving, and EHS field based on the training system.

### Pumasi (knowledge-sharing) Training

The Pumasi Training is designed to help employees better understand and learn expertise in various fields from fellow employees. This is one of HSD Engine's unique training programs through which employees are informed of important knowledge and know-how of work competence. According to the FC system for each function, This training will be incorporated and integrated into other existing academic classes of each business division in order to form a more structured training system.

### Technician Development TFT Job Training

The experienced professionals of each department lecture technicians to spread special techniques for new product manufacturing and enhance response ability to major trouble shooting. This training helps strengthen field techniques and the instructors are selected internally due to the nature of our technical areas.

### Faculty (Instructor) Training Program

HSD Engine has identified in-house experts in each respective area and prepared them to lecture others in their teams as a part of its expertise training program, such as 'Pumasi Training'. These experts can learn how to program their classes and give lectures with the support of the company.

### Technology Coaching

To aid the new technicians to reach certain level of skills in assembly and trial runs as early as possible, we allocate experienced employees to each recruit as mentors. Regarding the introduction of diverse new models, presentations about difference between existing and new designs are provided in the field of manufacturing, and trainings on new procedures of each new model are offered in that of trial run.

### Worksite Improvement Proposals

HSD Engine implements 3C+ Activity to improve quality and productivity in the field. Field workers can mutually share their own activities in the areas of Clean Factory, Clean Engine, and Clean Mind (3C+), and best practices among them are announced and awarded monthly. We also continuously promote innovation activities by each part to discuss about various subjects including quality, productivity, and collaboration to find solutions for any issues and implement corrective actions. These activities are helpful for quality improvement, productivity enhancement, and innovative mind cultivation.



## Employee Rights Betterment

HSD Engine provides stable work environment to employees through its recruitment, employment, and retention policies. The company complies with law and regulations concerning human rights and work conditions in every work type and for all individuals. It also prohibits child labor and forced labor in all workplaces in accordance with the Labor Standards Act and the policies of the International Labor Organization (ILO).

HSD Engine does not discriminate against its employees with their gender, religion, race, age, education, and other reasons. We strongly encourage female employees to take maternity leave before and after childbirth and to take parental leave for preventing their career breaks. Under Equal Employment Opportunity and Work-Family Balance Assistance Act, HSD Engine gives all the employees sexual harassment awareness trainings. We also have a grievance treatment system to respect various rights of the employees.

### Human Rights and Gender Equality Trainings

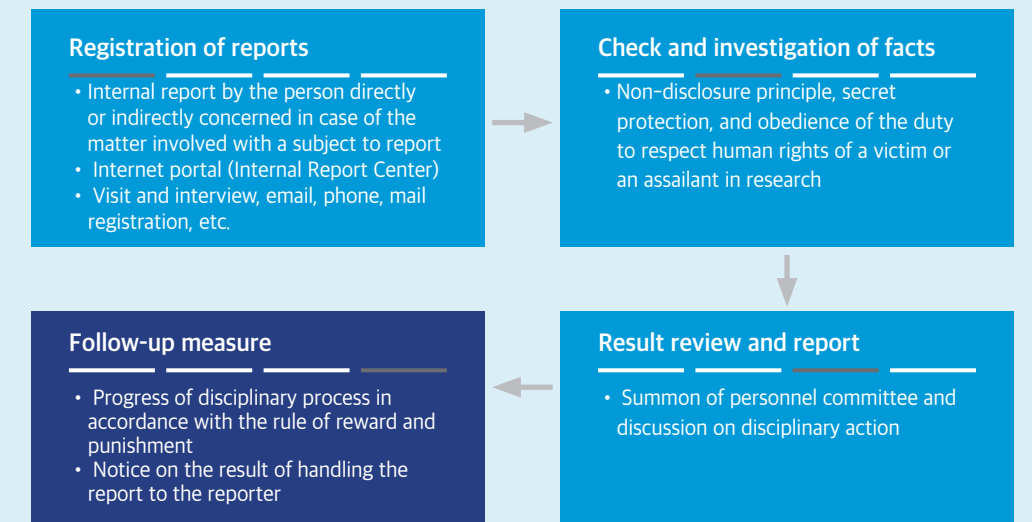
HSD Engine expanded the existing trainings on sexual harassment prevention to human rights training to reinforce human rights of the employees. The programs are divided into establishment of the concept on human rights, program for respecting human rights in company, and sharing related cases, to prevent any infringement of human rights, including unintended actions.

Respond to stricter level of perspectives on human rights such as 'Me Too' campaign, we brought in outside lecturers for more professional trainings on preventing sexual harassment. We also trained the team leaders on gender equality reinforcement to lead changes in awareness of rights and interests of female employees.

### Human Rights Management Channel

Communication channels to manage risks of human rights internally are open to employees all the time, and female managers are also employed for necessary cases. We also run an organization of information sharing channel between the general affairs personnel/legal departments and the operating department to prevent any secondary damages caused by rumors or gossips

### Reporting Process of Respecting Human Rights & Preventing Discrimination



## Fair Appraisal & Compensation



HSD Engine fairly operates the appraisal and compensation policy. HSD Engine conducts Competency assessment and Performance assessment for office workers and runs annual salary system and performance-based bonus system in accordance with their competency and performance.

Since 2013, in particular, we have discontinued our old way of evaluation based on job levels and begun new performance assessment and compensation system based on individuals' progress. For

technicians, we have altered the evaluation system (evaluation elements, weight of evaluation items, and so on) to establish reasonable grounds for fair compensation through objective evaluation. The alteration was applied to the evaluation in 2014 for better objectivity, and in 2015, the system was improved towards reinforcing the verification system of evaluation results.

### Global Mobility Support Program (GMS)

Global Mobility Support Program (GMS) was introduced to assure the stable life of expatriate employees' working abroad. HSD Engine set up a compensation system in which our employees all over the world can work under the same condition. By providing living expenses considering the price level and living environment of each nation, we assure the expatriate employee of the same standard of living despite different circumstances. For early settlement, we also look for houses, provide information on children's education, and provide education on different cultures and foreign language.

## Shared Growth of Labor-Management

As a companion, HSD Engine maintains mutually collaborative relationship with the labor union. The labor union has 89% (444 of 497) membership rate, and we conduct bargaining on wage agreement annually and on collective agreement biennially. In addition, we hold regular Labor-Management Conferences quarterly and non-regular meetings to discuss about welfare enhancement, grievance treatment, work environment improvement, and health betterment. We share ideas and discuss freely about the items submitted to the Labor-Management Conferences to find solutions and increase mutual benefits.



Other communication channels between labor and management include: Occupational Health and Safety Committee, Grievance Committee, labor-management joint safety inspections, and musculoskeletal hazards investigations. The Labor-Management Conference enables mutual sharing of management progress, listening to voices of each side, and arranging reasonable solutions, thereby developing shared growth and collaboration of labor-management relationship.

### Occupational Health and Safety Committee

The Occupational Health and Safety Committee consists of equal numbers of members from employees and the management, and it was organized to consider or resolve important matters concerning occupational health and safety. The committee represents approximately 75% of employees except for team leaders and officers, and it deliberates on and operates the EHS of overall labor-management through regular meetings, extraordinary meetings, and working-level meetings more than once in a quarter.

### Communication Enhancement

Classification	Meeting Cycle	Composition of Committee
Regular Meetings	Once or more / Quarter	<ul style="list-style-type: none"> <li>· Labor : Employee representative Honorary occupational safety supervisor (head of occupational safety and health department), Nine workers or less designated by the employee representative</li> <li>· Employer : Business representative (safety and health officer) Safety and health manager, Nine department heads or less designated by the business representative</li> </ul>
Tentative Meetings	When necessary	Same as above
Working-level Meetings	Once or more / Quarter	<ul style="list-style-type: none"> <li>· Labor : Honorary occupational safety supervisor, Two members of the occupational safety and health committee or less</li> <li>· Employer : Environmental Safety team leader, Safety manager, Health manager</li> </ul>

HSD Engine encourages employees to establish their own plans for short-term, mid-term, and long-term career developments and to communicate with their supervisors regularly. We support our employees to enhance their competency and realize visions by implementing job rotations based on individuals' requests and capacity. Moreover, our grievance system offers solution to employees' difficulties and enhances their job satisfaction.

HSD Engine will continue to improve its grievance treatment process that fulfills employees' needs with consideration of evolving social responsibility and employees' expectation. In 2018, 15 cases of grievances were treated to support stable work life of the employees. We plan to continuously strengthen open communication with the employees in the future.

## Welfare & Benefits

### Work & Life Balance

HSD Engine takes employees' quality of life seriously and makes great deal of endeavors to advance it. There are two seasonal vacation during a year: two-week vacation in summer and one-week in winter. We also support programs for the work & life balance through the designation of every Wednesday as 'Family Day'. In addition, various employment benefits are provided to employees such as home loan support system, company housing, medical support, child educational expense allowances and the operating of the day care center in Changwon supporting couples where both parents work.

### Club and Leisure Activities

HSD Engine has helped employees organize and operate internal clubs to support employees' hobbies and leisure activities. By the end of 2018, there were a total of 17 clubs with various interests including sports, potted plants, photograph and music. More than 60% of the employees have joined at least one club.



### Operation of Retirement benefit system

HSD Engine operates the defined benefit (DB) type of retirement pension system to provide stable retirement pays.

### Status of Major Welfare & Benefits

Support Programs	Contents of Support
Leisure Support	Summer vacation, winter vacation, refreshment vacation, condominium support, etc.
Housing Assistance	Provision of dormitories for unmarried persons, provision of company housing for the non-homeowners, assistance of home loans, etc.
Childcare Support	Operation of day-care facilities, education expenses allowances, etc.
Vehicle Support	Operation of commuter buses, vehicle support for an occasion for celebration and condolence
Total Mutual Aid Services	Support for the mutual aid support service system, leave for celebration and condolence, support for expenses for gifts of celebration and condolence
Medical and Health Support	Surgery support, support for comprehensive health examination, taking out of group accident insurance and savings insurance, operation of medical office and physical therapy management, operation of the primary care physician system, etc.
Other Supports	Long-service awards, provision of uniforms, provision of gifts for traditional festive days and anniversary, athletic meets for each department, support for wedding anniversary gifts, etc.

## Technology Development

### Management Approach

#### Context

The IMO\* has regulated NOx emissions by controlling NOx emissions from diesel marine engines in order to improve the atmosphere since 2000. The Tier II Regulation is currently in effect worldwide and the Tier III (NOx 3.4g/kWh or less) is applied to ECA\*\* around the northern U.S. coasts. The Tier III is to regulate wider areas including North Sea, Baltic Sea, and Australian Sea.

\*IMO: International Maritime Organization

\*\*ECA (Emission Control Area): Area reported to IMO by a neighboring country so as to prevent, reduce, and control the emissions of NOx, SOx, or PM (Particular Matter) caused by vessels

#### Our Approach

HSD Engine is now developing more eco-friendly technologies such as higher efficiency, environmentally friendly engines and DeNOx systems in order to comply with these stricter marine environmental regulations and the fierce competition in the marine engine industry. HSD Engine contributes to improve the future's value by providing our product to consumer and will continue to improve the Earth's environment.

#### Next Step

HSD Engine is leading the global technology trends with development of technologies to create eco-friendly future values. In addition, we are expanding its SCR product line that can be applied to ground-based engines as well as low & medium-speed engines based on current low temperature SCR technology. HSD Engine is increasing customer satisfaction by providing differentiated integrated solution such as package of engine and SCR and plan to maximize our corporate value and play a leading role in improving the environment.



### R&D Promotion System

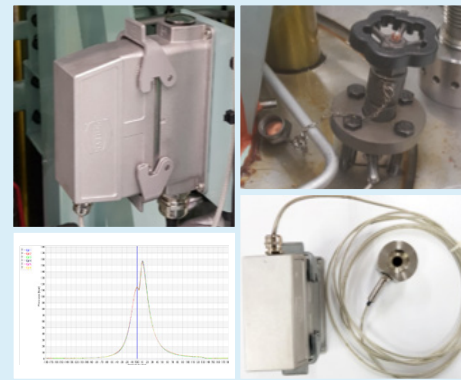
HSD Engine operates the R&D Center under the Technical Department Department for systematic and efficient research and development (R&D). The R&D Center is composed of two teams: Base Technology Research Team and SCR Development Team. The Base Technology Research Team conducts base R&D in the areas of performance, structure/materials, and mechatronics /control, while the New Technical Department researches and develops eco-friendly high-performance shipbuilding tools and materials.

### R&D Capacity Building

HSD Engine constantly endeavors to strengthen R&D capacity building by signing agreements with institutions of industry-university collaboration and national policy research for differentiated technology development and fundamental competitiveness reinforcement. In particular, we signed a research cooperation agreement with the Korea Institute of Science and Technology (KIST) to conduct development of next generation eco-friendly catalyst.

## R&D Organization Expansion and Technology Network Enforcement

HSD Engine continues to increase the number of R&D staff and diversify R&D network in order to explore new business opportunities and maximize R&D synergy. Research and Development center has developed high-end engines and mechatronics technology to enhance the market competitive edge of our engine business, supporting the development and commercialization of eco-friendly technology, such as the interpretation of injection and response, and the development and experiment of catalysts. We have strengthened a global technology network in cooperation with the industry-academia and partner's joint-research. By making effective use of this great research infrastructure, the R&D Center develops marine engines, environmentally friendly technology, and cutting-edge Information & Communication Technology (ICT).



▲ Pressure Sensor for PMI System  
(PMI: Pressure Measuring Instrument)

## Development of Eco-friendly High-efficiency Engine

### Eco-friendly High-efficiency Engine (MAN B&W, WinGD-X Engine)

This eco-friendly engine has an increased piston stroke within the engine cylinder to increase fuel efficiency by up to 7% and reduce gas emissions by 7%. It is designed to satisfy the Tier II Environmental Regulations of the IMO. HSD Engine and partner engineering companies have developed high output marine engines with higher fuel efficiency and less noxious gas emissions. With these eco-friendly engines that can satisfy the needs of its clients who place great importance on being environmentally friendly, HSD Engine is playing a leading role in the market for eco-friendly engines.

### Electronically Controlled Dual-Fuel Engine (ME-GI, DF Engine)

In February 2013, HSD Engine commercialized electronically controlled dual fuel engine by supplying MAN ES ME-GI engine and gas supply system that can use both liquid natural gas (LNG) and heavy crude oil to US for the first time in the world. Afterwards, in August 2016, we supplied WinGD's X-DF engine, the world's first engine that can combust with low-pressure gas, to LNG ships in domestic market after being recognized for our technology. Last year, we successfully manufactured the ME-GI engine that applied the designs: Top Controlled Exhaust Valve (TCEV) and Fuel Booster Injection



▲ First WinGD X62DF engine ready for large LNG carrier

Valve (FBIV) that drastically improved fuel injection and exhaust valve mechanism, and we delivered to our customers after R&D tests.

The electronically controlled dual fuel engines primarily use clean, eco-friendly LNG as primary fuel instead of diesel oil, which is used only as auxiliary fuel. These next-generation eco-friendly engines will significantly reduce not only ship operation cost, but also carbon dioxide, nitrogen oxide, and sulfur oxide emissions.

## Selective Catalytic Reduction (SCR)

### Environment

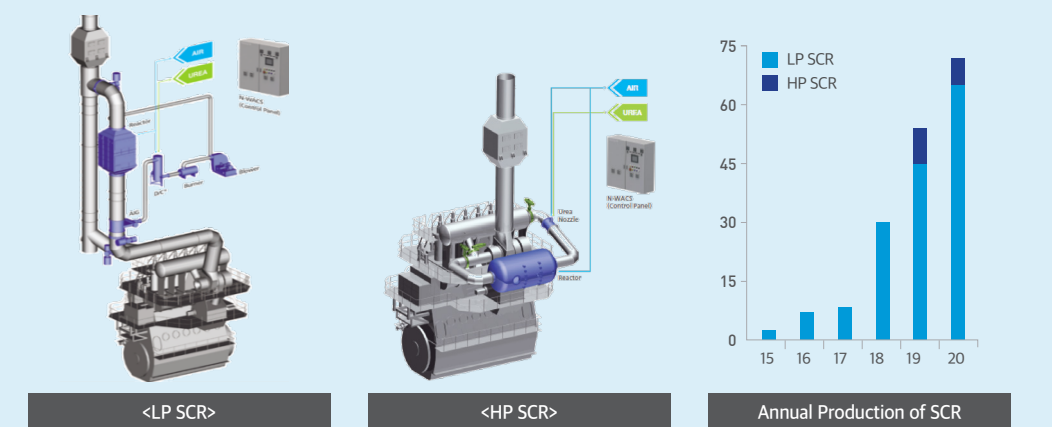
Since 2016, the IMO's Tier III Regulation has required NOx emissions from marine engines to be reduced by 80% compared to the existing Tier I Regulation, in order to prevent atmospheric pollution. HSD Engine, a top tier engine maker with advanced engineering, analysis and applied control technology, has completed the development and successfully commercialized of the marine SCR's since 2011. The SCR is an environmental system that converts NOx (NO, NO<sub>2</sub>, etc.) in emissions into harmless N<sub>2</sub> and H<sub>2</sub>O by using catalyst.

### Technology

In the past, SCR was installed in close proximity to an engine in order to keep temp of high exhaust fume (over 300) where SCR shows for desired performance this installation requirement takes up. To overcome this technical limitation of SCR, HSD Engine has been focusing on the development of a new SCR system while also developing a low temperature catalyst with the cooperation of Korea institutes of S&Tech. In addition, we conducted a real scale test, using are of our engines which is the final real life test of SCR in the industry to have the performance and technology of the catalyst and SCR system verified, and in June 2013, we became the world's first company to receive a certification from the GL classification for satisfying the IMO Tier III Regulation. HSD Engine's new SCR commercialized under the brand name of 'DeINOX' demonstrates many advantages over other competing tech: excellent performance with low temp exhaust, easy to install, less capacity requirement hence efficient use of engine room space. This will also add more versatility to designing a ship. We also completed developing the high-pressure (HP) SCR that is installed at the front of turbo charger and pursued in business expansion to the fine dust reduction of the onshore plant sector based on the SCR technology accumulated from the marine business in order to respond to customer needs and provide value.

### Service

HSD Engine has developed exclusive skills with secured original competitive edge and succeeded in commercializing LP SCR with obtaining the order for the first time in the world. And the technology of HSD engine was once again recognized through HP SCR development, commercialization and also entry into the catalyst market of onshore plant. We are continuously realizing customer-focused value improvement in both the marine market and onshore plant market by providing differentiated integrated solution, premium service in customer oriented and products of superior quality.



### Management Approach

#### Context

Everyone has the rights to work in healthy and clean environment. HSD Engine recognizes that workers' safety and health are the essential elements of the company's sustainable development and considers the safety of workers a top priority in all production activities. In addition, we are examining how to operate in the safest manner by identifying and taking measures against risk factors in advance through systematic safety evaluations, hazard investigations, and other methods, from design to production to investment.

#### Our Approach

HSD Engine values its effort to make a safer and healthier workplace for employees. It not only complies with health and safety regulations at home and abroad but also applies internal standards that are more stringent than regulatory requirements. Furthermore, the company does its utmost to expand the scope of health and safety management to suppliers and the community to make it an accident-free and pollution-free workplace.

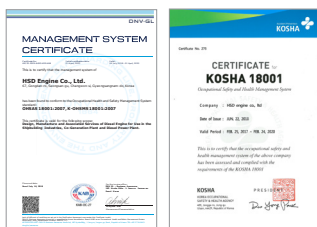
#### Next Step

The primary purpose of safety management is to respect humans. We are examining all of the stages from design to investment to production so the safety of workers in all activities can be made a top priority. In addition, we will continue to strive to attain the top level of safety culture in the world in order to strengthen the ability to execute the EHS on the shop floor by continuously developing and supporting various EHS related education, practice, experience programs, and to identify individual environmental factors and make public the results of health and safety activities.



### Safety & Health Management System

HSD Engine has established and is abiding by the EHS management policy to realize employees' health and safety, and internal and external stakeholders' satisfaction in all business activities, based on the management philosophy of human dignity.



Safety & Health Management System Certificates

#### Organizations and Systems for Health and Safety Management

HSD Engine is operating the health and safety management system under OHSAS 18001 and KOSHA 18001 to create a healthier and safer work environment. The occupational health and safety committee consisting of eight members (half from union and the other half from management) discusses details of environmental improvement, accident prevention, health diagnosis and education, etc., and each employee sets and practices his/her own safety goal to reduce the event rate.

#### EHS Roles by Job Title



### Field-oriented Safety Management

HSD Engine fosters employees' awareness of safety by formulating code of conduct on safety for each work process, processing equipment, and transporting equipment and promotes employees to be reminded of this code of conduct before the start of a given job as Tool Box Meeting (TBM) materials. We are carrying out cautionary EHS activities by each position and department to prevent accidents on the shop.

#### Safety keeper's Activities

Safety keeper's activities are the initiatives in which all workers participate to enhance the effectiveness of the safety management on the floor to prevent accidents. In this regard, a worker is designated as a safety keeper for one week to monitor potentials for unsafe acts and conditions voluntarily. This contributes greatly to not only maintaining the safety of workplace but also raising the bar of responsibility for the safety on the shop floor in a manner that leads workers to continuously participate in such safety activities.

#### Real-time Monitoring and Action by Sectional Field Safety Managers

Safety managers of each section in production sites identify unsafe acts and conditions in real time and register the results in a computer system after taking immediately rectifying measures. The rectified results are analyzed comprehensively for feedback, reflected in the 'EHS evaluation' to induce voluntary participation.

(unit: cases)

Category	immediate improvement	Safety Observation Activity	safety keeper	Best Practice	Total
1Q	25	1,760	2,696		4,481
2Q	82	2,078	3,057		5,217
3Q	37	1,998	2,521	2	4,558
4Q	82	2,153	2,723		4,958
Total	226	7,989	10,997	2	19,214

### Emergency Response System

In the advanced and globalized economy, any interruption or discontinuity in business activities may cause severe damage to companies. HSD Engine intends to protect its core value and recover promptly to such large-scale emergency incidents as natural disaster. Twice every year, the exclusive departments and suppliers participate in the emergency response training to secure capacities for coping with crisis by job level, while minimizing human/physical damages, based on various crisis scenarios.

### Safety & Health Collaboration Program

We have run Safety & Health Collaboration Program to enhance voluntary safety and health standards and to prevent industrial disasters of our company and suppliers. Every year, we select fifteen in-house/outside contractors annually to provide the integrated safety & health consulting such as risk assessment and safety & health training to them.

### Hazardous Chemical Substances & Equipment Management System

HSD Engine applies strict management standards in the entire phase from purchase to disposal of harmful chemicals to minimize adverse effects of such substances on humans and environment. We keep an inventory of all chemical substances, review the degree of potential damage, investigate reproductive toxicity and carcinogenicity, and create a database of all the results. We prevent serious occupational accidents caused by harmful or dangerous equipment through implementing the Process Safety Management (PSM) system, prevent a neighborhood near the workplace from suffering damage through the establishment of an autonomous accident prevention system on shop floor also help prevent potential damage to adjacent factories.

### Overseas Worksite Risk Management Response System

HSD Engine operates crisis management response system to protect our expatriate or resident staffs, their family, and assets from various types of disasters or emergencies that may occur at overseas workplaces or any location where our employees have been dispatched. HSD Engine registered to and provides medical and security assistance of global infrastructure, online support service and International SOS Service, a 24-hour overseas safety management membership service which enables the safety of overseas staffs to be checked and travel-alerts to be sent via e-mail and SMS through Travel Tracker.



## Health Management

HSD Engine periodically investigates and evaluates potential health threats in workplace to prevent occupational and even lifestyle diseases associated with rapid change of employees' lifestyle. The company offers health promotion programs and tailored health care programs to every individuals in order to create a healthy and comfortable working environment. In particular, we closely monitor those groups of employees who are prone to noise-induced hearing loss, musculoskeletal disorders, and cardiovascular diseases.

### Health Improvement Programs

HSD Engine operates health promotion programs to support in the prevention of various lifestyle diseases, cerebropathies, cardiovascular diseases, and musculoskeletal disorders that could arise from repetitive motion, handling of heavy materials, or other causes; as well as employees' senescence, lack of exercise, or general lifestyle change. The company actively assists employees in maintaining a healthy life and minimizing risk through: risk assessment of disease outbreak (based on the results of various examinations); comprehensive regular physical examinations for risk groups (low/medium/high); primary care physicians' health care (counseling and medical treatment, prescription); and guidance on improvements in healthy life styles (exercise instruction, low-salt diet, no smoking clinic). Furthermore, HSD Engine operates a system for the health care and health promotion system for employees' families, such as each year's seasonal flu and novel flu vaccination, comprehensive physical examination, and medical expense allowance.

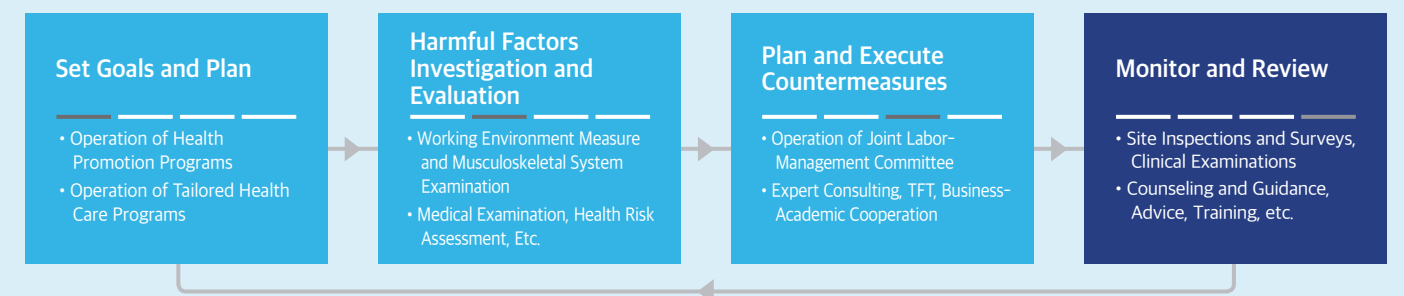
### Tailored Health Care Programs

HSD Engine operates a health care program tailored to each individual's health characteristics through a collaborative team of external experts and business-academic complex, such as Yonsei University Graduate School of Public Health, occupational environment medical center, and KOSHA. We have set up exercise rooms and fitness centers, and also built a Wellness Clinic System equipped with physical strength-diagnosing equipment and personalized exercise guidance equipment. Those who suffer from musculoskeletal pain can join personalized exercise programs (KEMA) offered daily at exercise therapy room after taking medical evaluation. For those patients with chronic lifestyle diseases, we operate a primary care physician system through which employees can receive diagnosis, clinical examination, lifestyle modification guidance, and stress counseling services.

### Health Care for Suppliers

HSD Engine also offers health care programs to the employees of in-house suppliers through primary care physicians, vaccination, harmfulness evaluation of chemicals, measurement of working environment, etc. In the event of an unexpected accident or illness, company operates a system for the families and acquaintances to get convenient and numerous benefits through cooperation with a variety of medical institutions.

### Health Care Management



# Reliable Operation

Shared Growth | Green Management

HSD Engine endeavors to minimize energy consumption and controlling GHG emissions by enhancing energy efficiency, thereby expanding its Green Management. Moreover, HSD Engine have built a basis for virtuous cycle of shared growth by practicing transparent and fair trade and strengthening collaboration with our suppliers.



## Shared Growth

### Management Approach

#### Context

Fair operation refers to take responsibility as a global corporate citizen by spreading sustainable business culture to the partners, suppliers, competitors, and customers and by mutually growing with them. Domestic and international concern and regulation on fair operation have continued to get stronger; accordingly, our stakeholders' demand on the fair operation have increased.

#### Our Approach

HSD Engine have provided fair opportunity for participation to our suppliers according to the law related to fair transaction and our Code of Conduct established and implemented by ourselves. We have also built transparent and ethical corporate culture through various programs.

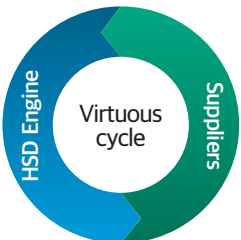
#### Next Step

Fair competition and transparent transaction are the cornerstone of trading which enhances bilateral competitive edges between HSD Engine and its suppliers. They also ensure sustainable management. We will exceed the level of passive response to the relevant law. We will establish them in our corporate culture by strengthening various awareness-raising programs including staff training and supplier training support.

### Shared Growth with Suppliers

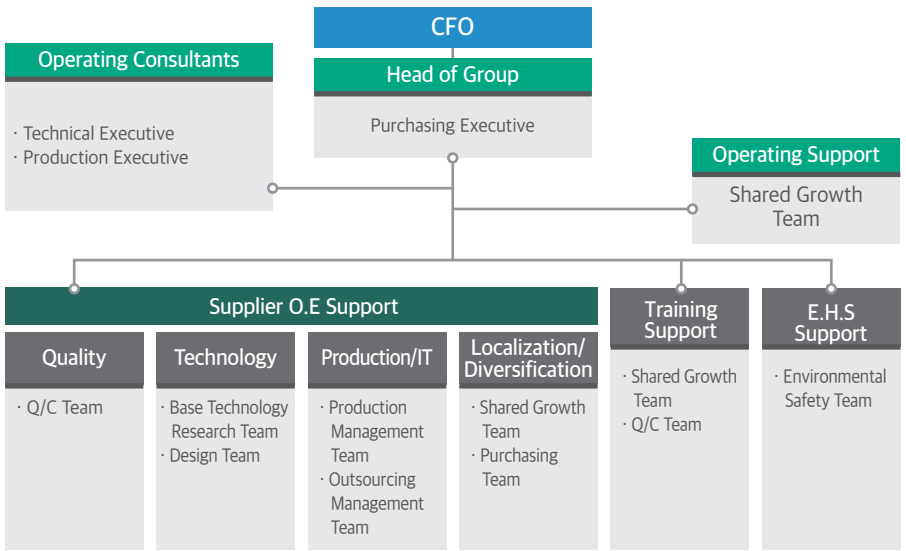
HSD Engine set 'virtuous cycle of partnership' as the motto for shared growth with the suppliers. We operate supplier competition building programs and communication channels to achieve continuous growth with our suppliers.

The 'virtuous cycle of partnership' at HSD Engine is organically running an integrated system of technology, quality, and management systems through optimizing technology capacity building and business system advancement of all suppliers. Therefore, we identify actual needs of our suppliers and try to aid them with solutions using every resource available. In addition, we are building firmer partnership with our suppliers by enhancing systematic competitiveness in overall supply chain and sharing profits with the suppliers.



“  
Virtuous cycle of partnership for shared growth with suppliers  
”

#### Improvement Support Group

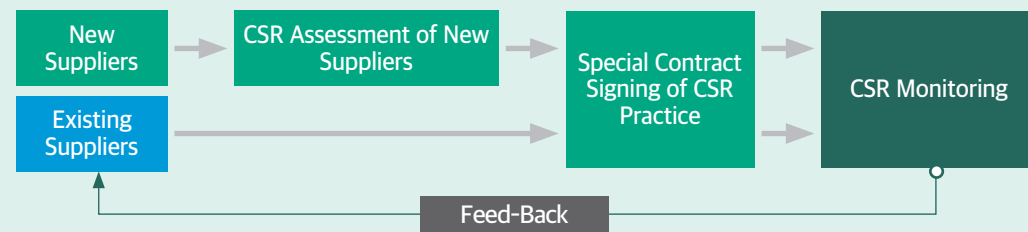


## Supply Chain CSR Management

Since October 2015, HSD Engine has signed contracts with the suppliers as specific terms in our general contracts to prevent CSR issues. The 'CSR Practice Special Contract' contains CSR guidelines in: ① human rights and labor, ② safety and health, ③ environment, ④ ethics and fair trade, ⑤ management system, and we limit bidding in products if any violation is found.

In addition, when selecting new suppliers, we reflect their CSR standard in our assessment to strengthen CSR management system in our supply chain, and we preliminarily filter any unqualified suppliers. For the existing 100 suppliers in the main manufacturing industry, we monitor them with 22 control items to monitor their compliance with 'CSR Practice Special Contract' to prevent CSR risks.

### Supplier CSR Management Process



### Comprehensive Supplier Capacity Assessment

HSD Engine annually evaluates comprehensive capacities of suppliers (about 120) that supplier major parts of engines to achieve its vision, "No.1 Engine in the World", and to establish/maintain collaborative relationships through the shared growth.

By summing up assessment scores of departments in quality/purchase/delivery/shared growth, we nominate 3 Grand Awards and 7 Excellence Awards, along with incentives. For the suppliers with low score (less than 60 points), we provide corrective action plans and activities for quality improvement by the Quality Guidance Group.

### Supplier Safety & Health Collaboration Support

Since 2012, HSD Engine has promoted the Safety & Health Collaboration Program among the suppliers to as a measure of disaster prevention. In 2018, we resolved 79 issues of 34 supplier's work environment and safety through consulting and guidance. As a result, we received the "A" grade from the Changwon District Office of the Ministry of Employment and Labor. In 2019, we are continuously promoting the Safety & Health Collaboration Program participated by 31 companies (18 internal; 13 external) as the importance of safety and health in the field is being highlighted.

### Ministry of Employment and Labor Evaluation Results

Category	2016	2017	2018
Assessment Level	A	A	B



## Supplier Joint Opportunity Creation

### Support Product Localization

We have continuously promoted joint development with our suppliers for localizing their products to increase revenue and competitiveness. In 2018, we achieved localization of 13 products, thereby securing our prime competitiveness and enhancing suppliers' new revenue worth KRW 4.1 billion (as of 2018). In the future, we plan to keep pursuing joint localization with our suppliers for active response to environmental regulations and competitiveness building of eco-friendly products.

Category	2016	2017	2018
No. of Product Localization Development	7	10	13
No. of Suppliers	7	10	11

### Benefit Sharing Agreement

HSD Engine signs benefit sharing agreements of purchasing prototypes with suppliers for stable localization of their products and diversification of development. 'Benefit sharing' is a system that the consignor aids consignee to achieve their shared goal such as cost reduction and share the performance together in accordance with the Act on the Promotion of Collaborative Cooperation between Large Enterprises and Small-Medium Enterprises. We are in the process of being assessed for the outstanding company for benefit sharing in 2019 in regards to the performance sharing task completed on the HP SCR Reactor Assembly development with Inhwa Precision in 2018.

Category	2016	2017	2018
No. Benefit Sharing	4	12	7

### Best Practice of Shared Opportunity Creation with Suppliers

#### Joint Development of the HP SCR Vaporizer with Sungil Encare

Sungil Encare completed the development of a vaporizer used in the HP SCR System that HSD Engine won the first project of, at the end of September 2018 after its start in July 2018. As a result of Tier III connection test with the engine by assembling it to the HP SCR System, it achieved a result satisfying the NOx standard required by the International Maritime Organization (IMO). This led Sungil Encare to become one of the key parts suppliers of the HP SCR System, which is expected to have increase in project orders. Even in the market stagnation in the shipbuilding industry, Sungil Encare could witness sales enhancement and business stabilization by supplying new parts and also secure improved capabilities in production technologies and quality management through this development project.



## Supplier Competitiveness Building

### Supplier Operational Excellence (O.E) Activities

Each personnel in charge from such teams as shared growth, planning, purchasing, and quality has visited the suppliers in person and has actively implemented Operational Excellence (O.E) activities to receive and resolve their complaints for meeting their actual needs. In particular, we have made Visual Basic for Application (VBA) program which can automatically design the current condition of accepting orders, production plan, blueprint management, equipment loading plan, and delivery plan according to each supplier's needs. We have thus supported 25 among our suppliers by using the program for improving their productivity through reinforcing the connection between our system and theirs.

### Vendor Quality Guidance Team

HSD Engine has a vendor quality guidance team dedicated to improving the quality of its suppliers. The team offers single parts per million (PPM) instruction activity every year. As of the end of 2018, a total of 152 items from 64 companies received the Single PPM Certification from the government. As a result, 7 suppliers of HSD Engine won most of the government awards at the 2018 contest for technology innovation in smaller enterprises. As the single PPM system is changed to the Excellent Quality (EQ) certification system of the Korea Chamber of Commerce and Industry (KCCI), we plan to actively conduct quality support activities for the EQ certification system, thereby the process can be settled into our quality innovation activities.

Category	2016	2017	2018
No. of Single PPM-certified Suppliers	67	65	64
No. of Single PPM-certified Products	159	153	152

### Supplier Employees Training

We offer outside training in association with technical companies and our internal competency building programs to the supplier employees. In 2018, outside training was provided to 37 employees from 25 suppliers for 3 times regarding the principle and inspection of low-speed diesel engines. The competency building programs were conducted for 4 times to 143 employees from 100 suppliers regard to quality innovation, process management, and equipment maintenance.



## 'Excellent' Grade in Win-Win Index 2018

HSD Engine acquired the 'Excellent' grade in the Win-Win Index 2018 announced by the National Commission for Corporate Partnership (NCCP) on June 27, 2019. This index is a measurement of shared growth level of Korea's top revenue companies who have high social concerns and impacts from the assessment, and it is announced by the NCCP once a year since 2011. It was our first time to acquire the 'Excellent' level, and we also earned the 'Best' level in the assessment of compliance with agreement, which consumes 50% of the Win-Win Index. We believe these results are attributed to our continuous efforts in contributing to mutual growth activities with suppliers.

We plan to keep developing the relationship of mutual collaboration with our suppliers by accepting voices of the field operation, while also internalizing the existing shared growth activities.

Category	2016	2017	2018
Evaluation grade	Good	Good	Excellent

## Supplier Communication Enhancement

We have operated a channel dedicated for grievance procedure to enhance communication with our suppliers. We have also opened various communication channels such as operating conference and discussion with our suppliers, holding forum and workshop, and visiting the suppliers with our CEO. In 2018, our executives visited 16 suppliers and our field operators visited 102 suppliers for strengthening our communication.

### Supplier Grievance Treatment Channel

The Shared Growth Team runs as on and offline channels for collecting suppliers' grievance and requests. In 2018, we took care of 6 cases including COVAN system improvement and visited 102 suppliers to treat 112 cases out of 128 requests.

### Shared Growth Day

On November 22, 2018, 121 of supplier salespeople were invited to the Shared Growth Day for mutual understanding and communication. During the event, we earned high recognition from the attendees by providing various practical contents: the motivation and human relation building for active atmosphere of the organization, the introduction to management jobs and regulations in environment and safety in worksites of the Environmental Safety Team, and the best practice of product development of TCEV by Kumyong Equipment.



### Shared Growth Quality Forum

HSD Engine hosts a quality forum for its suppliers to boost their quality awareness. The quality forum held on July 18, 2018 was attended by the CEO, directors, and team leaders of HSD Engine and representatives of 125 suppliers to announce company's quality policies, share related issues, and discuss about collaboration plans.

### Management Approach

#### Context

With worldwide concerns over climate change and energy issues, it is imperative that corporate management paradigm continuously change to preemptively in response to environmental issues, such as strengthening of various environmental regulations. Therefore, we need to join the domestic and international climate policy vigorously and make versatile efforts to minimize environmental risk by inventing eco-friendly engine and campaigning for saving energy by entire enterprise.

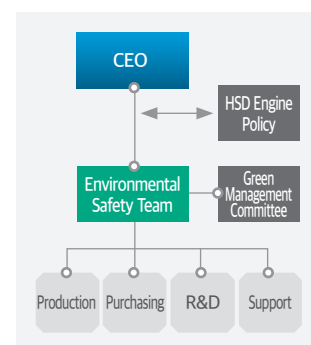
#### Our Approach

HSD Engine is committed to green management as the social, ethical responsibility of corporations. We are making efforts to minimize the environmental impact that occurs in the entire process of corporate management from development to assembly, transport, and disposal of products. We desire to become an eco-friendly company by fostering environmental awareness through green management activities

#### Next Step

HSD Engine plans to continuously manufacture eco-friendly engines that enable reduction of exhaust gas emissions, and high fuel efficiency and make EHS strategies and results public. In addition, the company intends to respond in advance to environmental issues from new projects and reduce GHG emissions through increasing the efficiency of test run fuels and power consumption, in line with production of gas engines using cleaner fuels (LNG) and high performing eco-friendly equipment for air pollution reduction. In addition, HSD Engine examined business impacts of expansion of carbon market with company being a part of Emission Trading Scheme, and is establishing related manuals, procedures, and guidelines to vitalize emission trading.

#### Green Management Promotion Organization



### Green Management Policy and Strategy

With increasing demand for disclosure of environmental information and environmental management system standardization, we operate organized systems under the green management policy, and adopt gradual green management strategies to establish an external evaluation system which will begin with building an infrastructure under relevant regulations.

### Green Management System

HSD Engine's Changwon worksite formulates environmental management plans each year for systematic Green management to review the environmental impact on business and push to continuous monitoring and improvement activities. We have been maintaining the Green management system to international standards through regular follow-up and recertification examination since the acquisition of ISO 14001, the standard for the environmental management system issued by the International Organization for Standardization in 2007. In particular, we are doing our utmost to be an eco-friendly company through continuous improvements including completing transition audit of ISO 14001:2015.

### Energy Management

HSD Engine is managing its total energy consumption in a systematic manner. A detail report on total energy consumption of the company is published every year and shared to the authorities concerned. We actively participates in various activities to minimize energy consumption of each types of energy. We signed MOU contract with Namdong Power Generation and Doosan Heavy Industry & Construction to activate Microgrid, which is an energy-related new industry business model in December 21st 2016. Since 2017, we have collaborated on successful establishment of the system and this project becomes the first case of Microgrid industrial complex domestically.

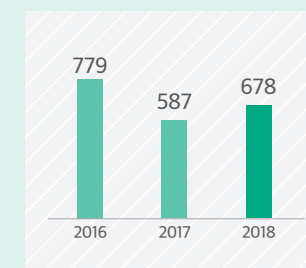
#### Energy-Saving Activities

There are various activities carried out in HSD Engine to save energy. In line with the effort to habituate saving energy across the company, we turn off lighting in all factories and offices at lunch time, and night shifts check substations to turn off any unnecessary light or electric heater. In addition, we have minimized the use of energy by implementing automatic control system for ventilation and air conditioning that remotely operates every single equipment when energy demand is high.

#### Energy and Raw Material Consumption

Category	Electricity (MWh)	B-A (kℓ)	LNG (1,000m)	LNG (ton)	Gasoline (kℓ)	Diesel (kℓ)	Kerosene (kℓ)
2016	32,520	4,674	777	825	59	60	62
2017	30,856	4,051	485	749	50	199	63
2018	27,281	3,735	439	883	33	50	56

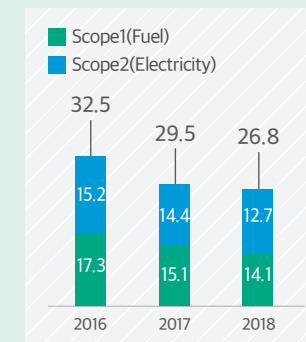
#### Energy Reduction Performance (Unit : MWh)



#### GHG Reduction Performance (Unit : tCO<sub>2eq</sub>)

Category	2016	2017	2018
Process Improvement	-	-	-
Replacement with High-efficiency Equipment	363	274	316
Total	363	274	316

#### GHG Reduction Performance (Unit : 1,000 tCO<sub>2eq</sub>)



### GHG Emissions Management

HSD Engine calculated the sources and quantities of emissions in the Changwon worksite by building a greenhouse gas inventory in accordance with international standards, such as IPCC, WRI, and ISO 14064. We continue to make efforts to manage the increase or decrease in emissions of direct GHG (Scope 1) and indirect GHG (Scope 2).

To reduce the test run fuels which are the largest source of GHG emissions, HSD Engine set this as the innovation task theme. Due to the industrial nature, it is difficult to reduce the amount of fuel used because we need to have fixed amount for test run in accordance with shipbuilding manual; therefore, we produce high-efficiency, low-carbon, eco-friendly gas engine and introduce the lasted design technique. Also, all employees participate in greenhouse reduction campaign through the introduction of central cooling and heating control systems, use of high-efficiency lighting, and company-wide power saving campaigns.

#### Climate Change Information Disclosure

HSD Engine is providing investors and external stakeholders with information on its response to climate change and undertaking public greenhouse emissions and reduction activities. We are striving to position ourselves as an excellent carbon management company by continuously managing and improving such efforts as corporate governance structure, risk and opportunity factors, greenhouse gas emissions accounting, and communication, all of which are related to response to climate change issues.

## Environmental Pollutants Emission Management

### Air Pollutants

HSD Engine has established internal environmental standards that restrict dust emission, a major pollutant, under 30% of the legal limit, and strictly abides by the internal standards. Emission control and prevention devices are closely monitored and improved by the departments that are in charge of operation and management of those system. Critical devices are closely checked with wearing parts being replaced on a regular basis. HSD Engine is not only concentrating on the management of air pollutants caused in the course of production, but also striving fundamentally to reduce air pollutants by developing related technology for our products. HSD Engine has successfully completed the development of Selective Catalytic Reduction (SCR), a nitrogen oxide reduction equipment that soon will be a mandatory add-on item to the main engine of commercial sea vessels with a view to reducing further emission of such pollutants. This way, HSD Engine takes the initiative in protecting the environment of the earth.

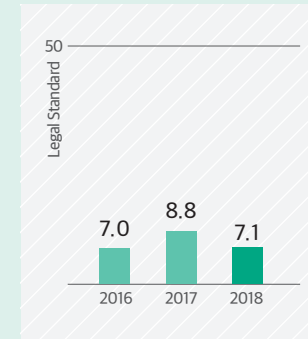
### Water Pollutants

HSD Engine hires a specialized water treatment company to deal with waste water produced at minimum level compared to the industry standard. We have established a thorough management system to prevent leakages from the wastewater storage tank to the outside. We also set up an automatic shut-off and alarm system at the very end of the outlet to prevent the leakage of oil and water pollutants to neighboring seashores. HSD Engine abides by related wastewater regulations.

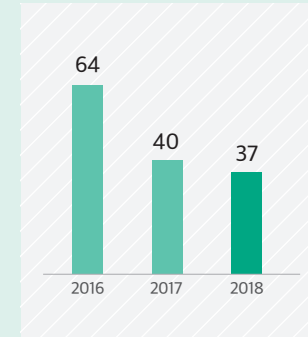
### Soil Pollution and Oil Spill Prevention System

HSD Engine dedicates a department to inspect and improve the oil tank (B-A) used for test run of engines. Land pollution and leakage test is done in accordance with relevant regulatory requirements. In addition, we have installed oil surveillance sensors and CCTVs in the main storage areas to prevent oil spills, and prepared procedures for unexpected incidents, and emergency drill for quick response to such events.

Dust Emissions Concentration (Unit : gm/m<sup>3</sup>)



Wastewater Consignment Processing (Unit: ton)



## Resources Recycling and Management

HSD Engine understands the importance of limited resources and continuously seeks various resource management methods, such as by-product management and waste recycling.

### By-products and Waste Management

Scrap metal, processing chips, and copper scraps are separated and recycled or sold. Factory waste is classified into general waste or designated waste, and they are treated in accordance with the requirements of Waste Control Act. In addition, we minimize waste incineration and landfill rate. We are actively participating in the waste-recycling policy by collecting refinable waste oil and sorting waste wood(used for parts packaging) to recycling.

Sales of By-products

(Unit: ton, KRW billion)

Category	2016		2017		2018	
	Sales	Amount	Sales	Amount	Sales	Amount
Metals, Processed chips	2,293	4.4	1,523	4.4	1,098	3.9
Copper scraps	5	0.25	3.4	0.18	3.1	0.18
<b>Total</b>	<b>2,298</b>	<b>4.65</b>	<b>1,526.4</b>	<b>4.48</b>	<b>1,101.1</b>	<b>4.1</b>

※ The amount is flexible depending on the unit cost of purchase from steel manufacturer.

Wastes Treatment

(Unit: ton)

Category	2016	2017	2018
Incineration	628	502	442
Landfills	4	6	0
Recycling	1,308	1,525	1,276
<b>Total</b>	<b>1,940</b>	<b>2,033</b>	<b>1,718</b>

## Communication with Stakeholders

HSD Engine works closely with external stakeholders, especially with those companies adjacent to it and NGOs in order to solve the issues of exhaust gas (sooty smoke) and noise from test run of engines in a mutually agreeable manner. We have established a tight network with stakeholders and are constantly implementing various activities (community service, environmental cleanup, etc.) to maintain the communication and trust. These efforts are highly appreciated by many of the stakeholders, and there has been no official complaint registered over the year.

### Response to Environmental Regulations

HSD Engine responds to environmental law and regulations by applying strict EHS internal management standards and guidelines. Since 2000, there has been no incident recognized where environmental regulations were violated, or the company was penalized for compromising relevant regulatory requirements. We operate a law monitoring system to swiftly respond to new laws that are gradually strengthened

# Value Creation for Our Stakeholders

Customer Satisfaction Management | Social Contribution

HSD Engine plans to provide the best products to customers and to create values that can help customers' development through various customer satisfaction activities. We also fulfill social accountability for sustainable social development and mankind's productive advancement as a corporate citizen. Therefore, we plan to earn trust from our stakeholders and grow and develop alongside the society.



## Customer Satisfaction Management

### Management Approach

#### Context

Continuous quality improvement of our product and service is critical to meet ever growing customers' expectation on us. Customers are the main reason a company exists and the driving force of a corporate sustainable management. Thus, it is extremely crucial to deliver them more value, to meet their customer satisfaction, and to maintain close relationship with customers through diligent communication.

#### Our Approach

Quality is the reputation and pride of HSD Engine. There is no compromise in our quality management practice all across the life cycle of our product and service in order to achieve top of the market customer satisfaction. HSD Engine provides differentiated customer services through long standing intimate and interactive business relationship. We will not cease to improve the quality of products and services for customer satisfaction.

#### Next Step

In the future, we plan to do ongoing quality improvement activities to maintain the quality for customers to satisfy with. We will also strive for active response to any complaint or opinion from customers. We will play an active role in the stabilization of the quality of products and customer satisfaction.

### Customer Satisfaction Management Execution System

The quality policy emphasized by HSD Engine is being implemented on the 'creation of customer value based on trust in the quality'. 3Zero+ and single PPM quality innovation activities are good example where HSD Engine fulfills customer value with pride in quality delivered.

### Product Responsibility

#### Product Stability

To minimize customers' inconvenience related to product defects, we established response process in accordance with the laws related to defect treatment and the Product Liability Act. Therefore, we practice response measures by stage to complaints and difficulties from product development, design, sales, use to maintenance, thereby constantly improving product stability.

### Quality Management System

HSD Engine does not stop at meeting quality requirement of certifying entities, but it builds strong reputation and pride through ceaseless maintenance and improvement of quality system.

### Quality Certification

We maintain our certification of ISO 19001 in product design, manufacturing, supply, and relevant service to earn customer trust. We also acquired qualifications for producing nuclear power emergency generator and supplying supplements through the certifications of KEPIC-MN and EN and conducts business in nuclear power generation.

ISO9001 : 2015		KEPIC-MN		KEPIC-EN	
Cert NO.	0601-2000-AQ-KOR-KAB	Cert NO.	MN-243	Cert NO.	EN-177
Certified by	DNV-GL	Certified by	KEA	Certified by	KEA
Certification Scope	Design, manufacture, and relevant services of diesel & gas engines for ships and internal combustion power generation	Certification Scope	Installation of grade 3 piping subassembly and grade 3 nuclear diesel power generation unit	Certification Scope	Manufacture of 1E diesel generators and in-factory assembly and installation of relevant equipment



### Government Awards for Quality Innovation Group

HSD Engine has been actively helped those suppliers with strong single PPM implementation and persons of merit to be recognized by the government. Since 2008 we had won the award for the ten consecutive years. Four of our vendors including Samhoe Industry were rewarded with the Prime Minister's Award in 2018.

### CS Promptness and Product Service

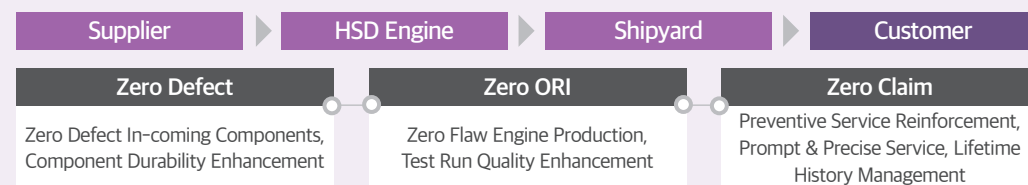
HSD Engine provides 24 hours Anycall Service to our valuable customers in order to give a seamless satisfaction in operation, maintenance, and technical support. We provide periodic feedback with necessary information related to operation, maintenance & new technologies for products, and services through NICE\* Service System.

\*Necessary Information for Customer's Expectation

### 3 Zero+ Quality Innovation

HSD Engine's quality policy is focused on creating customer value based on the customers' trust in its quality. To this end, the company's '3 Zero' (Zero Defect, Zero ORI, and Zero Claim) quality innovation initiative has turned its diesel engine quality and services into global standards. This inhouse initiative became the starting point for building engines that are unrivalled in the industry.

#### 3 Zero+ Quality Innovation System



- **Zero Defect** : Securing reliability in parts and in the quality of suppliers parts
- **Zero ORI (Owner Request Item)** : Securing perfect quality without ORI in the process of engine assembly/trial run
- **Zero Claim** : Decrease in claims by customers due to trust and confidence in engines

#### 3 Zero+ Quality Indicators

	2016	2017	2018
Zero Defect	2.5	1.9	2.9
	0.7	2.6	N/A
Zero ORI	4.9	4.6	6.7
	2.0	1.1	N/A
Zero Claim	11.2	8.9	10.3
	2.2	1.2	0.8

※ Zero Defect means the number of defects arising from parts warehoused by suppliers; Zero ORI means the number of customers' comments arising in the process of assembly/trial run; and Zero Claim means the number of claims received after the delivery of products to customers.

### EQ Innovation Campaign

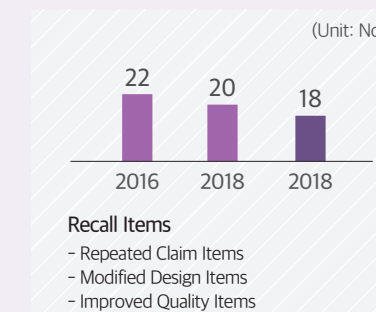
Excellent Quality (EQ) Innovation Campaign is a certification system of Korea Chamber of Commerce and Industry (KCCI) to certify that SMEs and large enterprises produced high-quality products through the quality management system and thorough defects management under a goal of the perfect production of zero defect/ flaw. Followed by revocation of the PPM Quality Certification system, KCCI is planning to introduce and implement EQ Innovation Certification system in 2019 to accomplish zero defect rate of products.



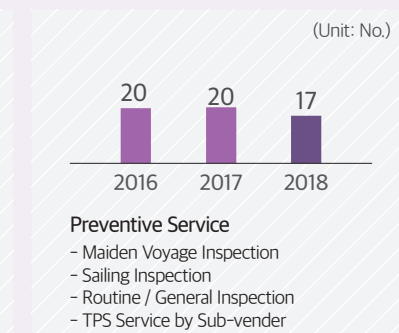
### Preemptive Prevention Measure to Customer Damage

HSD Engine conducts voluntary recalls for nonconforming products in order to continue quality management and develop trust relationship with customers. In addition, we prevent potential defects in advance by preventive services, and improve customers' satisfaction through preemptive defects prevention.

Number of voluntary recalls



Number of preventive inspections



### Product and Services-related Information Offering

The engine instruction manual given when an engine is delivered consists of a total of five volumes, and contains detailed disassembly/assembly procedures, features and measures of normal/abnormal state in operation, essential spare and tool list, etc., all of which are required to operate and maintain the engine. In addition, we provide information on the latest technology trends regularly and caution plate for safety operation and maintenance of main components in customer's desired language for the convenience of our customers.

### Intimate Support and Customized Service through Shipyard Sites

HSD Engine has established a total of 5 sites in key locations and shipyards around the world (2 domestic and 3 overseas; as of the end of 2018). Resident professional staff provides customized services to customers by promptly identifying the problems and giving technical support for customer's requests during installation of the engine on ship or offshore and trial after engine delivery to shipyard. We also train to improve technical & work skill which are required from shipyard and ship-owner in order to prevent & settle the problem preemptively, and these efforts are significantly improving the customers' real-feel satisfaction.

## Service Quality Improvement through Customer Satisfaction Survey

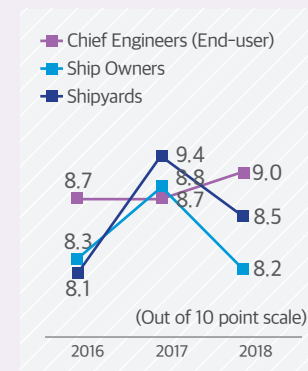
HSD Engine regularly carries out customer satisfaction survey of services in order to provide differentiated customer-friendly services. HSD Engine creates a list of customer demands that require long-term management, and continues to develop and improve the list.

### Customer Survey Results

HSD Engine visits customers throughout the years considering their characteristics and gets their real satisfaction and needs through open communication, and carries out a survey periodically at least once a year. We analyze various information and customers' needs collected through such communication and surveys, and then identify current level and execute improvement measures. Also, we continue to improve the ability for products, services, and defects caring. Following Voice of Customer (VOC) through the customer survey, we reflected their needs in establishment of quick claim treatment system & e-mail response monitoring system, operation of technical support organizations, and enhancement of customer caring & visit activities and executed them immediately.

In particular, we are getting customers' complaint with valuable VOC through Advanced patrol service Before Complaint (ABC) activities in advance and offering the settlement & feedback for their needs immediately for improvement of customer's satisfaction and strengthening of products & service capacity.

Customer Survey Results



## Customer Information Protection

The company has set up and operated 'HSD Information Security Policy' in order to prevent any damage in remotely possible case of leakage of information on customers. This policy aims to protect the Company's information assets from various internal and external threats and maintains its competitiveness, and regards customer information most important. All employees are trained to protect information belonging to the company and customers, and we also carry out security checks every month. As a result of these activities, no complaint was filed concerning violations of customer privacy and losses of customer data last year.

## Social Contribution

### Management Approach

#### Context

Community grants companies the right to run business within the boundary. Unless the community accepts a company as a part of it, the company can hardly expect any success. Companies can contribute to the community development and raise the corporate value by participating and developing the community. HSD Engine intends to strengthen the value of both the organization and the society concurrently through active community participation and development.

#### Our Approach

HSD Engine set its Corporate Community Involvement (CCI) mission: 'Enhancing future competitiveness of community and corporate value through strategic CCI activities' and implements systematic social contribution activities. We also run a social volunteer group and practice social contribution such as supporting talents' growth and independence, environmental protection, and neglected group of people.

#### Next Step

We will continue to discover and implement CCI programs for the mission. We are also planning to promote the service activities of social volunteer corps and to increase the number of attendees. Plus, we will continue to strengthen CCI activities which create both corporate and social value simultaneously through strategic CCI connected to our corporate core competency.

## HSD Engine CCI System

### Vision and Mission

To realize the vision: 'Global 100 CSR Leading Company by 2025', we have established the mission: 'Enhancing future competitiveness of community and corporate value through strategic CCI activities'. Based on this mission, we have systematically carried out CCI initiatives.



### Strategic Directions

- Securing the reputation for CCI based on activation of employees' voluntary participation
- Strengthening CCI activities of the community through the activation of social volunteer corps

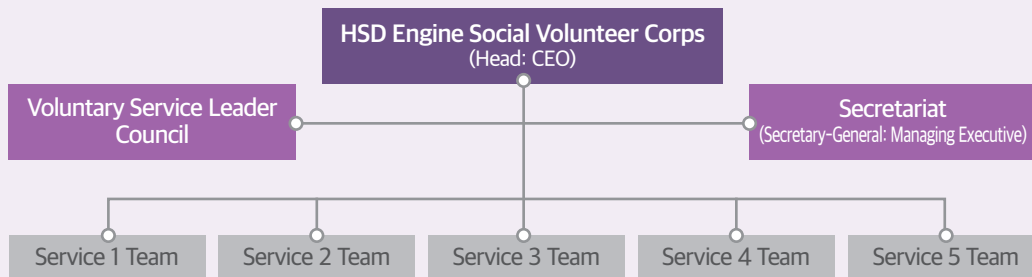
### Activity Principles

- 1 Develop and run CCI programs that reflect the characteristics of a profession.
- 2 Keep performing the programs constantly so that the beneficiaries to realize effective and substantive changes.
- 3 Guarantee employees paid service hours to ensure their voluntary participation.
- 4 Execute the Matching Grant fund with respect to the donations by employees.
- 5 Make an effort to create the culture for employees to voluntarily participate in CCI activities.

## HSD Engine CCI Organizations

### HSD Engine Social Volunteer Corps Organizations

HSD Engine's Social Volunteer Corps headed by the CEO assigns all employees to any of five service teams and makes them render shared services to the community. The company runs the voluntary service leader council which consists of service leaders selected by each voluntary service team. Through this council, we not only collect the opinions of employees about social voluntary service activities and presents their directions, but do transparent, efficient voluntary service activities through the review and consultation of social voluntary service fund operations.



### HSD Engine CCI Committee

HSD Engine has set the structure, operation, procedure, and criteria of the organization regarding donation fund for the transparent and appropriate collection and expense of donation fund. We have also organized and operated CCI Committee. The committee discusses and decides whether to donate the money and how much to donate it. The committee consists of the chairperson of CSR committee, the head of managing executive, the leader of legal team and personnel affairs team. Its chairperson is the chairperson of CSR committee.

## External Recognition & Reward for CCI Activities



HSD Engine was awarded the Minister's Award from the Ministry of Agriculture, Food and Rural Affairs (MARFA) as a recognition for enhancing quality of community residents and facilitating the rural community through the talent sharing in rural area activities. Our main activities for community development include: the health enhancement of the elders through Korean medicine treatment, the creation of wall galleries and environmental rehabilitation in deteriorated villages, and the supporting of crops and specialized works in farm villages

## Recipient Satisfaction Survey and Tailored CCI Activities

We conduct surveys to measure the effectiveness of training through programs toward CCI recipients and improve continuously through training satisfaction survey. In an IT-related training course open for a local school, which is aimed for improving students' understanding of technology in AI, deep learning, computer collaboration, and OA, it was found that the understanding of AI was significantly increased after the course. Moreover, we conducted assessments of the lectures, along with the surveys on needs for new courses and future directions of programs.



## HSD Engine's Major CCI Activities

HSD Engine's Social Volunteer Corps will ceaselessly continue to implement various CCI programs to support the growth and independence of human assets and the neglected class of people for the community culture of living side by side. HSD Engine employees ranging from CEO to common staff have participated in volunteer service willingly and enthusiastically. We have also kept close partnership with local community and NGOs and shared both competency and know-how with each other, thereby practicing higher level of CCI initiatives. Moreover, we have made efforts to seek fundamental social change by providing not temporary nor charitable but systematic support to the weak class.

## Talents' Growth and Independence

### Group Home for Children & Youth

We practice happiness sharing activity to provide the children in need of protection due to broken home, neglect, abuse, poverty, and abandonment better living environment. We set up a sisterhood relationship with the Group Home for Children & Youth, small childcare facilities that provides tailored child raising service, to provide financial support and activities. HSD currently support four Group Homes in Changwon region and pursues children's growth and independence through various programs including additional education.

### Sports Activities in Cheongwang School

We have signed MOU contract with Changwon Cheongwang School and conducted various activities to assist their independence. HSD Engine has operated a sports class every month which helps students strengthen their bodies and spirits and cultivate their emotions. We have also helped their outdoor activities by accompanying their spring excursion and supported its school arts festival and picture association by taking pictures. In addition, we have collaborated on operating school company and interacted with them vigorously.

### Free Semester in Yanggok Middle School

Our employees and visual club members provided lectures about computers and story finding in pictures to the students at Yanggok Middle School as a talent donation. 26 freshmen participated in the lectures for 2 hours a week and for 8 weeks.

### Activities and Donation of the Social Welfare Fund Business

Through the collaboration with the Gyeongnam Community Chest of Korea, we support heating fees in the winter to low-income families in the local community and living expenditure to families with financial crisis due to sudden incidents. Moreover, we provide condolence money to the socially neglected group during the national holidays.

At the end of years, we raise donations from employees and create a matching fund from the company to donate the collected to the Community Chest of Korea, thereby contributing to creating a culture of helping neighbors.



## Local Community Development & Engagement

### Support Activities for the Elderly Living in Rural Areas of Haman County

Since May 2018, HSD Engine has conducted the elderly support activities in the Ipgok Village in Haman County every month. In alliance with the Association of Gyeongnam Korean Medicine, we provided the Korean medical support with the talent volunteers, which relieved many of those suffered from pains in joints due to hard agricultural activities. Moreover, we provided beauty volunteering including hair perms and dying to the elderly with mobile difficulties. The special cuisines we prepared monthly also contributed to resolving their nutritional imbalance and networking as a community for those living alone. In addition, we conducted supplementary maintenance in the community center, along with massage chairs and sofas.

The residents of the village awarded us an appreciation plaque for our employees' efforts, thereby doubling the sharing between them and the employees.

### Marine Environment Protection

HSD Engine has vigorously participated in the campaign for conserving marine nature as a company proficient in producing diesel engine for vessels. Eco-forest at Bongam Mud Flat is adjacent to HSD Engine and has precious nature to be conserved, so our employees have made a volunteer corps and have consistently participated in cultivating the eco-forest from 2000 until now, thinking that protecting the forest is also our corporate social responsibility. Especially, we have planted trees for letting the migratory birds visiting this mud flat sit and rest. Besides, we have readjusted old deck road and learning center to promote the convenience of the local residents who visit this forest. Moreover, we have collected pieces of Styrofoam, empty bottles, vinyl wasted around HSD Engine shipping dock at Namcheon in Changwon, focusing on tending clean sea. This movement is annually held in memory of the World Ocean Day and the International Coastal Cleanup Day.

### Blood Donation

HSD Engine employees have practiced sharing by donating their blood. The staff participating in the blood donation has practiced true sharing in double by donating the certificate of blood donation to their coworkers and their families.



### Employee Volunteering Group, 'Small Love Association'

Since the foundation of the company in 2000, 'Small Love Association' voluntarily made by our employees have continued their activities. The club members have sent love by using their weekends and visiting nearby nursing home and supporting teenager agency for volunteer service

## Leader Volunteering Activities

Every employee of HSD Engine has the awareness of social responsibility to develop the company as the No.1 Engine Producer by enhancing social values for the community.

Therefore, in the first half of 2019, the executives, team leader-levels, volunteer group leaders and internal club members visited the socially neglected shelters to provide gardening, painting, and landscaping as well as the donations in interior decoration costs and medical devices purchasing. These activities will be expanded from the leader-level to all employees gradually



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# APPENDIX

- Key Performances (Economic/Environmental/Social)
- Memberships in Association and Organization
- Independent Assurance Statement
- GRI Standards Index

## Economic Performance

Category	Unit	2016	2017	2018	
Key Economic Performance	Sales	KRW million	802,917	768,870	511,302
	Operating Profit	KRW million	4,237	13,477	-35,327
	Net Income	KRW million	-181,226	-10,343	-18,680
Growth Indicators	Sales Growth Rate	%	15.8	-4.2	-33.5
	Net Profit Growth Rate	%	-44.5	94.3	-80.6
	Total Assets Growth Rate	%	-3.5	-9.2	-39.6
Stability Indicators	Current Ratio	%	63.9	60.5	57.5
	Debt-to-Equity Ratio	%	153.9	126.7	221.8
	Fixed Ratio	%	173	168	200
Profitability Indicators	Debt-to-Capital Ratio	%	23.3	30.4	30.1
	Operating Profit Ratio	%	0.5	1.8	-6.9
	Net Profit Ratio	%	-22.6	-1.3	-3.7
Activity Indicators	ROA	%	-13.1	-0.8	-2.5
	ROE	%	-32.7	-1.9	-8.1
	Total Capital Turnover	Times	1.4	1.4	1.3
Corporate Tax	Receivables Turnover	Days	31	27	21
	Inventory Turnover	Days	111	112	148
	Continuing Income Tax	KRW 100 million	-66	55	-109
R&D	R&D Expenses	KRW 100 million	101	110	41
	R&D-to-Sales Ratio	%	1.25	1.43	0.79
	Earnings per Share	KRW	-2,608	-149	-385
Dividends	Dividends per Share	KRW	-	-	-
	Dividend Rate	%	-	-	-
	Total Dividends	KRW 100 million	-	-	-
Labor Costs	Total Annual Salary	KRW 100 million	581	644	674
	Average Annual Salary	KRW million	70	80	84

## Environmental Performance

Category	Unit	2016	2017	2018	
Materials	B-A	kℓ	4,674	4,051	3,735
	LNG	1000m <sup>3</sup>	777	485	439
	Gasoline (vehicles)	kℓ	59	50	33
	Diesel	kℓ	60	199	50
	Kerosene	kℓ	62	63	56
Energy	Electric Power	MWh	32,520	30,856	27,281
	Electric Power/Sales	MWh/KRW million	0.04	0.04	0.05
Energy Reduction	Amount	MWh	779	587	678
	Cost	KRW million	105.00	77.00	80.00
Water	Industrial Water	m <sup>3</sup>	282,715	346,804	325,580
	Scope 1	1000tCO <sub>2eq</sub>	17.3	15.1	14.1
GHG Emissions	Scope 2	1000tCO <sub>2eq</sub>	15.2	14.4	12.7
	Emissions by KRW	tco <sub>2</sub> /KRW million	0.04	0.04	0.05
Air Pollutants	Dust	mg/m <sup>3</sup>	7.0	8.8	7.1
	Total Hydrocarbons (THC)	ppm	46.1	42.0	44.3
Wastes	Incineration	ton	628	502	442
	Recycle	ton	1,308	1,525	1,276
Wastewater	Wastewater Treatment	ton	64	40	37
	Scrap Metal, Processed Chips	ton	2,293	1,523	1,098
By-products Recycling	Copper Scrap	ton	5	3	3
	Waste Wood	ton	529	511	332
Environmental Investment	High-efficiency Lighting Replacement	KRW	375	6,200	11,700
	Air Conditioning Control System	KRW million	112	-	-
	Environmental Production Costs	KRW million	44	18	17
Environmental Regulations Compliance	Non-monetary Sanctions	cases	-	-	-
	Monetary Sanctions	cases	-	-	-
	Fines	KRW million	-	-	-
Supplier Support	EHS Support	No. of suppliers	40	44	34

## Social Performance

## Workforce Status

Category	Unit	2016	2017	2018	
Total number of employees	Executives	persons	14	13	6
	Employees	persons	810	798	789
By business area	Office Workers	persons	378	367	354
	Technicians	persons	446	444	441
By employment type	Regular	persons	821	807	795
	Non-regular	persons	3	4	0
By age	Non-regular Employees Ratio	%	0.37	0.50	0
	Younger than 30	persons	17	8	22
	30 to 50	persons	654	639	596
Length of service	Older than 50	persons	153	164	177
	Average Length of Service of Male	years	11	13	17
	Average Length of Service Female	years	5	6	6
Labor union	Retirement Rate* of Male	%	0.9	2.8	3.9
	Retirement Rate* of Female	%	8.1	16.6	8.3
	Employees Eligible for Labor Union**	persons	529	510	497
Female staff	No. of Members	persons	446	446	444
	Membership Rate	%	84	87	89
Employment of the Disabled	No. of Female Employees	persons	24	24	24
	Female Employee Rate	%	2.91	2.96	3.02
R&D personnel	No. of Employees with Disability	persons	16	16	16
	Rate of Employees with Disability	%	1.94	1.97	2.01
	No. of R&D Employees	persons	30	31	33

\*Retirement rate = No. of turnover/No. average employees (annually)

\*\*Standard of employees eligible for the union: Office workers (assistant manager or lower), technicians, privileged position

\*\*\* Compensation provided in the equal standard for both male and female employees

## Welfare &amp; benefits

Category	Unit	2016	2017	2018	
Welfare to Sales Ratio	%	1.4	1.7	2.8	
Paid Time Off Ratio	%	62.9	68.2	74.0	
No. of Parental Leaves	Male	persons	1	2	1
	Female	persons	-	-	4
Rates of Return and Maintaining after Parental Leave*	Return Rate	%	100	100	100
	Maintaining Rate	%	100	100	100

\*Rate of return = No. of possible returns after parental leave/No. of must returns x 100

Rate of maintaining = No. of employees maintained 12 months after return/No. of returns in previous reporting period x 100

## Education &amp; Training

Category	Unit	2016	2017	2018
Costs of Education & Training per Person	KRW 1,000	638	638	330
Rate of Performance Assessment Targets*	%	100	100	100

\*Performance assessment targets: Employees targeted to receive regular performance assessment

## Health &amp; Safety

Category	Unit	2016	2017	2018	
Accident Rate*	Severe Accident Rate	%	0	0	0
	Direct Accident Rate	%	0.23	0	0.75

\*Accident rate calculation

Severe accident rate = No. severe accidents/No. of employees\*100 (Severe accident: deaths, convalescence for 3 months or longer, 2 or more victims at once)

Direct accident rate = No. of victims/No. of employees\*100 (Direct accident: victims of injury from direct work)

## Social Performance

### Results of Supplier Satisfaction Survey in Shared Growth Activities

Category	Unit	2016	2017	2018
Trade Relationship	%	72	88	86
Collaborative Relationship	%	65	59	47
Shared Growth System	%	73	84	83
Total (Average)	%	70	78	72

\*HSD Engine conducts assessment on social, environmental impacts of all new suppliers

### Customer Satisfaction

Category	Unit	2016	2017	2018	
Customer Satisfaction	Chief Engineers (End-user)	Point	8.5	8.7	9.0
	Ship Owners	Point	8.4	8.8	8.2
	Shipyards	Point	8.3	9.4	8.5

### Corporate Community Involvement

Category	Unit	2016	2017	2018
CCI Funding	KRW 100 million	6.7	6.2	0.4
Time of CCI Activity per Person	hours	4.6	4.7	0.2
Employee CCI Involvement Rate	%	66	50	10

\* No. of volunteers decreased as the Volunteer Day was not held due to the spin off from Doosan Group in 2018. The volunteer activity is being reinforced through the Leader Volunteer Day since 2019.

### Violation to Laws & Regulation

Category	Unit	2016	2017	2018
Amount of major fines	KRW 1 million	8	0	0
No. of non-financial sanctions	cases	0	0	0
No. of cases resolved through dispute resolution system	cases	0	0	0

## Memberships

Category	Name of Association/Society	Remarks
1	The Federation of Korean Industries	Member
2	Fair Competition Federation	Member
3	Gyeongnam Employers Federation	Director
4	The Society of Naval Architects of Korea	Member
5	Changwon Chamber of Commerce & Industry	Member
6	Korea Association of Machinery Industry	Director
7	Korea International Trade Association	Member
8	Korean Standards Association	Director
9	Korea Electric Engineers Association	Member
10	Korea Customs Logistics Association	Member
11	The Korean Society of Mechanical Engineers	Member
12	Korea Federation of Combustion Engines	Member
13	The Korean Society of Marine Engineers	Member
14	Korea Industrial Technology Association	Member
15	Korean Nurses Association	Member
16	Korean Association of Occupational Health Nurses	Member
17	Korea Marine Equipment Association	Auditor
18	Korea Marine Equipment Research Institute	Director
19	Korea Industrial Safety Association	Member
20	Korea Fire Safety Association	Member

## Contribution to SDGs

HSD Engine will contribute to implementing the Sustainable Development Goals (SDGs) based on its business and enhance both itself and social values. In 2019, we plan to select focused tasks in accordance with the corporate code of conduct regarding SDGs and disclose our commitment and performance through the report.



UN SDGs are the largest goals shared by the international society to solve composed of 17 main goals and 169 detailed goals from 2016 to 2030 after ending the Millennium Development Goals (MDGs) from 2000 and 2015.

## Global Network

### Domestic

- Head Office: 67 Gongdan-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, Korea
- Geoje Office(Daewoo Site): 3370, Geoje-daero, Geoje-si, Gyeongsangnam-do, Korea
- Geoje Office(Samsung Site): 80, Jangpyeong 3-ro, Geoje-si, Gyeongsangnam-do, Korea

### Overseas

- HSD Marine Industry Dalian Co., Ltd.: No. 31, Haiqing Road, Development Area, Dalian, Liaoning, P.R.China
- Europe Office: Heidenampsweg 100, 8 O.G Hamburg, Germany
- Singapore Office: 78 Shenton Way, No.16-04 Singapore 079120
- Shanghai Office: Room C.23F Hua Du Mansion, #828 Zhang Yang Road, Pudong, Shanghai, China



## Independent Assurance Statement

To the Stakeholders of HSD Engine,

### | Introduction |

The Y Partners (hereinafter, 'the Assurer') was requested by HSD Engine for conducting a third-party assurance of the 2018 HSD Engine CSR Report (hereinafter, 'the Report'). HSD Engine has the responsibility for the information and opinions included in the Report, and the Assurer, as an independent assurance agency, is liable for only issuing the assurance statement on the scope and specific data and information indicated below. The assurance was performance under the assumption that the data provided were facts.

### | Assurance Scope and Standard |

HSD Engine described its performance and activities related to sustainability in the Report. The assurance was conducted based on the Y Partners Assurance Protocol and limited assurance standard in accordance with the ISAE 3000 of IAASB. The Assurer evaluated the compliance of the Report with Principles of Inclusivity, Materiality, and Responsiveness and the Assurer also assessed the accountability of data and information about GRI Index.

### | Limitations |

The Assurer verified as below the performances indicated in the Report according to the assurance scope and standard above. Financial data were confirmed using the financial statement, disclosed data, and internal business report that were audited by an accounting audit agency, and the site assurance was performed at the Changwon Head Office. Environmental and social performance data were verified through checking of consolidated data. The results may change if any additional assurance is processed. This assurance statement was issued for the management of HSD Engine in accordance with the contract, and the Assurer does not hold any sort of responsibilities for personal or organizational decision-making based on the statement.

### | Assurance Method |

The assurance was conducted through the methods in the following:

- Check the compliance with requirements for the Core Option of GRI Standards Guideline
- Check the compliance with the principles related to reporting contents and quality based on GRI Standards Guideline
- Check the suitability of material issues and relevant contents derived from various analyses including media research and benchmarking.
- Check the appropriateness of contents and words and errors in expression
- Check the internal process and system by verifying the sources of key data and information through site assurance at Changwon Head Office and interviews with each department.

### | Assurance Result |

The Assurer verified that the Report contains the activities and performance of sustainability of HSD Engine sincerely and fairly. The Assurer also confirmed that the Report meets the requirement of Core Option of GRI Standards Guideline for the General Standard Disclosures and verified that the report complies with the requirements of the Core Options for the Universal Standard, and for the Topic-specific Standard, the disclosure of Material Issues derived through the Materiality Test was reviewed.

#### - Inclusivity: Stakeholder Engagement

It was confirmed that HSD Engine communicates with its stakeholders by running communication channels for each stakeholder to abide by the inclusivity. HSD Engine categorizes the stakeholders into six groups through the standard of identifying stakeholders indicated in the ISO 26000. shareholders/investors, customers, suppliers, licensors, local community, and employees. HSD Engine actively responds to needs and expectations of the stakeholders by collecting opinions through communication channels.

#### - Materiality: Selection and Reporting of Core Issues

HSD Engine identifies major issues in sustainability through various means including global initiatives analyses (GRI Standards, UNGC, SDGs, DJSI, SASB, etc.), media research, benchmarking, and stakeholder interview and selects core issues through the Materiality Test. It was confirmed that HSD Engine presents its efforts for responses in the future and directions to core issues by reporting the issues in relation to CSR strategy.

#### - Responsiveness: Organization's Response to Issues

It was verified that HSD Engine identified core issues that have impact on stakeholders, set CSR strategy and communication channels to respond to the issues, and presented the contents in the Report.

### | Suggestions |

The Assurer highly recognizes various activities and performance of HSD Engine for enhancing its sustainability and suggests below for continuing publications of the Report and improving the sustainability level.

- HSD Engine is promoting social responsibility activities continually after its spinoff from Doosan in 2018. However, the company requires to set a new direction by reorganizing its sustainability management system.
- HSD Engine systematically implements CCI activities and Green Management for local communities. The Assurer recommends HSD Engine to perform activities related to such global initiatives as UN Sustainable Development Goals (SDGs), set more specific mid to long-term goals, and endeavor to achieve the goals. This will lead to receiving more positive recognition in terms of strengthening effectiveness and goal management of sustainability.
- HSD Engine manages a variety of sustainability data. It is suggested to reorganize its internal task processing system and to establish stakeholder communication system by setting KPIs and disclosing relevant activities and results through the report in mid to long-term.

Executive Director  
Lee, Kihwan

Director of the headquarter  
Yang, daekwon

Researcher  
Lee, Jiah

Sep 9 2019

CEO Bae, Hun The Y Partners

## GRI Standards Index

### General Standard Disclosures

Universal Standards(GRI 100)

Topic	Disclosure	Indicator	Page	Assurance
Organizational Profile	102-1	Name of the organization	6	63-64
	102-2	Activities, brands, products, and services	6-7	63-64
	102-3	Location of headquarters	7	63-64
	102-4	Location of operations	7	63-64
	102-5	Ownership and legal form	7	63-64
	102-6	Markets served	7-8	63-64
	102-7	Scale of the organization	7	63-64
	102-8	Information on employees and other workers	60	63-64
	102-9	Supply chain	37-42	63-64
	102-10	Significant changes to the organization and its supply chain	6	63-64
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	102-12	External initiatives	62	63-64
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Ethics and integrity	102-15	Key impacts, risks, and opportunities	17-18	63-64
	102-16	Values, principles, standards, and norms of behavior	17-18	63-64
	102-17	Mechanisms for advice and concerns about ethics	17-18	63-64
	102-18	Governance structure	13-14	63-64
	102-19	Delegating authority	15	63-64
	102-20	Executive-level responsibility for economic, environmental, and social topics	15	63-64
	102-21	Consulting stakeholders on economic, environmental, and social topics	15	63-64
	102-22	Composition of the highest governance body and its committees	13-15	63-64
	102-23	Chair of the highest governance body	13	63-64
	102-24	Nominating and selecting the highest governance body	13-15	63-64
	102-25	Conflicts of interest	13-15	63-64
	102-26	Role of highest governance body in setting purpose, values, and strategy	13-15	63-64
	102-27	Collective knowledge of highest governance body	13-15	63-64
	102-29	Identifying and managing economic, environmental, and social impacts	13-15	63-64
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	Governance	102-33	Communicating critical concerns	13-15
102-34		Nature and total number of critical concerns	19-20	63-64
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102-36		Process for determining remuneration	14	63-64
102-37		Stakeholders' involvement in remuneration	14	63-64
102-38		Annual total compensation ratio	Business report	63-64
102-39		Percentage increase in annual total compensation ratio	Business report	63-64
102-40		List of stakeholder groups	16	63-64
102-41		Collective bargaining agreements	27	63-64
102-42		Identifying and selecting stakeholders	16	63-64
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Stakeholder Engagement		102-44	Key topics and concerns raised	19-20
	102-45	Entities included in the consolidated financial statements	Business report	63-64
	102-46	Defining report content and topic Boundaries	19-20	63-64
	102-47	List of material topics	19-20	63-64
	102-48	Restatements of information	3	63-64
	102-49	Changes in reporting	N/A	63-64
	102-50	Reporting period	3	63-64
Reporting practice	102-51	Date of most recent report	3	63-64
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	102-53	Contact point for questions regarding the report	3	63-64
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Management Approach	103-1	Explanation of the material topic and its Boundary	19-20	63-64
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	201-3	Defined benefit plan obligations and other retirement plans	29	63-64
Indirect Economic Impacts	203-1	Infrastructure investments and services supported	52-56	63-64
	203-2	Significant indirect economic impacts	52-56	63-64
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	205-2	Communication and training about anti-corruption policies and procedures	16-18	63-64
	205-3	Confirmed incidents of corruption and actions taken	16-18	63-64
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	302-3	Energy intensity	44,59	63-64
	302-4	Reduction of energy consumption	44,59	63-64
	302-5	Reductions in energy requirements of products and services	44,59	63-64
	305-1	Energy indirect (Scope 1) GHG emissions	44,59	63-64
	305-2	Energy indirect (Scope 2) GHG emissions	44,59	63-64
	305-4	GHG emissions intensity	44,59	63-64
	305-5	Reduction of GHG emissions	44,59	63-64
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	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	28,60	63-64
	401-3	Parental leave	60	63-64
Occupational Health and Safety	403-1	Occupational health and safety management system	28	63-64
	403-2	Hazard identification, risk assessment, and incident investigation	60	63-64
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Training and Education	404-1	Average hours of training per year per employee	24-26,60	63-64
	404-2	Programs for upgrading employee skills and transition assistance programs	24-26,60	63-64
	404-3	Percentage of employees receiving regular performance and career development reviews	27,60	63-64
Child Labor	408-1	Operations and suppliers at significant risk for incidents of child labor	26,39	63-64
Forced or Compulsory Labor	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	26,39	63-64
Human Rights Assessment	412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	39	63-64
Local Communities	413-1	Operations with local community engagement, impact assessments, and development programs	52-56	63-64
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	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	48-50	63-64